Abelia
Shrubs 4-8ft for NC Landscapes (HIL 635) ............................................................. Ornamental Leaflet 635
dwarf cultivars — Shrubs 1-4ft for NC Landscapes (HIL 634) ................................ Ornamental Leaflet 634
Pruning Trees & Shrubs (AG-071) ........................................................................ Ornamental Leaflet 602-A

Achimenes — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ........ Ornamental Leaflet 632
Acidanthera — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ........ Ornamental Leaflet 632
Actinidia — see Kiwifruit

Adelgid
Pine Bark Adelgid (mostly on pine) (ENT/ort-62) ........................................................ Ornamental Insect Note 62
Horticultural Oils for control of Adelgids from Pender County, NC
Horticultural Oils (ENT/ort-45) ............................................................................. Ornamental Insect Note 45
Pesticide Selection for Water Quality Protection (Water Quality Management Series) .......... Ornamental Insect Note 102

Aerating Turf
Carolina Lawns (AG-69) ........................................................................................ Turf File 101
Organic Lawn Care ............................................................................................... Turf File 105
AG-Chem Manual... (links to section that you need) ........................................ on top of the file cabinets. Or on the Web

Agapanthus — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ........ Ornamental Leaflet 632

Air Layer — see Propagation (Layering)

Air Pollution
Plant stress from air pollution & ozone —
Bedding Plants: Stress-Tolerant Plant Species (HIL 552) ........................................... Ornamental Leaflet 552

Akebia quinata — Vines for NC Landscapes (HIL 633) .............................................. Ornamental Leaflet 633

Alder = Alnus
Recommended Trees for Urban Landscapes (HIL 8617) ............................................. Ornamental Leaflet 617
Wooly Alder Aphid (ENT/ort-06) ............................................................................ Ornamental Insect Note 6
Botryosphaeria (fungus) on alder — Blueberry Stem Blight (FDIN-009) ....................... Fruit Disease Note 9
See also Trees

Algae
on land
Miscellaneous problems of Turf (C10turf) ................................................................ Turf File 153
Algae & Moss Control in Turf (Agronomy Leaflet) (TM-20) ........................................ Turf File 151
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) .......... Turf File 152
in water
Control of algae in water gardens —
Water Gardening in Texas (from Univ of Texas, B-6001) ........................................ Ornamental Leaflet 445
Control of algae in ponds — see Ponds

Allium — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ............ Ornamental Leaflet 632
Almond, flowering — Pruning Trees & Shrubs (AG-071) .............................................. Ornamental Leaflet 602-A

Alternaria (fungus) — see Leaf Spot
Althea (Rose of Sharon) (Hibiscus syriacus) — Shrubs 4-8ft for NC Landscapes (HIL 635) . Ornamental Leaflet 635

Amaryllis
Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ......................... Ornamental Leaflet 632
Forcing Potted Amaryllis (HIL 8529) .................................................................... Ornamental Leaflet 529
See also Bulbs — See also Houseplants

Ambrosia Beetle — see Borers

Amelopsis brevipedunculata (Porcelain vine) (INVASIVE!) — Vines for NC Landscapes (HIL 633) ... Ornamental Leaflet 633

Amur — see Amur Maple, Amur Corktree, Amur Maackia

Andromeda — see Pieris
Anemone coronaria — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) Ornamental Leaflet 632

Animals — see also Birds — see also Wildlife —
Many animal species, including chapters on Feral (wild) Cats and Dogs.
Prevention and Control of Wildlife Damage binders from University of Nebraska.
Excellent descriptions of animals, habits & habitats, and control measures.
Animal Control — call Durham County Animal Control Department at 560-0630 (Dogs and cats only)
Animal Shelters
Durham County Animal Shelter / Animal Protection Society: 560-0640
Orange County Animal Shelter / Animal Protection Society: 967-7383
Dead Animal Removal — call City of Durham, Durham one call 560-1200

Wildlife Damage Control Agent Program brochure from NC Dept Wildlife management)……… Wildlife Note 25a

Anise = Illicium — Shrubs 8ft+ for NC Landscapes (HIL 636) Ornamental Leaflet 636
Annuals — see Bedding Plants

Anthracnose (fungus)
Anthracnose fruit/crown/runner rot on Strawberry
Strawberries: Disease Control (FDIN-005) Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386) Fruit Disease Note 5-A
on Cruciferous Greens — Diseases of Greens (Colletotrichum fungus) (VDIN-0014) Vegetable Disease Note 14
on Cucumber & Melons —
Anthracnose of Cucurbits (Glomerella fungus) (VDIN-011) Vegetable Disease Note 11
Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0
Diseases of Cantaloupe (VDIN-0013) Vegetable Disease Note 13
on Dogwood —
Growing & Maintaining Healthy Dogwoods (Forestry Service Forestry Service r8-fr 14) Ornamental Leaflet 600-A
• Publication covers both Dogwood Anthracnose and Spot Anthracnose.
on Fig — Fig Diseases (FDIN 007) Fruit Disease Note 7

Ants
Fire Ant Control (AG-486) Ornamental Insect drawer, at rear
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) Turf File 152
• Publication covers both Ant and Fire Ant control
Alternatives to Synthetic Chemicals for Insect & Mite Control Ornamental Insect Note 91
• Publication covers both Ant and Fire Ant control
• Publication also covers pouring boiling water on anthills
Onions as a repellent crop (unproven!) —

Aphids
Aphids (ENT/or-t38) Ornamental Insect Note 38
Pest Management Calendars for Cherry & Cherry Laurel (#87), Juniper (#57), Euonymus (#55), Camellia (#54) (Pest Management Calendar Index) Ornamental Insect Notes 54, 55, 57, 87

Particular Aphids
Asparagus Aphid (Veg-36) Vegetable Insect Note 36
Crape Myrtle Aphid (ENT/or-t31) Ornamental Insect Note 31
Pest Management Calendar for Crape Myrtle (ENT/or-t54) Ornamental Insect Note 5
Green peach aphid — Pepper Insect Control (Veg-37) Vegetable Insect Note 37
Rose Aphid — Pest Management Calendar for Roses (ENT/or-t59) Ornamental Insect Note 59
Wooly Alder Aphid (ENR/or-t06) Ornamental Insect Note 6
Yellow and Black Aphids on Pecans
Growing Pecans in NC (AG-81) Un-numbered Fruit Leaflet
Pecan Insects and their Management (Fruit Insect Note P-2) Fruit Insect Note P-2

General Aphid Information & Control
Life cycle and Control — House Plant Pests (IPM guidelines chapter 5) Ornamental Insect Note 98

PARTICULAR APHIDS continued on next page...
PARTICULAR APHIDS, continued

Alternative controls, including soap and traps —
Alternatives to Synthetic Chemicals for Insects & Mites .................................................. Ornamental Insect Note 91
Horticultural Oils for control of Aphids from Pender County, NC
    Horticultural Oils (ENT/ort-45) .................................................................................. Ornamental Insect Note 45
    Pesticide Selection for Water Quality Protection (turf file) .............................................. Ornamental Insect Note 102
See also Sooty Mold (ENT/ort-41) .................................................................................. Ornamental Insect Note 41

Apple = Malus

Apple in the Landscape
    Growing Apple Trees (HIL 8301) .................................................................................. Fruit Leaflet 301
    Producing Tree Fruit for Home Use (AG-28) ................................................................. Un-numbered Fruit Leaflet
    Training & Pruning Fruit Trees (AG-29) ....................................................................... Un-numbered Fruit Leaflet
    Espalier (HIL 619) ......................................................................................................... Ornamental Leaflet 619
Cold injury to blossoms — Durham’s Weather (UHN 1) ..................................................... Urban Hort Note 1

Pests of Apple
    Eastern Tent Caterpillar (ENT/ort-61) ........................................................................... Ornamental Insect Note 61
    Apple maggot, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control — Ornamental Insect Note 91
    Stink Bug (causes catfacing) — True Bugs in the Field and Garden (Veg-42) ........... Vegetable Insect Note 42

Integrated Mite Control on Apple (no identification info) (Fruit Insect Note A-1) ........... Fruit Insect Note A-1

Diseases of Apple
    Fire Blight (bacterial)
        Fire Blight (bacterial) in Apple & Pear (this note focuses on orchards)(FDIN 003) ...... Fruit Disease Note 3
    Disease & Insect Management in the Home Orchard(FDIN 002) ................................. Fruit Disease Note 2
    * Publication covers Apple Scab, Powdery Mildew, and Cedar Apple Rust

B. Botryosphaeria (fungus) on apple — Blueberry Stem Blight (FDIN-009) .................. Fruit Disease Note 9

Application Equipment — see Pest Management: Insecticides (Veg16) ..................... Vegetable Insect Note 16

Apricot = Prunus mume

Apricot, flowering — Trees for Use Under Utility Lines (HIL 8616) ............................... Ornamental Leaflet 616
Peach Scab (Cladosporium fungus) (FDIN 006) ................................................................. Fruit Disease Note 6

Aquarium Plants

Diane Walstad, technical editor for the Aquatic Plant Journal, has agreed to answer questions on aquarium plants. Call 929-1678.

Aquatic Animals — see Wetlands

Aquatic Weeds — see Water Gardens — see Wetlands

Arboretum — see Durham’s Garden Resources

Arborists, Certified (UHN 11) ............................................................................................. Urban Hort Note 11

Arborvitae = Thuja

Pruning Trees & Shrubs (AG-071) ..................................................................................... Ornamental Leaflet 602-A
Trees for Use Under Utility Lines (HIL 8616) .................................................................... Ornamental Leaflet 616

Armyworms on Peppers — Pepper Insect Control (Veg-37) .................................................. Vegetable Insect Note 37
on Cruciferous vegetables — Cabbage Worm Complex (Veg012e) ................................. Vegetable Insect Note 12
on Turf
    Insect Management in Turf (AG-447) ............................................................................. Turf File 157
    Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) . Turf File 152
    Alternatives to Synthetic Chemicals for Insect & Mite Control .................................... Ornamental Insect Note 91

Artichoke, Jerusalem (HIL 1-A) ..................................................................................... Vegetable Leaflet 1-A
Ash = Sorbus or Fraxinus
Green Ash (Fraxinus pennsylvanica) — Recommended Trees for Urban Landscapes (HIL 8617) Ornamental Leaflet 617
Mountain Ash (Sorbus) — Small & Intermediate Trees for North Carolina (HIL 637) Ornamental Leaflet 637
White Ash (Fraxinus americana) — Large Trees for North Carolina (HIL 638) Ornamental Leaflet 638
See also Trees
Asian Ambrosia Beetle — see Borers
Asian Pears — see Pears
Asianic Garden Beetle
Pest Management Calendar for Hemlock (ENT/or-78) Ornamental Insect Note 78
See Grubs, including Controlling White Grubs in Turf (AG-366) Ornamental Insect Note 108
Asparagus
Asparagus (UHN 15) Urban Hort Note 15
Asparagus Production, Home Garden (HIL 8002) Vegetable Leaflet 2
Home Vegetable Gardening (AG-06) Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) Vegetable Leaflet 0-A
Container Vegetable Gardening (HIL 8105) Vegetable Leaflet 105
Growing a Fall Vegetable Garden (HIL 8001) Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) Vegetable Leaflet 108
Pests of Asparagus
Asparagus Insect Control (Veg35) Vegetable Insect Note 35
• Publication includes identification key
Asparagus Aphid (Veg36) Vegetable Insect Note 36
Stink Bug — True Bugs in the Field and Garden (Veg-42) Vegetable Insect Note 42
Asparagus Beetle — Alternatives to Synthetic Chemicals for Insect & Mite Control Ornamental Insect Note 91
Diseases of Asparagus
Prevention — Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0
Asparagus, Disease-Resistant Varieties (HGIC-1300) Vegetable Disease Note 6
Aspidistra — Ground Covers for North Carolina (AG-75) Ornamental Leaflet 633-B
Aucuba
Aucuba in the Landscape
Shrubs 4-8ft for NC Landscapes (HIL 635) Ornamental Leaflet 635
dwarf cultivars — Shrubs 1-4ft for NC Landscapes (HIL 634) Ornamental Leaflet 634
Pruning Trees & Shrubs (AG-071) Ornamental Leaflet 602-A
Phytophthora Root Rot and its Control (ODIN 013) Ornamental Disease Note 13
Azalea
Azalea in the Landscape
Azalea Varieties for NC (HIL 629) Ornamental Leaflet 629
dwarf cultivars such as ‘Gumpo’ — Shrubs 1-4ft for NC Landscapes (HIL 634) Ornamental Leaflet 634
native (deciduous) Azalea species — Shrubs 4-8ft for NC Landscapes (HIL 635) Ornamental Leaflet 635
Pinxterbloom Azalea — Shrubs 8ft+ for NC Landscapes (HIL 636) Ornamental Leaflet 636
Azalea Culture for NC (HIL 630) Ornamental Leaflet 630
Pruning Trees & Shrubs (AG-071) Ornamental Leaflet 602-A
Pests of Azalea
Check first: Pest Management Calendar for Azalea (ENT/or-52) Ornamental Insect Note 52
See index entries for Lace Bugs (Azalea), Whitefly (Azalea), Scale (Azalea Bark Scale and Peony Scale),
Planthopper (Flatid), Southern Red Mite — see Mites (Southern Red), and Weevils (Two-Banded Japanese)
Azalea Caterpillar — Pest Management Calendar for Azalea (ENT/or-52) Ornamental Insect Note 52
Azalea Leafminer (greenhouse pest only) — see Leafminers
Azalea Stem Borer and Twig Borer — see Borers
Diseases of Azalea
Azalea Disease Control (ODIN 016) Ornamental Disease Note 16
• Publication covers Phytophthora (fungal) root rot, Nematodes, Chlorosis, Leaf gall, Petal blight,
  Powdery mildew, Leaf spot, Twig blight (Phomopsis fungus), Cold injury, Fertilizer injury, and Limb dieback.
  (Herbicide damage is not mentioned in this note)
Azalea Leaf Gall — Azalea Disease Control (ODIN 016) Ornamental Disease Note 16
Phytophthora Root Rot and its Control (ODIN 013) Ornamental Disease Note 13
**Baccharis halimifolia** (deciduous tree) — Plants for Seashore Conditions (HIL 606) Ornamental Leaflet 606

**Bacterial Blights**

on Beans (snap, pole, lima) — Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0

**Bacterial Leaf Spot** — see Leaf Spot: Bacterial

**Bacterial Wilt** (*Pseudomonas* bacteria)

Southern Bacterial Wilt (*Pseudomonas*) on Marigolds (ODIN 009) Ornamental Disease Note 9

Southern Bacterial Wilt, resistant tomato varieties — Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0

Bacterial Wilt on Cucumber

Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0

transmission by Cucumber Beetle (*Veg025e*) Vegetable Insect Note 25

Bacterial Wilt on Corn (Stewart’s Disease) — Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0

See also Flea Beetles

transmission by Cucumber Beetle (*Veg025e*) Vegetable Insect Note 25

transmission by Corn Flea Beetle — Flea Beetles on Vegetables (*Veg27*) Vegetable Insect Note 27

**Bagworms**

Bagworms (ENT/ort-81) Ornamental Insect Note 81

*Pest Management Calendars* for Leyland Cypress (#86), Hemlock (#78), Juniper (#57) Ornamental Insect Notes 57, 78, 86

**Bahia Grass** — see Turf

**Bald Cypress** — see Cypress, Bald = *Taxodium distichum*

**Bamboo** (*Bambusa multiplex*) (INVASIVE!) — Shrubs 8ft+ for NC Landscapes (HIL 636) Ornamental Leaflet 636

**Banana Shrub** (*Michelia figo*) — Shrubs 8ft+ for NC Landscapes (HIL 636) Ornamental Leaflet 636

**Barberry** = *Berberis*

Plants for Seashore Conditions (HIL 606) Ornamental Leaflet 606

Shrubs 4-8ft for NC Landscapes (HIL 635) Ornamental Leaflet 635

dwarf cultivars — Shrubs 1-4ft for NC Landscapes (HIL 634) Ornamental Leaflet 634

**Basil** — see Herbs

**Bats**

Bats (Wild21) Wildlife Note 21

Bats: Working with Wildlife Series: (Bats) Wildlife Note 21-A???

*Prevention and Control of Wildlife Damage* Binders from University of Nebraska

Excellent descriptions of animals, habits & habitats, and control measures.

*See also Animals: Nuisance Animals — See also Household Pests*

**Bayberry** (*Myrica pensylvanica*) — see also Wax Myrtle (*Myrica cerifera*)

Plants for Seashore Conditions (HIL 606) Ornamental Leaflet 606

**Beans**

Beans, Pole (HIL 3-A) Vegetable Leaflet 3-A

Home Vegetable Gardening (AG-06) (snap, pole, lima) Vegetable Leaflet 0

Vegetable Quick Reference Guide (AG-12) Vegetable Leaflet 0-A

Container Vegetable Gardening (HIL 8105) (snap, lima) Vegetable Leaflet 105

Mini-Gardening (HIL 8102) Vegetable Leaflet 102

Growing a Fall Vegetable Garden (HIL 8001) Vegetable Leaflet 1

Harvesting Vegetables (HIL 8108) Vegetable Leaflet 108

Beansprouts and Other Vegetable Seed Sprouts (HIL 8106) Vegetable Leaflet 106

Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) Vegetable Leaflet 33

See also Weed Control in Vegetable Gardens (HIL 8101) Vegetable Leaflet 101

See also Home Vegetable Gardening (AG-06) Vegetable Leaflet 0

*BEANS continued on next page...*
BEANS, continued

Pests of Beans — see also Legume Pests
- Bean Leaf Beetle (Veg28) ............................................................ Vegetable Insect Note 28
- Control of Weevils in Stored Beans and Peas (Veg10) ............................................................ Vegetable Insect Note 10

Diseases of Beans — see Legume Diseases

Bears
- Black Bear (Wild 10) ........................................................................................................... Wildlife Notes 10
- Black Bear (Black Bear) ........................................................................................................... Internet Center for Wildlife Damage Management
  Black Bear: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  * Excellent descriptions of animals, habits & habitats, and control measures.

Beavers
- Beaver (Wild 23) .................................................................................................................. Wildlife Notes
- Beaver Pond Management (NC Wildlife) .................................................................................... Wildlife Notes
  Beavers: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  * Excellent descriptions of animals, habits & habitats, and control measures.

Bedding Plants (Annuals and Tender Perennials)
- See Plant Lists: Bedding Plants
- Bedding Plant Culture
  - Bedding Plants: Soil Preparation & Fertilization (HIL 551) .................................................... Ornamental Leaflet 551
  - Herbicide tolerance of bedding plants
  - Weed Management in Annual Color Beds (HIL 644) ............................................................ Ornamental Leaflet 644
  - Installation & Maintenance of Bedding Plants (HIL 555) ....................................................... Ornamental Leaflet 555
  - See also Propagation
  - Bedding Plants Trial Garden Results at http://www2.ncsu.edu/floriculture/
  See also Soil Amendments — See also Planting Techniques — see also Propagation

Beech
- Large Trees for North Carolina (HIL 638) ........................................................................... Ornamental Leaflet 638
  See also Trees

Bees
- Carpenter Bees (“Residential, Structural, and Community Pests”) (ENT/rsc-4) .................. Ornamental Insect drawer, at rear
  See also Bees in Turf
  - Bees in Turf (solitary bees, beneficial) (ENT/prt-100) ............................................................ Ornamental Insect Note 100
  - Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ............ Turf File 152

Honeybees
  - Protecting honeybees from orchard sprays —
    Disease & Insect Management in the Home Orchard (FDIN 002) ........................................ Fruit Disease Note 2
  For large swarms of honeybees outdoors — not wasps and not indoors — call MGV and beekeeper John Wallace at 596-4040.

See also Wasps — see also Yellow Jackets

Beetles
- Beetles (ENT/ort-24) ......................................................................................................... Ornamental Insect Note 24
  See also specific beetles

Beets (HIL 8004) ................................................................................................................ Vegetable Leaflet 4
  See also Home Vegetable Gardening (AG-06) ........................................................................ Vegetable Leaflet 0
  Vegetable Quick Reference Guide (AG-12) ........................................................................... Vegetable Leaflet 0-A
  Container Vegetable Gardening (HIL 8105) ......................................................................... Vegetable Leaflet 105
  Mini-Gardening (HIL 8102) .................................................................................................. Vegetable Leaflet 102
  Growing a Fall Vegetable Garden (HIL 8001) ....................................................................... Vegetable Leaflet 1
  Harvesting Vegetables (HIL 8108) ........................................................................................ Vegetable Leaflet 108
  Beet pest — Cucumber Beetle (Veg025e) ............................................................................. Vegetable Insect Note 25
**Beneficial Insects**

**Particular Insects**

- Scoliid Wasps (ENT/ort-12)
- Lady Beetles (ENT/ort-74)
- Asian Lady Beetles (ENT/ort-107)
- Parasitic Nematodes
  - Organic Pest Control in Turf (ENT/ort-95)
  - Alternatives to Synthetic Chemicals for Insects & Mites
  - Two-Spotted Stink Bugs — True Bugs in the Field and Garden (Veg-42)
  - Wheel Bug (ENT/ort-65)
- See Yellow Jackets and Paper Wasps
- See Spiders (“Residential, Structural, and Community Pests”) (ENT/rsc-1)

**Sources of Beneficial Insects**

- Beneficial Insects: Sources (Suppliers of Beneficial Insects)
- Biological Control: Purchasing Natural Enemies (Biological Control)
- Biological Control: Applying Natural Enemies (Biological Control)
- Insect Management for the Home Gardener (Veg-43)
- Pesticide Selection for Water Quality Protection (turf file)
- Alternatives to Synthetic Chemicals for Insects & Mites

**Bermuda Grass**

See Turf: Warm-Season

**Berries**

See Blackberries, Blueberries, Raspberries, and Strawberries

Currants, Gooseberries, and Jostaberries are banned in NC because they (genus Ribes) are an alternate host for white pine blister rust, which kills white pines.

**Billbugs**

- Insect Management in Turf (AG-447)
- Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348)

**Biological Controls or Biocontrol**

See Pest Management — see Beneficial Insects

**Birch = Betula**

- River Birch = Betula nigra
  - Small & Intermediate Trees for North Carolina (HIL 637)
  - Recommended Trees for Urban Landscapes (HIL 8617)
  - Plants for Seashore Conditions (HIL 606)
- European White Birch = Betula pendula
  - Small & Intermediate Trees for North Carolina (HIL 637)

See also Pruning (Birch is a “bleeder”) — See also Trees

**Birds**

- Birds digging in Turf — see Grubs — Controlling White Grubs in Turf (AG-366)
- Birds eating small fruit — Grapes & Berries (AG-15)

**Bird Dispersal Techniques:** Prevention and Control of Wildlife Damage Binders from University of Nebraska

**Wild bird species**

- Bobwhite Quail (www08)
- Hummingbirds and Butterflies (www20)
- Mourning Dove (www12)
- Owls (www22)
- Ruffed Grouse (www09)
- Songbirds (www04)
- Wild Turkey (www05)
- Wood Duck (www06)

**BIRDS continued on next page...**

Durham County       Master Gardener Index File    Index Revision Date: 07/24/09

Begonia, tuberous — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632)

Begonia capitata (Brazilian Butia, evergreen tree) — Plants for Seashore Conditions (HIL 606)

BIRDS continued on next page...
Many wild bird species including Blackbirds, Crows, Gulls, Hawks & Owls, Pigeons, Sparrows, Starlings, Swallows, Woodpeckers, and Waterfowl (ducks, geese, & swans):

Prevention and Control of Wildlife Damage. Binders from University of Nebraska

Injured wild birds — see Resource List

Birdhouses — see Nest Boxes

**Injured Birds, Rescue / Rehabilitation**
Felicité Latané Animal Sanctuary (Dr. Robert Schopler, DVM) takes injured birds and wild animals. Recommended by Orange County Animal Shelter. Call (919) 304-2337.
Alternatively, refer caller to Yellow Pages under Veterinarians.
The Durham Animal Control Dept. does NOT handle bird problems.

Wildlife Violations — US Fish & Wildlife Service 1-800-662-7137 (wildlife violations only).

**Blackberry**
Grapes & Berries (AG-15) (hard to locate on internet) ............................................................. Un-numbered Fruit Leaflet
Blackberries .................................................. (HIL 8200) ...................................................... Fruit Leaflet 200
Growing Blackberries in NC ...................(AG-401) ................................................................. Fruit Leaflet 200-A
Blackberries: Pruning & Training ...........(HIL 8206) ................................................................. Fruit Leaflet 206
Nursery List of Small Fruit Cultivars for Home Use in NC (HIL 8210) ........................................... Fruit Leaflet 210

Pests of Blackberry

Floating Row Cover for pest control —

Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................ Ornamental Insect Note 91

Birds eating small fruit — Grapes & Berries (AG-15) (hard to locate on internet) ....................... Un-numbered Fruit Leaflet

Botryosphaeria (fungus) on blackberry — Blueberry Stem Blight (FDIN-009) ............................. Fruit Leaflet 209

**Black-Eyed Peas** — see Southern Peas (HIL 8020) ...................................................................... Vegetable Leaflet 20

**Black Gum** (Nyssa sylvatica)
Recommended Trees for Urban Landscapes (HIL 8617) ......................................................... Ornamental Leaflet 617
See also Trees

**Black Knot** (Apiosporina or Dibotryon fungus) on Prunus
Black Knot (fungal) in Plum & Cherry (FDIN 004) ................................................................. Fruit Disease Note 4
Disease & Insect Management in the Home Orchard (FDIN 002) ............................................ Fruit Disease Note 2

**Black Leg** — see Rot

**Black Root Rot** — see Rot

**Black Rot** — see Rot — see individual crops — see also Cucurbits: Gummy Stem Blight

**Black Spot** (fungal)
Rose Diseases and Control (odin-002) ..................................................................................... Ornamental Disease Note 2

**Black Vine Weevil** — see Weevil, Black Vine

**Black Widow Spider** — see Spiders — for bites, seek medical attention immediately!

Spiders (“Residential, Structural, and Community Pests”) (ENT/rsc-1) ........................................ Ornamental Insect drawer, at rear

**Blister Beetle**, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control .......... Ornamental Insect Note 91

**Blood Lily** — see Scadoxus

**Blossom End Rot** — see Tomato, Peppers, Watermelon, Cucurbits — see Rot
Blueberry

Blueberry in the Landscape

Blueberries (HIL 8207) ................................................................. Fruit Leaflet 207
Grapes & Berries (AG-15) (hard to locate on internet) ................................................................. Un-numbered Fruit Leaflet???
Nursery List of Small Fruit Cultivars for Home Use in NC (HIL 8210) ............................................. Fruit Leaflet 210
Highbush Blueberry — Shrubs 8ft+ for NC Landscapes (HIL 636) ............................................ Ornamental Leaflet 636

Pests of Blueberry

Azalea Stem Borer — see Borers
Blueberry Maggot (Insect Note #B-2) .......................................................................................... Fruit Insect Note B-2
See also Four Economic Larvae of Blueberries at Harvest Time (Insect Note #B-1) .................. Fruit Insect Note B-1
Blueberry Bud Mite Control (Insect Note #B-4) ................................................................................. Fruit Insect Note B-4
Four Economic Larvae of Blueberries at Harvest Time (Insect Note #B-1) ................. Fruit Insect Note B-1
• Publication covers Plum Cucurloio, Cranberry Fruitworm, Cherry Fruitworm, and Blueberry Maggot.
See also index entries for leaf-footed bug, stink bug, and Japanese beetle.
Floating Row Cover for pest control — 

Alternatives to Synthetic Chemicals for Insect & Mite Control ............................................. Ornamental Insect Note 91
Birds eating small fruit — Grapes & Berries ((hard to locate on internet)) ................................. Un-numbered Fruit Leaflet

Blueberry Diseases

Blueberry Stem Blight (Botryosphaeria fungus) (FDIN-009) ......................................................... Fruit Disease Note 9
Blueberry Twig Blight & Fruit Rot (Phomopsis fungus) (FDIN-010) ............................................. Fruit Disease Note 10
Blueberry (highbush) — Phytophthora Root Rot and its Control (ODIN 013) ................................ Ornamental Disease Note 13

Blue Fescue as ground cover — Ground Covers for North Carolina — AG-75 ............................ Ornamental Leaflet 633-B

Bluegrass — see Turf: Cool-Season

Bobcats — (Bobcats) .................................................................................................................................. Wildlife Note

Prevention and Control of Wildlife Damage Binders from University of Nebraska

• Excellent descriptions of animals, habits & habitats, and control measures.

Bobwhite Quail (www08) ..................................................................................................................... Wildlife Note 8

Bog — see Plant Lists: Plants for Difficult Sites — see Water Gardens

Borers

Particular Borers

Asian Ambrosia Beetle (fruit, nut, and woody ornamentals) (Insect note p-3) .......................... Fruit Insect Note P-3
Asian Ambrosia Beetle (ENT/or-111) ................................................................................................. Ornamental Insect Note 111

See also Pest Management Calendar for Cherry & Cherry Laurel (ENT/or-87) ................................. Ornamental Insect Note 87

Azalea Stem Borer (ENT/or-76) .............................................................................................................. Ornamental Insect Note 76

Pest Management Calendar for Rhododendron (ENT/or-58) ................................................................ Ornamental Insect Note 58

Also found on blueberry.

Azalea Twig Borer

Pest Management Calendar for Azalea (ENT/or-52) ...................................................................... Ornamental Insect Note 52
Carpenter Bees (“Residential, Structural, and Community Pests”) (ENT/rsc-4) ....................... Ornamental Insect drawer, at rear???
Carpenter Worm (ENT/or-27) ............................................................................................................. Ornamental Insect Note 27

Dogwood Borer

Dogwood Pest Management (ENT/or-136) ......................................................................................... Ornamental Insect Note 94
Pest Management Calendar for Dogwood (ENT/or-55) ................................................................. Ornamental Insect Note 55

Dogwood Twig Borer

Growing & Maintaining Healthy Dogwoods (Forest Service fr14 r8-fr14) .................................... Ornamental Leaflet 600-A
Dogwood Pest Management (ENT/or-136) ......................................................................................... Ornamental Insect Note 94
Pest Management Calendar for Dogwood (ENT/or-55) ................................................................. Ornamental Insect Note 55

European Corn Borer — see index entry

Grape Root Borer (Insect Note 9G-3) ................................................................................................. Fruit Insect Note G-3
Lesser Peach Borer — Pest Management Calendar for Cherry & Cherry Laurel (ENT/or-87) ................................. Ornamental Insect Note 87
Peach Tree Borer

Pest Management Calendar for Cherry & Cherry Laurel (ENT/or-87) ............................................ Ornamental Insect Note 87
Disease & Insect Management in the Home Orchard (FDIN 002) ......................................................... Fruit Disease Note 2

BORERS continued on next page...
Botryosphaeria (fungus)

Blueberry Stem Blight (FDIN-009)........................................................................................................... Fruit Disease Note 9
  • This fungus also affects alder, holly, wax myrtle, apple, muscadine, blackberry, and willow.Branch dieback —

Leyland Cypress Diseases (ODIN-017)........................................................................................................ Ornamental Disease Note 17

Twig Blight — Rhododendron Diseases (ODIN-012)................................................................................... Ornamental Disease Note 12
Macrophoma rot (Botryosphaeria fungus) — Diseases of Muscadines (FDIN-012)........................................ Fruit Disease Note 12

Botrytis (fungus) — see also Petal Blight

on Dogwood — Botrytis Petal Blight
Growing & Maintaining Healthy Dogwoods (Forest Service fr14 r8-fr14)................................................... Ornamental Leaflet 600-A
on Geraniums (Pelargonium) (HIL 8504) ....................................................................................................... Ornamental Leaflet 504
on Peonies — Peonies in the Home Landscape (HIL 8501).......................................................................... Ornamental Leaflet 501
Flower & Cane Blight (fungal) on Roses — Rose Diseases and Control(odin-002) ................................. Ornamental Disease Note 2
Botrytis (gray mold) fruit rot on Strawberry —
Strawberries: Disease Control(FDIN 005)..................................................................................................... Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386)........................................................................... Fruit Disease Note 5-A

Boxelder Bug

Boxelder Bug (ENT/ort-40) ............................................................................................................................ Ornamental Insect Note 40

Boxelder Bug, control of (including plant selection) —
Alternatives to Synthetic Chemicals for Insect & Mite Control........................................................................... Ornamental Insect Note 91

Boxwood = Buxus

Boxwood in the Landscape
  Boxwoods in the Landscape (HIL 8628) ........................................................................................................ Ornamental Leaflet 628
  dwarf species/cultivars — Shrubs 1-4ft for NC Landscapes (HIL 634)....................................................... Ornamental Leaflet 634
  Shrubs 4-8ft for NC Landscapes (HIL 635)..................................................................................................... Ornamental Leaflet 635
  Tree Boxwood — Shrubs 8ft+ for NC Landscapes (HIL 630)........................................................................ Ornamental Leaflet 636

Boxwood Culture
  Pruning Trees & Shrubs (AG-071) ................................................................................................................. Ornamental Leaflet 602-A

Pests of Boxwood
  Check first: Pest Management Calendar for Boxwood (ENT/ort-53)............................................................ Ornamental Insect Note 53
See index entries for Leafminers (Boxwood Leafminer), Psyllid (Boxwood Psyllid), Scale, Mealybugs, Planthoppers (Flatid), and Mites (Boxwood Mite and Two-Spotted Spider Mite)

Boxwoods in the Landscape (HIL 8628) ........................................................................................................ Ornamental Leaflet 628
  • Publication covers Boxwood psyllid, Spider Mite, Nematodes.

Diseases of Boxwood
  Root Rot (Phytophthora parasitica fungus)
  Phytophthora Root Rot and its Control(ODIN 013)................................................................................... Ornamental Disease Note 13

Boxwoods in the Landscape (HIL 8628) ........................................................................................................ Ornamental Leaflet 628

Broccoli

Broccoli (HIL 5) ............................................................................................................................................. Vegetable Leaflet 5
Broccoli-Raab (HIL 8005-A) ........................................................................................................................ Vegetable Leaflet 5-A
**BROCCOLI, continued**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Reference</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Vegetable Gardening (AG-06)</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>Vegetable Quick Reference Guide (AG-12)</td>
<td>Vegetable Leaflet 0-A</td>
<td>6</td>
</tr>
<tr>
<td>Container Vegetable Gardening (HIL 8105)</td>
<td>Vegetable Leaflet 105</td>
<td>6</td>
</tr>
<tr>
<td>Mini-Gardening (HIL 8102)</td>
<td>Vegetable Leaflet 102</td>
<td>6</td>
</tr>
<tr>
<td>Growing a Fall Vegetable Garden (HIL 8001)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Harvesting Vegetables (HIL 8108)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Pests &amp; Diseases of Broccoli — see Crucifers</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Broccoli flowers before the heads mature — Home Vegetable Gardening (AG-06)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td><strong>Broom (Cytisus)</strong> — Shrubs 8ft+ for NC Landscapes (HIL 636)</td>
<td>Ornamental Leaflet 636</td>
<td>6</td>
</tr>
<tr>
<td><strong>Brown Patch</strong> — Diseases of Tall Fescue (Turf-006) (Turf-015)</td>
<td>Turf File 252</td>
<td>6</td>
</tr>
<tr>
<td><strong>Brown Recluse Spider</strong> — see Spiders — for bites, seek medical attention immediately!</td>
<td>Ornamental Insect drawer, at rear</td>
<td>6</td>
</tr>
<tr>
<td>Spiders (“Residential, Structural, and Community Pests”) (ENT/rsc-1)</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Brown Rot</strong> — see Rot: Fruit Rot</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Brussels Sprouts</strong></td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>Brussels Sprouts (HIL 6)</td>
<td>Vegetable Leaflet 6</td>
<td>6</td>
</tr>
<tr>
<td>Home Vegetable Gardening (AG-06)</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>Vegetable Quick Reference Guide (AG-12)</td>
<td>Vegetable Leaflet 0-A</td>
<td>6</td>
</tr>
<tr>
<td>In Containers —</td>
<td>Vegetable Leaflet 105</td>
<td>6</td>
</tr>
<tr>
<td>Container Vegetable Gardening (HIL 8105)</td>
<td>Vegetable Leaflet 102</td>
<td>6</td>
</tr>
<tr>
<td>Mini-Gardening (HIL 8102)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Growing a Fall Vegetable Garden (HIL 8001)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Harvesting Vegetables (HIL 8108)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Brussels Sprouts Pests — see Crucifer Pests</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td><strong>Bt (Bacillus thuringiensis)</strong></td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>See Caterpillar Control with Bt</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>See Mosquito Control with Bt</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Buddleia</strong> — see Butterfly Bush</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Buffalo Grass</strong> — see Turf</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Bulbs</strong></td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>Spring-Flowering Bulbs (HIL 611)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Summer and Fall Flowering Bulbs [and rhizomes] for the Landscape (HIL 8632)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Bulbs, forcing — see Houseplants: forcing bulbs indoors</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td><strong>Butia, Brazilian</strong> — see Begotia capitata</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Butterflies</strong>, and plants to attract them</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>Hummingbirds and Butterflies (www20)</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Butterfly Bush</strong> — Shrubs 8ft+ for NC Landscapes (HIL 636)</td>
<td>Ornamental Leaflet 636</td>
<td>6</td>
</tr>
<tr>
<td><strong>Cabbage</strong></td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>Cabbage (HIL - 07)</td>
<td>Vegetable Leaflet 7</td>
<td>6</td>
</tr>
<tr>
<td>Home Vegetable Gardening (AG-06)</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
<tr>
<td>Vegetable Quick Reference Guide (AG-12)</td>
<td>Vegetable Leaflet 0-A</td>
<td>6</td>
</tr>
<tr>
<td>In Containers —</td>
<td>Vegetable Leaflet 105</td>
<td>6</td>
</tr>
<tr>
<td>Container Vegetable Gardening (HIL 8105)</td>
<td>Vegetable Leaflet 102</td>
<td>6</td>
</tr>
<tr>
<td>Mini-Gardening (HIL 8102)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Growing a Fall Vegetable Garden (HIL 8001)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Harvesting Vegetables (HIL 8108)</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Pests &amp; Diseases of Cabbage — see Crucifers</td>
<td>Vegetable Leaflet 108</td>
<td>6</td>
</tr>
<tr>
<td>Cabbage heads split — Home Vegetable Gardening (AG-06)</td>
<td>Vegetable Leaflet 0</td>
<td>6</td>
</tr>
</tbody>
</table>
Cabbage, Chinese
Home Vegetable Gardening (AG-06) ................................................................. Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ......................................................... Vegetable Leaflet 0-A
Container Vegetable Gardening (HIL 8105) ........................................................ Vegetable Leaflet 105
Growing a Fall Vegetable Garden (HIL 8001) .................................................... Vegetable Leaflet 1
Pests & Diseases of Chinese Cabbage — see Crucifers

Caladium
Caladiums (HIL 8517) ........................................................................................... Ornamental Leaflet 517
Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) .................... Ornamental Leaflet 632

Calendars for lawn & garden maintenance
See Turf: Warm-Season or Turf: Cool-Season
See Pest Management: Calendars
See individual plants

Calla Lily (Zantedeschia) — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) .......... Ornamental Leaflet 632

Camellia
Pruning Trees & Shrubs (AG-071) ........................................................................ Ornamental Leaflet 602-A
Shrubs 8ft+ for NC Landscapes (HIL 636) ............................................................. Ornamental Leaflet 636
Espalier (HIL 619) ................................................................................................. Ornamental Leaflet 619
Pests of Camellia
Check first: Pest Management Calendar for Camellia (ENT/ort-54) ..................... Ornamental Insect Note 54
See index entries for Aphids, Scale (esp. Tea and Camellia Scales), Mites (Southern Red Mite), and Weevils
(Two-Banded Japanese Weevil)
Camellia, starting from seed — Overcoming Seed Dormancy (HIL 8704) ........... Ornamental Leaflet 704
Camellia japonica — Phytophthora Root Rot and its Control (ODIN 013) ....... Ornamental Disease Note 13

Campsis — see Trumpet Creeper

Candytuft = Iberis — Ground Covers for North Carolina (AG-75) ....................... Ornamental Leaflet 633-B

Canker
See Seiridium Canker — see Leyland Cypress
Canker (fungal) on Roses — Rose Diseases and Control (odin-002) .................... Ornamental Disease Note 2
Canker (Phomopsis fungus) on blueberry — Twig Blight of Blueberry (FDIN-010) ........................................ Fruit Disease Note 10
Trunk Canker (Phytophthora cactorum fungus) on Dogwood —
Growing & Maintaining Healthy Dogwoods (Forest Service (r8-fr14)) .............. Ornamental Leaflet 600-A

Canna — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ........... Ornamental Leaflet 632

Cantaloupe
Cantaloupe in the Garden
Cantaloupe (Muskmelon) (HIL 8) ................................................................. Vegetable Leaflet 8
Home Vegetable Gardening (AG-06) ................................................................. Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ......................................................... Vegetable Leaflet 0-A
Mini-Gardening (HIL 8102) ................................................................................ Vegetable Leaflet 102
Harvesting Vegetables (HIL 8108) ...................................................................... Vegetable Leaflet 108
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) .... Vegetable Leaflet 33
See also Weed Control in Vegetable Gardens (HIL 8101) ................................ Vegetable Leaflet 101
See also Home Vegetable Gardening (AG-06) ................................................ Vegetable Leaflet 0
Pests & Diseases of Cantaloupe — see also Cucurbits
Cucumber Beetles, Aphids — Cantaloupe (Muskmelon) (HIL 8) ......................... Vegetable Leaflet 8
Diseases of Cantaloupe (VDIN-0013) ................................................................. Vegetable Disease Note 13
Cantaloupes have poor flavor — Home Vegetable Gardening (AG-06) ................ Vegetable Leaflet 0

Caragana — see Siberian Peashrub (Caragana arborescens)

Carnation — see Dianthus

Carolina Cherry Laurel — see Cherry Laurel, Carolina
Carolina Jessamine — see Jasmine

Carolina Lawns (AG-69) — See also Turf ............................................................................................................. Turf File 101
A good companion or alternative: Organic Lawn Care ............................................................................................................. Turf File 105

Carolina School of Gardening — see Durham’s Garden Resources

Carpenter Bees (ENT/rse-4) .................................................................................................................. Ornamental Insect drawer, at rear

Carpenter Worm (ENT/ort-27) ............................................................................................................. Ornamental Insect Note 27

Carpetgrass — see Turf: Warm-Season

Carrots
Home Vegetable Gardening (AG-06) ............................................................................................................. Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ............................................................................................................. Vegetable Leaflet 0-A
In Containers —
Container Vegetable Gardening (HIL 8105) ........................................................................................................ Vegetable Leaflet 105
Mini-Gardening (HIL 8102) ................................................................................................................................. Vegetable Leaflet 102
Growing a Fall Vegetable Garden (HIL 8001) ........................................................................................................ Vegetable Leaflet 1 HARVESTING VEGETABLES
Carrot-fly: repellent crops (unproven!) —
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................ Vegetable Leaflet 91
Carrot, Disease-Resistant Varieties (hile-1305) ................................................................................................. Vegetable Disease Note 6???
Southern Blight in Carrots — Southern Blight of Vegetable Crops(VDIN-009) .................................................. Vegetable Disease Note 9

Cast-Iron Plant — see Aspidistra

Catalpa
Large Trees for North Carolina (HIL 638) ........................................................................................................... Ornamental Leaflet 638
See also Trees

Caterpillars
See also index entries for the host plant
Particular caterpillars (and their control)
Azalea Caterpillar — Pest Management Calendar for Azalea (ENT/ort-52) .................................................. Ornamental Insect Note 52
Cabbage Looper (Veg040e) ................................................................................................................................. Vegetable Insect Note 12
Cabbage Worm Complex (Veg012e) .......................................................................................................................... Vegetable Insect Note 12
• Publication includes Cabbage looper, Imported cabbageworm, Diamondback moth, and other cruciferous-vegetable worms
Carpenter Worm, boring in trees (WNT/ort-27) ................................................................................................. Ornamental Insect Note 27
Caterpillars that feed on trees and shrubs (includes pictures) (ENT/ort-7) ..................................................... Ornamental Insect Note 7
Eastern Tent Caterpillar (ENT/ort-61) .................................................................................................................. Ornamental Insect Note 46
Fall Webworm (ENT/ort-46) ................................................................................................................................. Ornamental Insect Note 46
Forest Tent Caterpillar (Ent/ort-07) .................................................................................................................... Ornamental Insect Note 75
Tobacco hornworm — Pepper Insect Control (Veg-37) .................................................................................... Vegetable Insect Note 37
Very fuzzy caterpillars: Fall Webworm (ENT/ort-46) ..................................................................................... Ornamental Insect Note 46

Caterpillar Control
Insect Management for the Home Gardener (Veg-43) .......................................................................................... Vegetable Insect Note 43
Pest Management Calendars for Cherry & Cherry Laurel (#87), Juniper (#57), Holly (#56) (Pest Management Calendar Index) .............................................................. Ornamental Insect Notes 56, 57, 87
Horticultural Oils for control of caterpillars
Horticultural Oils (ENT/ort-45) ................................................................................................................................. Vegetable Insect Note 45
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................ Vegetable Insect Note 45
Caterpillar control with Bt (Bacillus thuringiensis) —
Insect Management for the Home Gardener (Veg-43) .......................................................................................... Vegetable Insect Note 43
Pesticide Selection for Water Quality Protection (turf file) .................................................................................. Ornamental Insect Note 102
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................ Vegetable Insect Note 91

Organic Pest Control in Turf (ENT/ort-95) ........................................................................................................ Vegetable Insect Note 95

Cauliflower
Cauliflower (HIL 10) ................................................................................................................................. Vegetable Leaflet 10
Home Vegetable Gardening (AG-06) ............................................................................................................. Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ............................................................................................................. Vegetable Leaflet 0-A

CAULIFLOWER continued on next page...
Diseases of Cherry

Carolina Cherry Laurel (Prunus caroliniana) — see Trees

Eastern Red Cedar = Juniperus virginiana (J. virginiana)

Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617

Plants for Seashore Conditions (HIL 606) ............................................................................... Ornamental Leaflet 606

Cedar Apple Rust (apple, crabapple, and Eastern red cedar) — see Pests & Diseases of Cauliflower — see Crucifers

See also Pruning — See also Trees

Cherry, flowering

Small & Intermediate Trees for North Carolina (HIL 637) ................................................................. Ornamental Leaflet 637

Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617

Trees for Use Under Utility Lines (HIL 8616) ............................................................................... Ornamental Leaflet 616

Cherry, fruiting

Training & Pruning Fruit Trees (AG-29) ......................................................................................... Un-numbered Fruit Leaflet

Cold injury to blossoms — Durham’s Weather (UHN 1) ................................................................. Urban Hort Note 1

Pests of Cherry

Check first: Pest Management Calendar for Cherry & Cherry Laurel (Prunus) (ENT/ort-87) ... Ornamental Insect Note 87

Eastern Tent Caterpillar (ENT/ort-61) ......................................................................................... Ornamental Insect Note 61

Asian Ambrosia Beetle — see Borers

Peach tree borer — see Borers

Diseases of Cherry

Black Knot (fungal) in Plum & Cherry (FDIN 004) ....................................................................... Fruit Disease Note 4

Black Knot (fungal) in Cherry & Plum — Disease & Insect Management in the Home Orchard (FDIN-002) Fruit Disease Note 2

See also Trees

Cherry Laurel, Carolina (Prunus caroliniana)

Pest Management Calendar for Cherry & Cherry Laurel (Prunus) (ENT/ort-87) ........................... Ornamental Insect Note 87

Carolina Cherry Laurel (Prunus caroliniana) in the Landscape

Shrubs 8ft+ for NC Landscapes (HIL 636) .................................................................................. Ornamental Leaflet 636

Small & Intermediate Trees for North Carolina (HIL 637) ................................................................. Ornamental Leaflet 637

Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617

Trees for Use Under Utility Lines (HIL 8616) ............................................................................... Ornamental Leaflet 616

See also Trees
Cherry Laurel, English (Prunus laurocerasus)

Pest Management Calendar for Cherry & Cherry Laurel (Prunus) (ENT/or-87) .................................................. Ornamental Insect Note 87
English Cherry Laurel (Prunus laurocerasus) in the Landscape
English Cherry Laurel — Shrubs 8ft+ for NC Landscapes (HIL 636) ................................................................. Ornamental Leaflet 636
English Cherry Laurel, dwarf cultivars — Shrubs 1-4ft for NC Landscapes (HIL 634) .............................. Ornamental Leaflet 634

Chestnut
see also Horse-Chestnut (Aesculus)

Producing Tree Fruit for Home Use (AG-28) ........................................................................................................ Un-numbered Fruit Leaflet???
Chestnut Insects (Asiatic chestnut) (Fruit c-1) ........................................................................................................ Fruit Insect Note C-1
* Publication covers Chestnut Weevils (“Snot Beetle” or curculio), Mites, and Treehoppers.

Chinch Bugs

Chinch Bugs (ENT/or-112) ......................................................................................................................... Ornamental Insect Note 112
Insect Management in Turf (AG-447) ................................................................................................................ Turf File 157
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ............................. Turf File 152

Chinese Cabbage — see Cabbage

Chinese Chestnut — see Chestnut

Chipmunks (www-chipmunk) ......................................................................................................................... Wildlife binder
Chipmunks: Prevention and Control of Wildlife Damage Binders from University of Nebraska
* Excellent descriptions of animals, habits & habitats, and control measures.

Chlorosis (Yellowing)
on Azalea (see also Azalea Lace Bug) — Azalea Disease Control (ODIN 016) ................................................ Ornamental Disease Note 16
on Centipedegrass — Problems on Centipedegrass (Turf 001) ........................................................................ Turf File 352

Chokecherry = Prunus virginiana

Recommended Trees for Urban Landscapes (HIL 8617) .................................................................................. Ornamental Leaflet 617
See also Trees

Christmas Trees

We do not maintain a list of cut-your-own tree farms, but we often have a growers’ association directory in the office around Christmas-time. Usually there are no listings for Durham County.

Pat and Ed Sykes grow White Pine christmas trees locally; their farm is on Leesville Rd off 70 (596-2349). They are usually not listed in the directory.
Fraser fir and spruce do not grow well in the Triangle, so there are no local cut-your-own sources for them. Alternatives include white pine, Virginia pine, eastern red cedar, or possibly Leyland cypress.

Cicadas (ENT/or-17) ................................................................................................................................. Ornamental Insect Note 17

Cicada Killer Wasp (ENT/or/63) .................................................................................................................. Ornamental Insect Note 63

Clay Buster (Gypsum) — Amending Clay Soils (UHN 3) ................................................................................ Urban Hort Note 3

Clay Soil — see Soil Amendments

Clematis

Clematis paniculata — Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
Clematis hybrida — Vines for NC Landscapes (HIL 633) ................................................................................ Ornamental Leaflet 633

Cleyera

Pruning Trees & Shrubs (AG-071) .................................................................................................................. Ornamental Leaflet 602-A
Shrubs 8ft+ for NC Landscapes (HIL 636) .......................................................................................................... Ornamental Leaflet 636
Plants for Seashore Conditions (HIL 606) ........................................................................................................ Ornamental Leaflet 606

Click Beetles — larvae are called wireworms. See Wireworms on Sweetpotato (Veg24) ............................ Vegetable Insect Note 24

Club Gall on Dogwood — see Dogwood Pests

Club Root (Plasmodiophora fungus) on Cruciferous Greens
Diseases of Greens (VDIN-0014) ........................................................................................................ Vegetable Disease Note 14
Club Root of Cabbage & Crucifers (VDIN-0017) ................................................................................ Vegetable Disease Note 17

Coastal Conditions, Plants for — Plants for Seashore Conditions (HIL 606) ........................................... Ornamental Leaflet 606
Codling moth, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control

Coffee tree, Kentucky (Gymnocladus dioicus)
Recommended Trees for Urban Landscapes (HIL 8617)
See also Trees

Cold Injury
Durham’s Weather (UHN 1)
Publication covers protecting plants and pruning after damage.

Cold Injury
Growing a Fall Vegetable Garden (HIL 8001)
Cold Damage: Protecting Plants (HIL 604)
on Azalea — Azalea Disease Control (ODIN 016)
on Boxwood — Boxwoods in the Landscape (HIL 8628)
on Daffodils — Durham’s Weather (UHN 1)
on Fig — Fig Diseases (FDIN 007)
on Fruit Tree blossoms — Durham’s Weather (UHN 1)

Collards or Collard Greens
Collards in the Garden
Collards (HIL 8012)
See also Leafy Greens (HIL 8016)
Home Vegetable Gardening (AG-06)
Vegetable Quick Reference Guide (AG-12)
Mini-Gardening (HIL 8102)
Growing a Fall Vegetable Garden (HIL 8001)
Harvesting Vegetables (HIL 8108)
Pests & Diseases of Collards — see Crucifers

Commercial Growers / Crops
Consumer Horticulture Agent takes all calls from commercial growers (Field Crops, Tobacco, Horticultural Crops, Orchards)

Composting
Composting for Home Gardens (HIL 8100)
Composting: Managing Yard Wastes (AG-467)
Using Compost in Beds (AG-473-14)
Compost as mulch — Mulches (HIL 608)
Mulch becoming compost — Amending Clay Soils (UHN 3)
Vermicomposting (AG-473-18)
Organic Lawn Care (Appendix on composting)

Compost, Municipal
Composition of municipal compost — Using Compost in Beds (AG-473-14)
The City of Durham offers free compost/mulch at the Transfer Station, 211 E. Club Blvd (just north of I-85).
Check availability with them; sometimes it’s not well enough decomposed to use as a soil amendment, but is okay for mulch. It is recycled yard waste. Call 560-4611.

Container Gardening
Container Vegetable Gardening (HIL 8105)
Mini-Gardening (Vegetables) (HIL 8102)
Geraniums (Pelargonium) (HIL 8504)
Indoor Plant Selection & Care (HIL 8554)

Copper
Copper as a bactericide and fungicide —
Managing Diseases in Home Vegetable Gardens (AG-436)
Copper as a fungicide on fruit trees to prevent leaf curl disease —
Disease & Insect Management in the Home Orchard (FDIN 002)
Corktree, Amur = Phellodendron amurenensis
Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617
See also Trees

Corn
Sweet Corn
Sweet Corn (HIL 13) .................................................................................................................. Vegetable Leaflet 13
Home Vegetable Gardening (AG-06) .......................................................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) .................................................................................. Vegetable Leaflet 0-A
Harvesting Vegetables (HIL 8108) ............................................................................................... Vegetable Leaflet 108
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) .......................... Vegetable Leaflet 33
See also Weed Control in Vegetable Gardens (HIL 8101) ............................................................ Vegetable Leaflet 101
See also Home Vegetable Gardening (AG-06) ............................................................................ Vegetable Leaflet 0

Pests of Corn: Corn Earworm
Corn Earworm on sweet corn (and field corn)(Veg19) ................................................................. Vegetable Insect Note 19
• Publication includes sweet corn varieties resistant to Corn Earworm damage
Corn Earworm — Sweet Corn (HIL 13) ..................................................................................... Vegetable Leaflet 13
Corn Earworm, control of —
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91
Cabbage Worm Complex (Veg012e) ........................................................................................... Vegetable Insect Note 12
Pepper Insect Control (Veg-37) ................................................................................................. Vegetable Insect Note 37

Pests of Corn: Other Pests
European Corn Borer — see index entry
Flea Beetles on Vegetables(Veg27) ............................................................................................... Vegetable Insect Note 27
• Adults on leaves; larvae in roots; beetles transmit Bacterial Wilt
Corn Rootworm, Southern = larvae of Spotted Cucumber Beetle (Veg025e) ............................ Vegetable Insect Note 25
Cucumber Beetle (Veg025e) ........................................................................................................ Vegetable Insect Note 25
Corn as a host plant for Cucumber Beetle adults and larvae (Veg025e) ................................. Vegetable Insect Note 25
Seedcorn Maggot (on germinating or decaying plants) (Veg31) ................................................ Vegetable Insect Note 31
Seedcorn Maggot Flies (ENT/ort-20) .......................................................................................... Vegetable Insect Note 20

Diseases of Corn
Smut-resistant Varieties — Sweet Corn (HIL 13) ........................................................................ Vegetable Leaflet 13
Sweet Corn, Disease-Resistant Varieties (HGIC-1308) .............................................................. Vegetable Disease Note 6???
Corn Leaf Blights — Managing Diseases in Home Vegetables Gardens (AG-436) ................. Vegetable Disease Note 0
Bacterial Wilt of Corn, transmission by Corn Flea Beetle —
Flea Beetles on Vegetables(Veg27) ............................................................................................. Vegetable Insect Note 27

Other Corn Problems
Corn ears don’t fill out properly — Home Vegetable Gardening (AG-06) ..................................... Vegetable Leaflet 0

Cotoneaster
Espalier (HIL 619) ..................................................................................................................... Ornamental Leaflet 619
Ground Covers for North Carolina (AG-75) ............................................................................... Ornamental Leaflet 633-B
Shrubs 1-4ft for NC Landscapes (HIL 634) ............................................................................... Ornamental Leaflet 634
Hawthorn Lace Bug (ENT/ort-39) ............................................................................................. Ornamental Insect Note 39

Cottony Insects
Cottony Camellia Scale, Cottony Cushion Scale, Cottony Maple Leaf Scale — see Scale

Cover Crops
Weed Control in Vegetable Gardens (HIL 8101) .......................................................................... Vegetable Leaflet 101
Home Vegetable Gardening (AG-06) .......................................................................................... Vegetable Leaflet 0
See also Weed Control: Cultural Practices

Cowpea Circulio — see Curculio

Coyotes (www-coyot.es) ............................................................................................................ Wildlife Binder
Prevention and Control of Coyote Damage Binders from University of Nebraska
• Excellent descriptions of animals, habits & habitats, and control measures.
Crabapple = Malus
Crabapple pest: Eastern Tent Caterpillar (ENT/ort-61)..................................................................................................................Ornamental Insect Note 61
Crabapple, starting from seed — Overcoming Seed Dormancy (HIL 8704)................................................................................Ornamental Leaflet 704
Crabapple in the Landscape
Crabapple Trees for Landscape (HIL 8613) .................................................................................................................................Ornamental Leaflet 613
Small & Intermediate Trees for North Carolina (HIL 637)..............................................................................................................Ornamental Leaflet 637
Recommended Trees for Urban Landscapes (HIL 8617) ..................................................................................................................Ornamental Leaflet 617
Trees for Use Under Utility Lines (HIL 8616) .................................................................................................................................Ornamental Leaflet 616
Crabapple Disease: Cedar Apple Rust — Disease & Insect Management in the Home Orchard (FDIN 002). Fruit Disease Note 2
See also Trees

Crape Myrtle = Lagerstroemia
Crape Myrtle in the Landscape
Crape Myrtles: superior new cultivars (HIL 642) ..........................................................................................................................Ornamental Leaflet 642
Small & Intermediate Trees for North Carolina (HIL 637) ..............................................................................................................Ornamental Leaflet 637
Trees for Use Under Utility Lines (HIL 8616) .................................................................................................................................Ornamental Leaflet 616
Recommended Trees for Urban Landscapes (HIL 8617) ..................................................................................................................Ornamental Leaflet 617
Crape Myrtle, pruning — Pruning Trees & Shrubs (AG-071) ............................................................................................................Ornamental Leaflet 602-A
Pests of Crape Myrtle
Crape Myrtle Insect Pest Management Calendar (ENT/ort-54) .....................................................................................................Ornamental Insect Note 54
Crape Myrtle Aphid (ENT/ort-31) ..............................................................................................................................................Ornamental Insect Note 31

Cress, Upland (HIL 8016-A) ....................................................................................................................................................Vegetable Leaflet 16-A

Cricket, Mole — see Mole Crickets

Crop Rotation
See also individual crops — see also Vegetable Gardening
Managing Diseases in Home Vegetable Gardens (AG-436) .................................................................................................................Vegetable Disease Note 0
For controlling Southern Blight of Vegetable Crops (VDIN 009) ...........................................................................................................Vegetable Disease Note 9

Crows
Prevention and Control of Wildlife Damage Binders from University of Nebraska (Crows) ............Wildlife Binder
✦ Excellent descriptions of animals, habits & habitats, and control measures.

Crown Rot — see Rot: Crown Rot

Crown Gall — see Gall: Crown Gall

Crucifers
See also individual crops: Cabbage, Kale, Cauliflower, Broccoli, Leafy Greens (Collards, Spinach, Mustard),
Turnip, Rutabaga, Radish, etc.

Pests of Cruciferous Vegetables
Cabbage Worm Complex (caterpillars) (Veg012e) ...........................................................................................................Vegetable Insect Note 12
✦ Publication includes Cabbage looper, Imported cabbageworm, Diamondback moth,
and other cruciferous-vegetable worms
Cabbage Looper (caterpillar) (Veg040e) ..............................................................................................................................Vegetable Insect Note 40
Corn Earworm (caterpillar) (Veg19) ..........................................................................................................................Vegetable Insect Note 19
Cucumber Beetle (Veg025e) .............................................................................................................................................Vegetable Insect Note 25
Diamondback Moth (caterpillar) (Veg011e) ..........................................................................................................................Vegetable Insect Note 11
Flea Beetles on Vegetables (Veg27)..................................................................................................................................Vegetable Insect Note 27
✦ Adults on leaves; larvae in roots
Harlequin bug — True Bugs in the Field and Garden (Veg-42) ..........................................................................................Vegetable Insect Note 42
✦ Publication includes varieties resistant to damage from Harlequin bugs.

Repellent crops (unproven!) for Cabbage looper and cabbage worms:
Alternatives to Synthetic Chemicals for Insect & Mite Control ......................................................................................Ornamental Insect Note 91

Diseases of Cruciferous Vegetables
Prevention — Managing Diseases in Home Vegetable Gardens (AG-436) ............................................................................................Vegetable Disease Note 0
Managing Diseases in Home Vegetable Gardens (AG-436) .................................................................................................................Vegetable Disease Note 0
✦ Publication covers Alternaria Leaf Spot/Blight, Black Rot/Black Leg, and Cabbage Yellows.
Cabbage, Disease-Resistant Varieties (Cabbage-HGIC-1303) ............................................................................................................Vegetable Disease Note 6
Diseases of Greens (VDIN 0014) ............................................................................................................................................Vegetable Disease Note 14
✦ Publication covers Anthracnose, White Spot, Alternaria Leaf Spot, Mildew, Black Rot, Mosaic, Damping-Off,
Wire Stem and Stem Rot, Club Root, and Nematodes.

CRICIFERS continued on next page...
CRICIFERS, continued

Black Rot of Cabbage & Crucifers (VDIN-0016) ......................................................... Vegetable Disease Note 16
Head Rot of Cabbage (VDIN-025) ................................................................................. Vegetable Disease Note 25
Club Root of Cabbage & Crucifers (VDIN-0017) .......................................................... Vegetable Disease Note 17

Cryptomeria — Large Trees for North Carolina (HIL 638) ............................................ Ornamental Leaflet 638

Cucumber Beetle — see Cucurbit Pests

Cucumbers

Cucumbers in the Garden
Cucumbers, Trellised (HIL 8014-B) .................................................................................. Vegetable Leaflet 14-B
Home Vegetable Gardening (AG-06) ................................................................................. Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ................................................................. Vegetable Leaflet 0-A
In Containers —
  Container Vegetable Gardening (HIL 8105) .............................................................. Vegetable Leaflet 105
  Mini-Gardening (HIL 8102) ......................................................................................... Vegetable Leaflet 102
Growing a Fall Vegetable Garden (HIL 8001) ............................................................... Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) .................................................................................. Vegetable Leaflet 108
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8032) ................. Vegetable Leaflet 33
  See also Weed Control in Vegetable Gardens (HIL 8101) ........................................... Vegetable Leaflet 101
  See also Home Vegetable Gardening (AG-06). ......................................................... Vegetable Leaflet 0

Pests & Diseases of Cucumber — see Cucurbits

Other Problems of Cucumber
Cucumbers are bitter — Home Vegetable Gardening (AG-06) ......................................... Vegetable Leaflet 0
Cucumber sets fruit poorly — Home Vegetable Gardening (AG-06) ............................... Vegetable Leaflet 0

Cucurbits — Cucumbers, Gourds, Squash, Pumpkins, Melons

Pests: Cucumber Beetle
Cucumber Beetle (Veg025e) ............................................................................................. Vegetable Insect Note 25
Cantaloupe (Muskmelon) (HIL 8) .................................................................................. Vegetable Leaflet 8
Cucumber beetle, control of, and tansy as a repellent crop (unproven!) —
  Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................ Ornamental Insect Note 91

Pests: Other Pests of Cucurbits
Aphids — Cantaloupe (Muskmelon) (HIL 8) ................................................................. Vegetable Leaflet 8
Cabbage Looper(Veg040e) ............................................................................................. Vegetable Insect Note 40
Pickleworm Management (Veg001e) ................................................................................ Vegetable Insect Note 1
  • Publication includes Summer Squash cultivars resistant to pickleworm damage.
Seedcorn Maggot (on germinating or decaying plants) (Veg31) ........................................ Vegetable Insect Note 31
Squash Bug — True Bugs in the Field and Garden(Veg-42) ........................................... Vegetable Insect Note 42
Squash Vine Borer (Veg20) ............................................................................................ Vegetable Insect Note 20
Stink Bug (on melon stems) — True Bugs in the Field and Garden(Veg-42) ................. Vegetable Insect Note 42

Cucurbit Diseases
Prevention — Managing Diseases in Home Vegetable Gardens (AG-436) ......................... Vegetable Disease Note 0
Managing Diseases in Home Vegetable Gardens (AG-436) ................................................ Vegetable Disease Note 0
  • Publication covers Anthracnose, Gummy Stem Blight, Leaf Blight, Leaf Spot, Mosaic, Scab
Anthracnose of Cucurbits (Veg DN 11) ........................................................................ Vegetable Disease Note 11
Bacterial Wilt on Cucumber —
  Managing Diseases in Home Vegetable Gardens (AG-436) ........................................... Vegetable Disease Note 0
  transmission by Cucumber Beetle (Veg025e) ................................................................ Vegetable Insect Note 25
Cucumber Mosaic (virus) —
  Managing Diseases in Home Vegetable Gardens (AG-436) ........................................... Vegetable Disease Note 0
  transmission by Cucumber Beetle (Veg025e) .............................................................. Vegetable Insect Note 25
Fruit Rot on Cucumbers (VDIN-001) ................................................................................ Vegetable Disease Note 1
Gummy Stem blight & Phoma Blight on Cucurbits (VDIN-008) ........................................ Vegetable Disease Note 8
Southern Blight of Vegetable Crops(VDIN-009) ............................................................. Vegetable Disease Note 9
Cucurbit: Disease-Resistant Varieties (see Cornell Univ link) ........................................ Vegetable Disease Note 6???
Diseases of Cantaloupe (VDIN-0013) ............................................................................. Vegetable Disease Note 13
Cucurbits, continued

- Blossom End Rot (some Cucurbits are susceptible)
  - Tomatoes (UHN 10) ................................................................. Urban Hort Note 10
  - Blossom End Rot (HIL 8107-A) .................................................. Vegetable Leaflet 107-A
  - Tomato, Peppers, Watermelon: Blossom End Rot (VDIN-19) ........ Vegetable Disease Note 19
  - Blossom End Rot — Home Vegetable Gardening (AG-06) (not detailed) ............................................... Vegetable Leaflet 0

Cultivation — see Weed Control: Cultural Practices

Curculio (insect)

- See also Weevils
  - Chestnut Curculio — Chestnut Insects (on Asiatic chestnut) (Fruit c-1) ................................................................. Fruit Insect Note C-1
  - Cowpea Curculio (Cowpea Pod Weevil) (Veg29) ................................................................................ Vegetable Insect Note 29
  - See also Southern Peas (HIL 8020) ........................................................................................................ Vegetable Leaflet 0
  - Plum Curculio — Disease & Insect Management in the Home Orchard (FDIN 002) .................................................. Fruit Disease Note 2

Currants

- Banned in NC because they (genus Ribes) are an alternate host for white pine blister rust, which kills white pines.

Cuttings — see Propagation

Cutworms

- Identification of — Insect Management in Turf (AG-447) ................................................................. Turf File 157
- On cruciferous vegetables — Cabbage Worm Complex (Veg012e) ................................................................................ Vegetable Insect Note 12
- Asparagus Insect Control (Veg35) ................................................................................................................ Vegetable Insect Note 35
  - Control of — Alternatives to Synthetic Chemicals for Insect & Mite Control ................................................................. Ornamental Insect Note 91
  - Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ............................................................. Turf File 152
  - Paper collars to prevent damage — Garden Insect Control (Veg15) ............................................................................... Vegetable Insect Note 15

Cyclamen

- Cyclamen Mite (ENT/ort-28) ........................................................................................................ Ornamental Insect Note 28
- Hardy Cyclamen — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) .................................................. Ornamental Leaflet 632

Cypress, Bald = Taxodium distichum

- Large Trees for North Carolina (HIL 638) ........................................................................................................ Ornamental Leaflet 638
- Recommended Trees for Urban Landscapes (HIL 8617) ................................................................................ Ornamental Leaflet 617
  - See also Trees

Daffodils = Narcissus

- Spring-Flowering Bulbs (HIL 611) ........................................................................................................ Ornamental Leaflet 611
- Forcing Potted Paperwhite Narcissus (HIL 8530) ................................................................................ Ornamental Leaflet 530
  - Forcing Potted Narcissus (Daffodils) (HIL 8531) ................................................................................ Ornamental Leaflet 531
  - Daffodils, Cold Injury — Durham’s Weather (UHN 1) ................................................................................ Urban Hort Note 1

Dahlia

- Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) .................................................. Ornamental Leaflet 632
- Dahlias in the Home Landscape (HIL 8500) ................................................................................ Ornamental Leaflet 500

Dahoon (Ilex cassine) — see Holly

Damping Off — see Propagation: Damping Off

Daphne — Shrubs 1-4ft for NC Landscapes (HIL 634) ................................................................................ Ornamental Leaflet 634

Dawn Redwood (Metasequoia glyptostroboides) — see Redwood

Daylily = Hemerocallis

- Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) .................................................. Ornamental Leaflet 632
  - Daylily as a ground cover — Ground Covers for North Carolina (AG-75) ................................................. Ornamental Leaflet 633-B
Deutzia

Deutzia scabra — Shrubs 8ft+ for NC Landscapes (HIL 636) ........................................... Ornamental Leaflet 636
Deutzia gracilis — Shrubs 1-4ft for NC Landscapes (HIL 634) ........................................... Ornamental Leaflet 634

Diatomaceous Earth

Diatomaceous Earth for pest control — hazards to humans — Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................ Ornamental Insect Note 91

Dichondra — Ground Covers for North Carolina (AG-75) ........................................... Ornamental Leaflet 633-B

Dieback of limbs — see specific plant

Ornamentals: Determining Growth Difficulties (UHN 13) not written ...................................................... Urban Hort Note 13

Disease — see specific plant or specific disease

Disease-Resistant Varieties

Vegetables: Disease-Resistant Varieties ................................................................. Vegetable Disease Note 6???
Disease Resistant Crabapple Trees for Landscape (HIL 8613) ................................. Ornamental Leaflet 613
Disease resistance “code letters” in tomato names — Tomatoes (UHN 10)................................. Urban Hort Note 10
See specific plants

Dogwood = Cornus

Flowering dogwood (Cornus florida)

Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
Small & Intermediate Trees for North Carolina (HIL 637) ........................................... Ornamental Leaflet 637
Flowering Dogwood (HIL 8600) ................................................................. Ornamental Leaflet 600
Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) ................. Ornamental Leaflet 600-A

Kousa dogwood (Cornus kousa)

Flowering Dogwood (HIL 8600) (also covers Cornus kousa) ................................. Ornamental Leaflet 600
Small & Intermediate Trees for North Carolina (HIL 637) ........................................... Ornamental Leaflet 637
Recommended Trees for Urban Landscapes (HIL 8617) ........................................... Ornamental Leaflet 617
Trees for Use Under Utility Lines (HIL 8616) ................................................................. Ornamental Leaflet 616
Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) ................. Ornamental Leaflet 600-A

Pests of Dogwood

Check first: Pest Management Calendar for Dogwood (Ent/ort-55) ......................... Ornamental Insect Note 55
Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) ................. Ornamental Leaflet 600-A

Dogwood Pest Management (Ent/ort-136) ................................................................. Ornamental Insect Note 94

See index entries for Leafhoppers, Weevils (Two-Banded Japanese),
Borers (Dogwood borer & Dogwood twig borer)

Cottony Maple Leaf Scale (Ent/ort-37) ................................................................. Ornamental Insect Note 37
Dogwood Pest Management (Ent/ort-136) ................................................................. Ornamental Insect Note 94
Pest Management Calendar for Dogwood (Ent/ort-55) ................................................................. Ornamental Insect Note 55
Dead bugs stuck to twigs (Seedcorn Maggot Flies) (Ent/ort-20) ......................... Ornamental Insect Note 20
Pest Management Calendar for Dogwood (Ent/ort-55) ................................................................. Ornamental Insect Note 55
Dogwood Club Gall Midge
Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) ................. Ornamental Leaflet 600-A
Dogwood Pest Management (Ent/ort-136) ................................................................. Ornamental Insect Note 94
Pest Management Calendar for Dogwood (Ent/ort-55) ................................................................. Ornamental Insect Note 55
Dogwood Sawfly — Dogwood Pest Management (Ent/ort-136) ................................. Ornamental Insect Note 94

DOGWOOD continued on next page...
DOGWOOD, continued

Diseases of Dogwood

Check first: Growing & Maintaining Healthy Dogwood (Forest Service r8-fr14) Ornamental Leaflet 600-A

- **Diseases of Dogwood**
  - Check first: Growing & Maintaining Healthy Dogwood (Forest Service r8-fr14) Ornamental Leaflet 600-A
  - **Publication covers Dogwood Anthracnose, Spot Anthracnose, Septoria Leaf Spot, Botrytis Petal Blight, and Trunk Canker.**

Dogwood, starting from seed — Overcoming Seed Dormancy (HIL 8704) Ornamental Leaflet 704

See also Pruning (Dogwood is a “bleeder”) — See also Trees

**Dollar Spot** — Problems on Centipedegrass (Turf 001) Turf File 352

**Dormant Oil** — see Pest Management: Alternative Pesticides

**Downy Mildew** (*Peronospora* fungus)

- **on Snapdragons** (IPM - UC Davis) Ornamental Disease Note 26
- **on Vegetables**
  - Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0
  - Diseases of Greens (Cruciferous) (VDIN-0014) Vegetable Disease Note 14
  - Diseases of Cantaloupe (VDIN-0013) Vegetable Disease Note 13

See also Powdery Mildew

**Drainage** — see Soil Amendment — see Planting Techniques — see Rot

- Measuring drainage — Durham’s Soil (UHN 2) Urban Hort Note 2

**Drought Tolerance** — see Xeriscaping

**Dry Planting Sites** — see Xeriscaping

**Ducks**

- Wood Ducks (www06) Wildlife Note 6
  - Waterfowl: Prevention and Control of Wildlife Damage Binders from University of Nebraska
    - Excellent descriptions of animals, habits & habitats, and control measures.

**Duke Gardens** — see Durham’s Garden Resources

**Durham, NC** — see Plant Lists — see Planting Techniques — see Soil Amendments

- **Durham’s Weather** (UHN 1) Urban Hort Note 1
  - Publication covers Durham’s weather and adapted plants.

- **Durham’s Soil** (UHN 2) Urban Hort Note 2
  - Amending Clay Soils (UHN 3) Urban Hort Note 3

- **Growing Annual & Perennial Flowers in Durham County** (UHN 8) Urban Hort Note 8
  - Publication includes site preparation, planting techniques, maintenance, and very basic landscaping design principles, as well as a perennial plant list.

- **Month-By-Month Gardening Calendar** (UHN 16) Urban Hort Note 16

**Durham’s Garden Resources**

- **North Carolina Botanical Garden** (UNC, Chapel Hill) 962-0522 http://www.unc.edu/depts/ncbg/
- **JC Raulston Arboretum** (NCSU, Raleigh) 515-3132 http://www.ncsu.edu/jcraulstonarboretum/index.php
- **Duke Gardens** (Durham) 684-3698 http://www.hr.duke.edu/dukegardens/
- **Carolina School of Gardening** (Chapel Hill) 779-9114 or email theschool@mindspring.com

**SEEDS (South Eastern Efforts Developing Sustainable Spaces): Urban-renewal community gardening, based in Durham — 683-1197**

**Early Blight**

- on Tomato & Potato — Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0
  - transmission by Potato Flea Beetle Flea — Beetles on Vegetables (Veg27) Vegetable Insect Note 27

**Earworm** — see Corn: Corn Earworm

**Edible Landscaping**

- **Edible Flowers** (HIL 8513) Un-numbered Fruit Leaflet
- **Producing Tree Fruit for Home Use** (AG-28) Un-numbered Fruit Leaflet
- **Training & Pruning Fruit Trees** (AG-29) Un-numbered Fruit Leaflet

**EDIBLE LANDSCAPING continued on next page...**
EDIBLE LANDSCAPING, continued

See also —
Plant Lists: Tree Fruit, Small Fruits, Vegetables —
individual crops (kiwifruit, fig, grape, apple, peach, etc.)
Vegetables
Herbs

Eggplant

Eggplant in the Garden
Eggplant, Home Garden (HIL 8015) ................................................................. Vegetable Leaflet 15
Home Vegetable Gardening (AG-06) .............................................................. Vegetable Leaflet 0
  Vegetable Quick Reference Guide (AG-12) ................................................ Vegetable Leaflet 0-A
In Containers —
  Container Vegetable Gardening (HIL 8105) ................................................ Vegetable Leaflet 105
  Mini-Gardening (HIL 8102) ................................................................. Vegetable Leaflet 102
Harvesting Vegetables (HIL 8108) ................................................................... Vegetable Leaflet 108
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) .......... Vegetable Leaflet 33
See also Weed Control in Vegetable Gardens (HIL 8101) ................................. Vegetable Leaflet 101
See also Home Vegetable Gardening (AG-06) ................................................ Vegetable Leaflet 0

Pests of Eggplant
Cucumber Beetle (Veg025e) .................................................................................. Vegetable Insect Note 25
Flea Beetles on Vegetables(Veg27) ........................................................................ Vegetable Insect Note 27
  Adults on leaves; larvae in roots

Leafminers—
Potato Tuberworm (Veg3) .................................................................................... Vegetable Insect Note 3
Tomato Pinworm (Veg33) ................................................................................... Vegetable Insect Note 33

Diseases of Eggplant
See also Pepper and Tomato Diseases
Eggplant, Disease-Resistant Varieties (see Cornell Univ link) ......................... Vegetable Disease Note 6??
Blossom End Rot (Eggplant is also susceptible)
  Tomatoes (UHN 10) ...................................................................................... Urban Hort Note 10
  Blossom End Rot (HIL 8107-A) .................................................................... Vegetable Leaflet 107-A
  Tomato, Peppers, Watermelon: Blossom End Rot (VDIN-0019) ...................... Vegetable Disease Note 19
  Blossom End Rot — Home Vegetable Gardening (AG-06) (not detailed) ............ Vegetable Leaflet 0

Eleagnus = Russian Olive, etc.
  Plants for Seashore Conditions (HIL 606) ..................................................... Ornamental Leaflet 606
  Shrubs 8ft+ for NC Landscapes (HIL 636) ..................................................... Ornamental Leaflet 636

Elephant-Ear = Colocasia
See also Caladium
  Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ..................... Ornamental Leaflet 632

Elm = Ulmus
Elm in the Landscape
  Large Trees for North Carolina (HIL 638) ...................................................... Ornamental Leaflet 638
  Recommended Trees for Urban Landscapes (HIL 8617) ............................... Ornamental Leaflet 617
Asian Ambrosia Beetle — see Borers
Scorch Diseases on Shade Trees ........................................................................ Ornamental Disease Note 10
See also Pruning (Elm is a “bleeder”) — See also Trees

Elm Leaf Beetle
Elm Leaf Beetle (ENT/ort-85) ............................................................................ Ornamental Insect Note 85
Elm Leaf Beetle control with Bt —
  Pesticide Selection for Water Quality Protection (turf file) .............................. Ornamental Insect Note 102
  Alternatives to Synthetic Chemicals for Insect & Mite Control ................. Ornamental Insect Note 91

Empress Tree — see Paulownia

Entomosporium (fungus) — see Leaf Spot
Environmental Issues
See Water Quality Issues
See Wildlife Stewardship Incentive Program
See also Prevention and Control of Wildlife Damage Binders from University of Nebraska

- Excellent descriptions of animals, habitats & control measures.

Erosion, preventing — see Water Quality Issues — see Mulch — see Plant Lists: Ground Covers

Espalier (HIL 619) .......................................................... Ornamental Leaflet 619

Eucomis (Pineapple Lily) — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ................. Ornamental Leaflet 632

Eucommia ulmoides (Hardy Rubber Tree) — Recommended Trees for Urban Landscapes (HIL 8617) . Ornamental Leaflet 617

Euonymus
Euonymus in the Landscape — see also Wintercreeper (Euonymus fortunei and E.radicans)
- Shrubs 8ft+ for NC Landscapes (HIL 636) .......................................................... Ornamental Leaflet 636
- dwarf species/cultivars — Shrubs 1-4ft for NC Landscapes (HIL 634) .......................................................... Ornamental Leaflet 634
- Euonymus kiautschovicus — Shrubs 4-8ft for NC Landscapes (HIL 635) .......................................................... Ornamental Leaflet 635
- Euonymus japonicus — Plants for Seashore Conditions (HIL 606) .......................................................... Ornamental Leaflet 606
- Espalier (HIL 619) ........................................................................................................................... Ornamental Leaflet 619

Pests of Euonymus
Check first: Pest Management Calendar for Euonymus (ENT/ort-55) .................................................. Ornamental Insect Note 55
See index notes for Weevils (Black Vine Weevil), and Mites (Spider Mites)
- Euonymus Scale (see also Scale, Euonymus).................................................................................. Ornamental Insect Note 15
- Pest Management Calendar for Euonymus (ENT/ort-55) .......................................................... Ornamental Insect Note 55

European Corn Borer
European Corn Borer in Potatoes (Veg2)..................................................................................................... Vegetable Insect Note 2
- Pepper Worm Management (Veg30e)................................................................................................. Vegetable Insect Note 30
- Pepper Insect Control (Veg-37) ........................................................................................................ Vegetable Insect Note 37
- Alternatives to Synthetic Chemicals for Insect & Mite Control .......................................................... Ornamental Insect Note 91

Exterminators
See also Household Pests
See also Pest Management: Professional Pest Control Operators
Refer caller to Yellow Pages under Pest Control Services.

Fairy Rings (fungus)
- Diseases of Tall Fescue (Turf -006) ................................................................................................. Turf File 252
- Problems on Centipedegrass (Turf 001) ............................................................................................ Turf File 352
- Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages)........................ Turf File 152

Fall Vegetable Gardening — see Vegetable Gardening in the Fall

Fall Webworm (ENT/or-46) ........................................................................................................ Ornamental Insect Note 46

False Spider Mites — see Mites

Fatshedera (Bush-ivy) — Vines for NC Landscapes (HIL 633) .......................................................... Ornamental Leaflet 633

Fatsia japonica
- Plants for Seashore Conditions (HIL 606) .......................................................................................... Ornamental Leaflet 606
- Shrubs 4-8ft for NC Landscapes (HIL 635) .................................................................................. Ornamental Leaflet 635

Ferns
Ferns as ground cover — Ground Covers for North Carolina (AG-75) ........................................... Ornamental Leaflet 633-B
- Pests of Ferns
  - Two-Banded Japanese Weevil (ENT/or-34) .................................................................................. Ornamental Insect Note 34
  - Brown Soft Scale (ENT/or-32) ...................................................................................................... Ornamental Insect Note 32
Fertilizer — see also Soil Amendments — see also Water Quality

Fertilizing Turf — see Turf: Lawn Care

Using Fertilizer

Improving Soil Fertility (UHN 4) ................................................................. Urban Hort Note 4
  • Publication explains the three-letter formulation code and the roles of the three major nutrients.
  • Publication discusses organic and slow-release fertilizers.

Lawn Care and the Environment (AG-597) ................................................. Turf File 102-A
  • Publication explains the three-letter formulation code and the roles of the three major nutrients.

Bedding Plants: Soil Preparation & Fertilization (HIL 551) .................... Ornamental Leaflet 551

Home Vegetable Gardening (AG-06) ...................................................... Vegetable Leaflet 0
  • Publication covers side-dressing and banding as well as incorporation.

Fertilizing Deciduous Trees (HIL 618) ...................................................... Ornamental Leaflet 618

Indoor Plant Selection & Care (HIL 8554) ................................................ Ornamental Leaflet 554

Spring-Flowering Bulbs (HIL 611) ............................................................. Ornamental Leaflet 611

in orchards — Producing Tree Fruit for Home Use (AG-28)......................... Un-numbered Fruit Leaflet

Understanding Fertilizer

Understanding the Soil Test Report (UHN 6) ........................................... Urban Hort Note 6
  • Publication explains how to convert soil test fertilizer recommendations to available fertilizers.

Lawn Care and the Environment (AG-597) ................................................. Turf File 102-A
  • Publication explains the three-letter formulation code and the roles of the three major nutrients.

Bedding Plants: Soil Preparation & Fertilization (HIL 551) .................... Ornamental Leaflet 551
  • Publication covers nutritional needs of plants, role of pH, and synthetic sources of nutrients.

SoilFacts: Nutrient Content of Fertilizer and Organic Materials (AG-439-18) file after Urban Hort Note 6
  • Publication presents nutrient analyses of various organic and synthetic fertilizers.

Fertilizer Injury

on Azalea — Azalea Disease Control (ODIN 016) ................................. Ornamental Disease Note 16

Ornamentals: Determining Growth Difficulties (UHN 13) ..................... Urban Hort Note 13

on Rhododendron — Rhododendron Diseases (ODIN-012) .................... Ornamental Disease Note 12

on Turf — Miscellaneous problems of Turf (C10turf) .............................. Turf File 153

on Vegetables — Salt Injury to Vegetable Crops (Veg DN 10) .............. Vegetable Disease Note 10

See also Urine Damage, Salt Damage

Organic Fertilizers

Improving Soil Fertility (UHN 4) ................................................................. Urban Hort Note 4

Understanding the Soil Test Report (UHN 6) ........................................... Urban Hort Note 6

SoilFacts: Nutrient Content of Fertilizer and Organic Materials (AG-439-18) file after Urban Hort Note 6
  • Publication presents nutrient analyses of various organic and synthetic fertilizers.

Slow-Release Fertilizers

Improving Soil Fertility (UHN 4) ................................................................. Urban Hort Note 4

Understanding the Soil Test Report (UHN 6) ........................................... Urban Hort Note 6

SoilFacts: Nutrient Content of Fertilizer and Organic Materials (AG-439-18) file after Urban Hort Note 6
  • Publication presents nutrient analyses of various organic and synthetic fertilizers.

Adding fertilizer to compost piles — see Composting

Fescue, Blue — Ground Covers for North Carolina (AG-75) ...................... Ornamental Leaflet 633-B

Fescue Turfgrass — see Turf: Cool-Season

Ficus — see Fig

Figs

Edible Fig (Ficus carica)

Fig Culture (HGIC 1353) ......................................................................... Fruit Leaflet 210-A
  • Publication includes mention of root-knot nematodes

Producing Tree Fruit for Home (AG-28) .............................................. Un-numbered Fruit Leaflet

Espalier (HIL 619) ................................................................................... Ornamental Leaflet 619

Creeping Fig (Ficus pumila) — Vines for NC Landscapes (HIL 633) ......... Ornamental Leaflet 633

Asian Ambrosia Beetle — see Borers

Fig Diseases (FDIN 007) .......................................................................... Fruit Disease Note 7
  • Publication covers Nematodes, Leaf & stem problems (fungal), Fruit rots, and Cold injury.

Filbert = Corylus

Recommended Trees for Urban Landscapes (HIL 8617) ......................... Ornamental Leaflet 617

See also Trees
Fire Ants — see Ants

Fire Blight (bacterial)
Fire Blight in Apple & Pear (focuses on orchards) (FDIN 003) ................................................................. Fruit Disease Note 3
Fire Blight in Apple & Pear — Disease & Insect Management in the Home Orchard (FDIN 002) ........... Fruit Disease Note 2

Fish, Aquaculture — See also Water Quality
Refer caller to Karen McAdams, Agent in Orange County (see Orange County)

Flatid Planthopper — see Planthoppers

Flea Beetle
Flea Beetles on Vegetables (Veg27) ........................................................................................................ Vegetable Insect Note 27
Pest Management Calendar for Cherry & Cherry Laurel (ENT/ort-87) ...................................................... Ornamental Insect Note 87
Flea beetles, control of, and catnip as a repellent crop (unproven!) — Alternatives to Synthetic Chemicals for Insect & Mite Control ................................................................. Ornamental Insect Note 91

Flocks — see Phlox

Flower Blight — see Petal Blight

Flowerpots — see Container Gardening

Flowers — see Plant Lists: Ornamentals and Bedding Plants

Flush Cuts (not recommended) — see Pruning

Forest
Refer questions to County Foresters, Bill Colville and Wayne Williams (office upstairs) at 560-0562.

Forest Tent Caterpillar (http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/note61/note61.htm) . Ornamental Insect Note 75

Forsythia
Espalier (HIL 619) ........................................................................................................................................ Ornamental Leaflet 619
Pruning Trees & Shrubs (AG-071) ................................................................................................................. Ornamental Leaflet 602-A
Shrubs 4-8ft for NC Landscapes (HIL 635) ................................................................................................. Ornamental Leaflet 635

Foxes ........................................................................................................................................................................ Wildlife Binder
Foxes: Prevention and Control of Wildlife Damage Binders from University of Nebraska
* Excellent descriptions of animals, habits & habitats, and control measures.

Freezing — see Cold Injury, Preventing

Fringe Tree = Chionanthus — Shrubs 8ft+ for NC Landscapes (HIL 636) ......................................................... Ornamental Leaflet 636

Frogs ........................................................................................................................................................................ Wildlife Binder
Frogs and Toads: Prevention and Control of Wildlife Damage Binders from University of Nebraska
* Excellent descriptions of animals, habits & habitats, and control measures.

Fruit Rot — see individual crops — see Rot, Fruit

Fruit Trees — see Plant Lists: Tree Fruit — see individual crops — see Orchard

Fuller Rose Beetle — see Rose Pests

Fumigation of Soil — See Pest Management — See Weed Control

Fungicides — see individual disease or host

Fungus
Damping Off of Seedlings — see Propagation: Damping Off
Mushrooms / Fungal growths on oak tree roots — Root and Butt Rot of Oaks (ODIN 030) ................. Ornamental Disease Note 30
Endophytic fungus (beneficial) on turfgrass for insect resistance — Organic Pest Control in Turf (ENT/ort-95) ........................................................................................................... Ornamental Insect Note 95
See also Mushrooms — See also Fairy Rings
See also Rot, Mold, and individual crops

Fungus Gnats
Dark-Winged Fungus Gnats (ENR/ort-29) ....................................................................................................... Ornamental Insect Note 29
Life cycle and Control — House Plant Pests ..................................................................................................... Ornamental Insect Note 98

FUNGUS GNATS continued on next page...
control of — Alternatives to Synthetic Chemicals for Insect & Mite Control .................................................. Ornamental Insect Note 91
control with Bt —
Pesticide Selection for Water Quality Protection (turf file) ................................................................. Ornamental Insect Note 102
Alternatives to Synthetic Chemicals for Insect & Mite Control ................................................................. Ornamental Insect Note 91

Fungus-Infected Maggot Flies (ENT/ort-20) ......................................................................................... Ornamental Insect Note 20
See also Dogwood Pests

Fusarium Wilt (fungus)
on Tomato (“F” in VFNT tomato varieties) —
Managing Diseases in Home Vegetable Gardens (AG-436) ........................................................................ Vegetable Disease Note 0
on Cantaloupe — Diseases of Cantaloupe (VDIN-0013) ........................................................................ Vegetable Disease Note 13

Gall
Club Gall on Dogwood (ENT/ort-136) ................................................................................................. Ornamental Insect Note 94
See also Dogwood Pests

Crown Gall
on Pecan — Pecan Disease and Control (odin-003) ............................................................................... Ornamental Disease Note 3
Crown Gall (bacterial) on Roses — Rose Diseases and Control (odin-002) ............................................. Ornamental Disease Note 2

Leaf Gall
on Azalea (Exobasidium fungus) — Azalea Disease Control (ODIN 016) .............................................. Ornamental Disease Note 16
on Camellia (fungus) — Azalea Diseases (ODIN 016) ............................................................................ Ornamental Disease Note 16

Gall on Hickory and Pecan (Phylloxera fungus) (ENT/ort-49) ................................................................. Ornamental Insect Note 49
Gall on Maple Leaves and other trees — Maple Gall Mites (ENT/ort04) ............................................... Ornamental Insect Note 4
Gall on Oak (ENT/ort-05) ....................................................................................................................... Ornamental Insect Note 5

Horticultural Oils for control of Gall Mites — Horticultural Oils (ENT/ort-45) ........................................ Ornamental Insect Note 45

Game — see Wildlife — see Animals… (General Wild life Publications) ................................................. Wildlife Binder
See also Prevention and Control of Wildlife Damage Binders from University of Nebraska
- Excellent descriptions of animals, habits & habitats, and control measures.

Gardenia
Gardenia jasminoides — Shrubs 4-8ft for NC Landscapes (HIL 635) ....................................................... Ornamental Leaflet 635
Gardenia radicans — Shrubs 1-4ft for NC Landscapes (HIL 634) ............................................................. Ornamental Leaflet 634
Pruning Trees & Shrubs (AG-071) .......................................................................................................... Ornamental Leaflet 602-A

Gardening in Durham, Urban Hort Note Series — see Durham

Gardening Tools
Home Vegetable Gardening (AG-06) ........................................................................................................ Vegetable Leaflet 0
Cultivating Tools — Weed Control in Vegetable Gardens (HIL 8101) ................................................ Vegetable Leaflet 101
See also Pruning Tools

Geese.................................................................Wildlife Binder
Waterfowl: Prevention and Control of Wildlife Damage Binders from University of Nebraska
- Excellent descriptions of animals, habits & habitats, and control measures.

Gelsemium sempervirens (Carolina Jessamine) — see Jasmine

Geranium = Pelargonium
Geraniums (HIL 8504) ............................................................................................................................. Ornamental Leaflet 504
Pests of Geranium
See index entries for Aphids, Caterpillars, Whitefly (greenhouse whitefly), see Mites, Slugs, and Termites!
Geraniums (Pelargonium) (HIL 8504) ........................................................................................................ Ornamental Leaflet 504

Ginkgo = Ginkgo biloba
Large Trees for North Carolina (HIL 638) ............................................................................................ Ornamental Leaflet 638
Recommended Trees for Urban Landscapes (HIL 8617) ........................................................................ Ornamental Leaflet 617
See also Trees

Ginseng — see Herbs

Gladiolus — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ...................................... Ornamental Leaflet 632

Gloriosa Lily — see Lily
Gnats — see Fungus Gnats

Golden-Chain Tree = Laburnum
Small & Intermediate Trees for North Carolina (HIL 637) ........................................................... Ornamental Leaflet 637
See also Trees

Golden-Rain Tree = Koelreuteria
Small & Intermediate Trees for North Carolina (HIL 637) ........................................................... Ornamental Leaflet 637
Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617
Asian Ambrosia Beetle — see Borers
Golden-Rain Tree, starting from seed — Overcoming Seed Dormancy (HIL 8704) ............................ Ornamental Leaflet 704
See also Trees

Goldenseal — see Herbs

Gooseberries
Banned in NC because they (genus Ribes) are an alternate host for white pine blister rust, which kills white pines.

Gophers — see Groundhog

Gourds (HIL 29) .............................................................................................................................................. Vegetable Leaflet 29

Pests & Diseases of Gourds — see Cucurbits

Information on Luffa Sponge Gourds is available on NC State’s website:
http://www.ces.ncsu.edu/depts/hort/hil/hil-120.html

Commercial Luffa Sponge Gourd Production (HIL 120)

Call the Cary Village Garden Club, 4008 Green Level Road, Apex, NC 27502, 362-4357 (Mary Ann Rood). They sponsor an annual gourd festival in September.

Grapes
Muscadine Grapes (Vitis rotundifolia)
Plants for Seashore Conditions (HIL 606) ............................................................................................ Ornamental Leaflet 606
Muscadine Grapes (HIL 8203) ........................................................................................................ Fruit Leaflet 203
Nursery List of Small Fruit Cultivars for Home Use in NC (HIL 8210) .............................................. Fruit Leaflet 210
Grapes & Berries (AG-15) (hard to locate on internet) ................................................................. Un-numbered Fruit Leaflet

Bunch Grapes
Bunch Grapes (HIL 8202) .............................................................................................................. Fruit Leaflet 202
Nursery List of Small Fruit Cultivars for Home Use in NC (HIL 8210) ................................................ Fruit Leaflet 210
Grapes & Berries (AG-15) (hard to locate on internet) ................................................................. Un-numbered Fruit Leaflet

Pests of Grape
Insects Reported On Grapes In North Carolina (Fruit Insect Note G-2) ........................................... Fruit Insect Note G-2

* Publication covers a wide variety of pests including Grape Root Borer, and also Rose Chafer, Green June Beetle, and Japanese Beetle.

Grape Root Borer (Insect Note #G-3) ................................................................................................. Fruit Insect Note G-3

* Both grapes and muscadines are affected.

Floating Row Cover for pest control —
Alternatives to Synthetic Chemicals for Insect & Mite Control ......................................................... Ornamental Insect Note 91

Birds eating small fruit — Grapes & Berries (AG-15) (hard to locate on internet) ......................... Un-numbered Fruit Leaflet

Diseases of Grape
Diseases of Muscadines (Fruit DN 12) ................................................................................................. Fruit Disease Note 12

* Publication covers Angular leaf spot, Fruit rots, Powdery mildew, and other topics.

Scorch Diseases on Shade Trees (that can also occur on Grape) (odin-10) .................................... Ornamental Disease Note 10

Grass
See Turf
See Plant Lists: Ornamental Grasses
See Weed Control

Grass-Cycling (pamphlet from NC CES, Office of Waste Reduction, and Turfgrass Council) ................. Turf File 104

Grasshopper
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ......................... Turf File 152

Gravel — see Soil Amendments
Greenhouse
A Small Backyard Greenhouse (AG-426) ................................................................. Ornamental Leaflet 432
Greenhouse-like environments for rooting cuttings —
Plant Propagation by Stem Cuttings (HIL 8702) ......................................................... Ornamental Leaflet 702
Greenhouse pests
Greenhouse Whitefly (ENT/ort-10) .............................................................................. Ornamental Insect Note 10
Silverleaf Whitefly (ENT/ort-83) .................................................................................... Ornamental Insect Note 83
Azalea Leafminer (greenhouse only) (odin 003) ............................................................ Ornamental Insect Note 3
Greenhouse Vegetable Insect Control (Veg17) ............................................................ Vegetable Insect Note 17
  * Publication covers cultural as well as chemical control

Green June Beetle
control of — Alternatives to Synthetic Chemicals for Insect & Mite Control ........................... Ornamental Insect Note 91
identification of — Organic Pest Control in Turf (ENT/ort-95) ........................................... Ornamental Insect Note 95
See also Grubs (crawling on their backs) — and Controlling White Grubs in Turf (AG-366) .......... Turf File 155

Greens — see Leafy Greens

Ground Covers — see Plant Lists: Ground Covers

Groundhog or Ground Hog or Woodchucks………… (www-woodchuck) ........................................... Wildlife Binder
Woodchucks: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  * Excellent descriptions of animals, habits & habitats, and control measures.

Ground Pearls (insects)
Insect Management in Turf (AG-447) ............................................................................ Turf File 157
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ................ Turf File 152
Problems on Centipedegrass (Turf 001) ........................................................................ Turf File 352

Grubs
Grubs of Asiatic Garden Beetle, Chafer Beetle, Japanese Beetle, Green June Beetle —
Controlling White Grubs in Turf (AG-366) .................................................................... Turf File 155
Grubs, crawling on their backs (Green June Beetle grubs) —
Controlling White Grubs in Turf (AG-366) .................................................................... Turf File 155
See also Japanese Beetles (ENT/ort-44) ................................................................. Ornamental Insect Note 44
Grub Control with Milky Spore (Bacillus popilliae)
Alternatives to Synthetic Chemicals for Insects & Mites ........................................... Ornamental Insect Note 91
Japanese Beetle (ENT/ort-44) .................................................................................... Ornamental Insect Note 44
Organic Pest Control in Turf (ENT/ort-95) ................................................................. Ornamental Insect Note 95
Pesticide Selection for Water Quality Protection (turf file) ...................................................... Ornamental Insect Note 102
Controlling White Grubs in Turf (AG-366) .................................................................... Turf File 155
Grub Control by other means
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ................ Turf File 152
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91
Controlling White Grubs in Turf (AG-366) .................................................................... Turf File 155
See also Scoiid Wasps

Gummy Stem Blight — see Cucurbits

Gum Tree — see Black Gum (Nyssa sylvatica) — see Sweet Gum (Liquidambar styraciflua)

Gypsum “Clay Buster” — Amending Clay Soils (UHN 3) ........................................................... Urban Hort Note 3

Habitat — see Wildlife Habitat

Hackberry = Celtis
Recommended Trees for Urban Landscapes (HIL 8617) ................................................ Ornamental Leaflet 617
See also Trees

Harlequin Bug
Harlequin bug, control of, and trap crops —
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91
True Bugs in the Field and Garden (Veg-42) ................................................................. Vegetable Insect Note 42
  * Publication includes crucifer varieties resistant to damage from Harlequin bugs.
Hawks & Owls: Prevention and Control of Wildlife Damage Binders from University of Nebraska

- Excellent descriptions of animals, habits & habitats, and control measures.

**Hawthorn, Indian** — see Raphiolepis

**Hawthorne** = *Crataegus*

- Small & Intermediate Trees for North Carolina (*HIL 637*) ................................................................. Ornamental Leaflet 637
- Recommended Trees for Urban Landscapes (*HIL 8617*) ................................................................................... Ornamental Leaflet 617
- Trees for Use Under Utility Lines (*HIL 8616*) .................................................................................................... Ornamental Leaflet 616

See also Trees

**Hazardous Waste**

Refer caller to the News & Observer 24-hr Household Hazardous Waste hotline: 549-5100 ext 2735

*Or call City of Durham.*

**Heather** — Phytophthora Root Rot and its Control (*ODIN 013*) ................................................................. Ornamental Disease Note 13

**Hedges**

- Shrubs 8ft+ for NC Landscapes (*HIL 636*) ................................................................................................. Ornamental Leaflet 636
- Shrubs 4-8ft for NC Landscapes (*HIL 635*) ................................................................................................. Ornamental Leaflet 635
- Shrubs 1-4ft for NC Landscapes (*HIL 634*) ................................................................................................. Ornamental Leaflet 634
- Shrubs for windbreaks — Conserving Energy with Plants (*HIL 631*) ............................................................... Ornamental Leaflet 631
- Pruning & shearing — Pruning Trees & Shrubs (*AG-071*) ............................................................................. Ornamental Leaflet 602-A

**Hemlock** = *Tsuga*

- Canadian and Carolina Hemlock — Large Trees for North Carolina (*HIL 638*) ........................................... Ornamental Leaflet 638
- Pests of Hemlock
  - Check first: Hemlock Insect Pest Management Calendar (*ENT/ort-78*) ......................................................... Ornamental Insect Note 78
  - See index entries on Weevils (Black Vine Weevil, Pales Weevil, Two-Banded Japanese Weevil, Spittlebug, and Asiatic Garden Beetle)
  - Hemlock Looper — Pest Management Calendar for Hemlock (*ENT/ort-78*) ................................................ Ornamental Insect Note 78
  - Hemlock Rust Mite — Pest Management Calendar for Hemlock (*ENT/ort-78*) ................................................. Ornamental Insect Note 78
  - White Grubs — see Grubs

See also Pruning — See also Trees

**Herbicides** — see Weed Control — see also Ag-Chem Manual — see Household Hazardous Waste

**Herbs** — see also Edible Landscaping

- Herbs (*HIL 8110*) ....................................................................................................................................... Vegetable Leaflet 110
- Harvesting and Preserving Herbs (*HIL 8111*) ................................................................................................. Vegetable Leaflet 111
- Winterizing the Herb Garden (*HIL 8112*) ................................................................................................. Vegetable Leaflet 112

- *Publication covers a long list of herbs*

**Basil Production** (*HIL-125*) ........................................................................................................... Vegetable Leaflet 110-A

Sources:

- Seed & Plant Sources for Medicinal Herbs & Botanicals (*HIL 129*) ......................................................... Ornamental Leaflet 129
- Suppliers of Culinary & Ornamental Herb Seeds and/or Plants (*HIL 130*) .................................................. Ornamental Leaflet 130

**Edible Flowers** (*HIL 8513*) — available on NC State’s website

- Additional information is available on NC State’s website (under Commercial Specialty Crops):
  - [http://www.ces.ncsu.edu/depts/hort/hil/spcrop-index.html](http://www.ces.ncsu.edu/depts/hort/hil/spcrop-index.html)

**Chives** (commercial production) (*HIL 124*)  
**Basil** (commercial production) (*HIL 125*)  
**Lemon Balm** (commercial production) (*HIL 126*)  
**Caraway** (commercial production) (*HIL 128*)  
**Advances In Goldenseal Cultivation** (*HIL 131*)

**Ginseng** — Several publications on commercial Ginseng production are available on NC State’s website:

- [http://www.ces.ncsu.edu/depts/hort/hil/spcrop-index.html](http://www.ces.ncsu.edu/depts/hort/hil/spcrop-index.html)

**Care and Planting of Ginseng Seed and Roots** (*HIL 127*)  
**Ginseng Disease Control - Phytophthora and Alternaria** (*HIL 132*)  
**Ginseng: A Production Guide for North Carolina** (*AG-323*)
Hibiscus — see also Althea (Rose of Sharon)

Hickory = Carya

Large Trees for North Carolina (HIL 638) ................................................................. Ornamental Leaflet 638
Phylloxera Gall (ENT/or-t-49) .................................................................................. Ornamental Insect Note 49
Twig Girdler (ENT/or-t-96) ..................................................................................... Ornamental Insect Note 96
Twig Girdler, cultural control for —

Alternatives to Synthetic Chemicals for Insect & Mite Control ................................... Ornamental Insect Note 91
See also Pruning — See also Trees — See also Pecan

Hogs, Wild (Feral) …… (wild pigs) ........................................................................... Wildlife Binder
Wild Pigs: Prevention and Control of Wildlife Damage Binders from University of Nebraska
• Excellent descriptions of animals, habits & habitats, and control measures.

Holly = Ilex

Pruning Trees & Shrubs (AG-071) ........................................................................... Ornamental Leaflet 602-A
Holly, starting from seed — Overcoming Seed Dormancy (HIL 8704) ...................... Ornamental Leaflet 704
Espalier (HIL 619) .................................................................................................... Ornamental Leaflet 619

Holly in the Landscape

Hollies for NC (HIL 639) ....................................................................................... Ornamental Leaflet 639
Shrubs 1-4ft for NC Landscapes (HIL 634) ................................................................. Ornamental Leaflet 634
Shrubs 4-8ft for NC Landscapes (HIL 635) ................................................................. Ornamental Leaflet 635
Shrubs 8ft+ for NC Landscapes (HIL 636) ................................................................. Ornamental Leaflet 636
Small & Intermediate Trees for North Carolina (HIL 637) ...................................... Ornamental Leaflet 637
Recommended Trees for Urban Landscapes (HIL 8617) ........................................... Ornamental Leaflet 617
Trees for Use Under Utility Lines (HIL 8616) ............................................................ Ornamental Leaflet 616
American Holly (Ilex opaca) and Yaupon (Ilex vomitoria) —

Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606

Pests of Holly

Check first: Pest Management Calendar for Holly (ENT/or-t-56) .............................. Ornamental Insect Note 56
See index entries for Caterpillars, Leafminer (and Leafminer Flies), Mealybugs, see Mites,
Planthopper (Flatid), Scale, Spittlebug, Weevil (Two-banded Japanese), and Whitefly

Diseases of Holly

Holly Disease Control (ODIN 007) ............................................................................ Ornamental Disease Note 7
• Publication covers Black root rot (Thielaviopsis basicola fungus),
Nematodes (esp. Japanese holly), and general decline.

Botryosphaeria (fungus) on holly — Blueberry Stem Blight (FDIN 009) ..................... Fruit Disease Note 9

Honeysuckle — see Bees

For large swarms of honeybees outdoors — not wasps and not indoors — call MGV and beekeeper John Wallace at 596-4040.

Honeyloucst = Gleditsia

Recommended Trees for Urban Landscapes (HIL 8617) ........................................... Ornamental Leaflet 617
Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
See also Trees

Honeysuckle = Lonicera

Ground Covers for North Carolina (AG-75) ............................................................. Ornamental Leaflet 633-B
Vines for NC Landscapes (HIL 633) ......................................................................... Ornamental Leaflet 633
Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
Winter Honeysuckle (Lonicera fragrantissima) — Shrubs 8ft+ for NC Landscapes (HIL 636).............. Ornamental Leaflet 636
Box Honeysuckle (Lonicera nitida) — Shrubs 4-8ft for NC Landscapes (HIL 635) .................... Ornamental Leaflet 635

Hornbeam = Carpinus

Small & Intermediate Trees for North Carolina (HIL 637) ........................................ Ornamental Leaflet 637
Recommended Trees for Urban Landscapes (HIL 8617) ........................................... Ornamental Leaflet 617
See also Trees

Hornets See also Wasps

Yellow Jackets and Paper Wasps (Insect Note - ENT/rsc-10) (wasp in the home) ........ Ornamental Insect Note 69
**Horse-Chestnut** = *Aesculus*

Recommended Trees for Urban Landscapes ([HIL 8617](#)) ............................................................................... Ornamental Leaflet 617

See also Trees

**Horticultural Oils** — see Pest Management: Alternative Pesticides

**Hosta**

Black Vine Weevil ([ENT/ort-66](#)) ........................................................................................................ Ornamental Insect Note 66

Hosta as ground cover — Ground Covers for North Carolina ([AG-75](#)) ................................. Ornamental Leaflet 633-B

**Household Hazardous Waste**

Refer caller to the News & Observer 24-hr Household Hazardous Waste hotline: 549-5100 ext 2735

Or call City of Durham.

**Household Pests**

Refer all questions to Theresa Clark, Home Economist, at ext. 0521. (We do have information on Ladybugs). Or, refer caller to Yellow Pages under Pest Control Services.

Do NOT diagnose ants vs termites by phone.

Rats, Mice — See also Prevention and Control of Wildlife Damage

Binders from University of Nebraska /rhombus4

Excellent descriptions of animals, habits & habitats, and control measures.

**House Plants**

Indoor Plant Selection & Care ([HIL 8554](#)) ................................................................................ Ornamental Leaflet 554

Forcing bulbs indoors

Forcing Potted Amaryllis ([HIL 8529](#)) .......................................................................................... Ornamental Leaflet 529

Forcing Potted Paperwhite Narcissus ([HIL 8530](#)) .................................................................. Ornamental Leaflet 530

Forcing Potted Narcissus (Daffodils) ([HIL 8531](#)) .............................................................. Ornamental Leaflet 531

Forcing Hyacinths ([HIL 8507](#)) ................................................................. Ornamental Leaflet 507

Geraniums (Pelargonium) ([HIL 8504](#)) .................................................................................. Ornamental Leaflet 504

Consumer Care of Poinsettias ([HIL 8508](#)) .............................................................................. Ornamental Leaflet 508

See also Propagation

Plant Propagation by Leaf, Cane, & Root Cuttings ([HIL 8700](#)) ................................................. Ornamental Leaflet 700

Pests of Houseplants

See index entries for Aphids, Scale, Mites (Spider Mites), Whitefly, and other individual pests

False Spider Mites (on Orchids) ([ENT/ort-47](#)) ........................................................................ Ornamental Insect Note 47

**NOTE:** Our references are limited, and diagnosis is often difficult by telephone. Refer caller to shops specializing in house plants. See Yellow Pages.

*Hovenia dulcis* — see Raisintree, Japanese — Trees for Use Under Utility Lines ([HIL 8616](#)) .......... Ornamental Leaflet 616

**Huckleberry** — see Blueberry

**Hummingbirds**, and plants/feeders to attract them

Hummingbirds and Butterflies ([www20](#)) ................................................................................... Wildlife Note 20

**Hydrangea**

Smooth & Oakleaf Hydrangea ([HIL 8625](#)) .............................................................................. Ornamental Leaflet 625

*Hydrangea paniculata* — Shrubs 8ft+ for NC Landscapes ([HIL 636](#)) ........................................... Ornamental Leaflet 636

Pruning Trees & Shrubs ([AG-071](#)) .................................................................................. Ornamental Leaflet 602-A

Note: Peegee hydrangea = *Hydrangea paniculata grandiflora*

Annabelle hydrangea = smooth hydrangea = *Hydrangea arborescens*

Oakleaf hydrangea = *Hydrangea quercifolia*

**Hypericum** (St Johnswort)

Ground Covers for North Carolina ([AG-75](#)) ............................................................................... Ornamental Leaflet 633-B

Shrubs 1-4ft for NC Landscapes ([HIL 634](#)) ........................................................................... Ornamental Leaflet 634

**Illicium** — see Anise

**Indian Hawthorn** — see *Raphiolepsis*

**Indian Wax Scale** — see Scale

**Indoor Pests** — see Household Pests
Insecticidal Soap — see Pest Management

Insecticide — see Pest Management

Insects

See Beneficial Insects
See Household Pests
See Pest Management
Swarms, nests, etc — see Pest Management: Professional Pest Control

Insect Traps

See also Japanese Beetles
See also Pest Management

Alternatives to Synthetic Chemicals for Insects & Mites ......................................................... Ornamental Insect Note 91

Integrated Pest Management (IPM) — see Pest Management

Iris

Bearded Iris for the Home Landscape (HIL 8506) ................................................................. Ornamental Leaflet 506
Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ........................................... Ornamental Leaflet 632
Bearded Iris as a ground cover — Ground Covers for North Carolina (AG-75) .................. Ornamental Leaflet 633-B
Pests & Diseases — Bearded Iris for the Home Landscape (HIL 8506) .............................. Ornamental Leaflet 506

Irrigation

Efficient Irrigation (AG-508-6) ............................................................................................... (need to find drawer location) ?

— Publication covers several methods of irrigation, including underground and drip systems.
Wise Water Use in Landscaping (AG-508-1) ......................................................................... Ornamental Leaflet 442-A
— Publication discusses efficient and minimal use of water for irrigation.
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) ................. Vegetable Leaflet 33

Ivy, Boston = Parthenocissus tricuspidata — Vines for NC Landscapes (HIL 633) .............. Ornamental Leaflet 633

Ivy, English = Hedera helix

Ground Covers for North Carolina (AG-75) ......................................................................... Ornamental Leaflet 633-B
Vines for NC Landscapes (HIL 633) ....................................................................................... Ornamental Leaflet 633

Japanese Beetles

Japanese Beetles (ENT/or-44) ............................................................................................... Ornamental Insect Note 44

Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91
Asparagus Insect Control (Veg35) ......................................................................................... Vegetable Insect Note 35
Pest Management Calendars for Cherry & Cherry Laurel (#87), Roses (#59) ................. Ornamental Insect Notes 59, 87

Traps

Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91
Japanese Beetles (ENT/or-44) ............................................................................................... Ornamental Insect Note 44

Trap crops — Alternatives to Synthetic Chemicals for Insect & Mite Control ................... Ornamental Insect Note 91

Damage control: Alternatives to Synthetic Chemicals for Insect & Mite Control ............ Ornamental Insect Note 91
Covering bushes with cheesecloth to prevent damage
Larvae control — see Grubs

Jasmine = Gelsemium or Jasminum or Trachelospermum

Carolina Jessamine (Gelsemium sempervirens)

Ground Covers for North Carolina (AG-75) ......................................................................... Ornamental Leaflet 633-B
Plants for Seashore Conditions (HIL 606) ............................................................................ Ornamental Leaflet 606
Vines for NC Landscapes (HIL 633) ....................................................................................... Ornamental Leaflet 633

Jasminum floridum — Shrubs 1-4ft for NC Landscapes (HIL 634) ........................................... Ornamental Leaflet 634

Confederate or Star Jasmine (Trachelospermum Jasminoides) —
Vines for NC Landscapes (HIL 633) ....................................................................................... Ornamental Leaflet 633
Espalier (HIL 619) ................................................................................................................. Ornamental Leaflet 619

Jerusalem Artichoke (HIL 1-A) ............................................................................................... Vegetable Leaflet 1-A

Jessamine, Carolina — see Jasmine

Jostaberies

Banned in NC because they (genus Ribes) are an alternate host for white pine blister rust, which kills white pines.
June Beetle
See Grubs, including Controlling White Grubs in Turf (AG-366) ................................................................. Turf File 155
See Green June Beetle

Juniper = Juniperus — see also Cedar, Eastern Red (Juniperus virginicus)

Juniper in the Landscape
Juniors for NC (HIL 640) ......................................................................................................................... Ornamental Leaflet 640
Ground Covers for North Carolina (AG-75) ............................................................................................. Ornamental Leaflet 633-B
Shrubs 1-4ft for NC Landscapes (HIL 634) ............................................................................................... Ornamental Leaflet 634
Plants for Seashore Conditions (HIL 606) ................................................................................................ Ornamental Leaflet 606

Juniper Culture
Pruning Trees & Shrubs (AG-071) .............................................................................................................. Ornamental Leaflet 602-A
Espalier (HIL 619) ....................................................................................................................................... Ornamental Leaflet 619

Pests of Juniper
Check first: Pest Management Calendar for Juniper (ENT/ort-57) ............................................................. Ornamental Insect Note 57
See index entries for Aphids, Mites (Spider mite, False spider mite, and Spruce spider mite), Scale (Juniper Scale)
Bagworms (ENT/ort-81) ............................................................................................................................... Ornamental Insect Note 81
Pest Management Calendar for Juniper (ENT/ort-57) .............................................................................. Ornamental Insect Note 57
Caterpillars — Pest Management Calendar for Juniper (ENT/ort-57) ...................................................... Ornamental Insect Note 57
Juniper Webworm (ENT/ort-14) .................................................................................................................. Ornamental Insect Note 14
Pest Management Calendar for Juniper (ENT/ort-57) .............................................................................. Ornamental Insect Note 57
Diseases of Juniper
Juniper Disease Control (ODIN 015) ........................................................................................................... Ornamental Disease Note 15
• Publication covers Phytophthora (fungal) Root Rot, Nematodes, Twig blight and dieback (Phomopsis & Kabatina fungi), Yellowing and browning of needles.
Phytophthora Root Rot and its Control (ODIN 013) ............................................................................... Ornamental Disease Note 13

Kale
Home Vegetable Gardening (AG-06) ........................................................................................................ Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) .............................................................................................. Vegetable Leaflet 0-A
Growing a Fall Vegetable Garden (HIL 8001) .......................................................................................... Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) ............................................................................................................. Vegetable Leaflet 108
Pests & Diseases of Kale — see Crucifers

Kentucky Bluegrass — see Turf: Cool-Season

Kentucky Coffeetree — see Coffeetree, Kentucky (Gymnocladus dioicus)

Kiwiﬁruit (HIL 208) ................................................................................................................................. Fruit Leaflet 208

Kohlrabi
Home Vegetable Gardening (AG-06) ........................................................................................................ Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) .............................................................................................. Vegetable Leaflet 0-A
Growing a Fall Vegetable Garden (HIL 8001) .......................................................................................... Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) ............................................................................................................. Vegetable Leaflet 108

Lace Bugs
Lace Bug (Azalea, Rhododendron, Mountain Laurel, Cotoneaster, Pyracantha) (ENT/ort-39) ................. Ornamental Insect Note 39
Pest Management Calendar for Azalea (ENT/ort-52) .............................................................................. Ornamental Insect Note 52
Pest Management Calendar for Rhododendron (ENT/ort-58) ................................................................. Ornamental Insect Note 58
Control of Lace Bug
Horticultural oils (ENT/ort-45) .................................................................................................................. Ornamental Insect Note 45
Alternatives to Synthetic Chemicals for Insect & Mite Control ............................................................... Ornamental Insect Note 91

Lady Banks’ Rose — see Rose, Lady Banks’
Lady Beetles
Lady Beetles (Ladybugs) (ENT/ort-74) ............................................................. Ornamental Insect Note 74
Asian Multicolored Lady Beetles (ENT/ort-107) ............................................ Ornamental Insect Note 107
Les Miller, Asst. Horticulturist at Duke Botany Greenhouse, will collect ladybugs from homes. Call 660-7335 or email LCMiller@duke.edu.

Landscaping
Developing a Site Plan — Residential Landscaping (AG-248) ......................... Ornamental Leaflet 400
Conserving Energy with Plants (HIL 631) ..................................................... Ornamental Leaflet 631
Growing Annual & Perennial Flowers in Durham County (UHN 8) ....................... Urban Hort Note 8
  - Publication includes site preparation, planting techniques, maintenance, and very basic landscaping design principles, as well as a perennial plant list.
Plant Selection — See Plant Lists
Bed Preparation — See Soil Amendments
See Pest Management
See Planting Techniques
See Low-Maintenance Landscaping
See Natural Areas
See Weed Control
See Xeriscaping (Plants & Techniques for Dry Locations and Low Water Use)

Late Blight on Tomato & Potato
Managing Diseases in Home Vegetable Gardens (AG-436) ................................. Vegetable Disease Note 0

Laurel, Cherry — see Cherry Laurel
Laurel, English — see Cherry Laurel, English

Layering — see Propagation
Leaf Beetles — Horticultural oils as controls for (ENT/ort-45) ............................ Ornamental Insect Note 45

Leaf Blight (fungus)
on Corn and Melons — Managing Diseases in Home Vegetable Gardens (AG-436)........ Vegetable Disease Note 0
on Strawberry (Dendrophoma fungus) —
Strawberries: Disease Control (FDIN-005) ............................................................. Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386) ................................. Fruit Disease Note 5-A

Leaf-Footed Bug
Growing Pecans in NC (AG-81) ........................................................................ Un-numbered Fruit Leaflet
Pecan Insects and their Management (Fruit Insect Note P-2) ................................. Fruit Insect Note P-2

Leaf Gall — see Gall: Leaf Gall

Leafhopper
on Dogwood — Dogwood Pest Management (Ent/ort-136) ............................... Ornamental Insect Note 94
  control of —
  Alternatives to Synthetic Chemicals for Insect & Mite Control ......................... Ornamental Insect Note 91
  Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ........................................ Turf File 152
  Insect Management in Turf (AG-447) ............................................................... Turf File 157

Leafminer
Azalea Leafminer (greenhouse pest) (ENT/ort-03) ............................................ Ornamental Insect Note 3
Pest Management Calendar for Azalea (ENT/ort-52) .......................................... Ornamental Insect Note 52
Boxwood Leafminer (ENT/ort-16) ....................................................................... Ornamental Insect Note 16
Pest Management Calendar for Boxwood (ENT/ort-53) ........................................ Ornamental Insect Note 53
Leafminer on Holly
Pest Management Calendar for Holly (ENT/ort-56) ............................................ Ornamental Insect Note 56
Leafminer in Solanaceous crops and ornamentals
  Tomato Pinworm (Veg33) ................................................................................ Vegetable Insect Note 33
  Potato Tuberworm (Veg2) ............................................................................... Vegetable Insect Note 3

LEAFMINER continued on next page...
Leafminers (ENT/ort-09) ........................................................................................................ Vegetable Disease Note 0
Leafminer, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control .............. Ornamental Insect Note 91

Leafroller
Leafroller, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control.............. Ornamental Insect Note 91

Leaf Spot
on Azalea and Rhododendron (no causal fungus listed; no control needed)
Azalea Disease Control (ODIN 016) ................................................................. Ornamental Disease Note 16
Rhododendron Diseases (ODIN-012) .............................................................. Ornamental Disease Note 12

on Dogwood — Spot Anthracnose (different from Dogwood Anthracnose)
Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) ................................ Ornamental Leaflet 600-A

on Peony (many causal fungi) — Peonies in the Home Landscape (HIL 8501) ......................... Ornamental Leaflet 501

on Strawberry (many causal fungi) — see Strawberries

on tomato — Tomatoes (UHN 10) ........................................................................ Urban Hort Note 10

* Publication includes cultural practices to prevent Leaf Spot diseases.

Alternaria Leaf Spot (Alternaria Blight) (fungal)
on Cabbage, Cauliflower, Broccoli —
Managing Diseases in Home Vegetable Gardens (AG-436) ........................................ Vegetable Disease Note 0
on Cantaloupe — Diseases of Cantaloupe (VDIN-0013) ................................................ Vegetable Disease Note 13
on Cruciferous Greens —
Diseases of Greens (VDIN-0014) ........................................................................ Vegetable Disease Note 14
on Geraniums (Pelargonium) (HIL 8504) .................................................................. Ornamental Leaflet 504

Angular Leaf Spot
on Cucumber — Managing Diseases in Home Vegetable Gardens (AG-436) .................. Vegetable Disease Note 0
on Muscadines (Mycosphaerella fungus) — Diseases of Muscadines (FDIN-012) ............. Fruit Disease Note 12

Bacterial Leaf Spot
on Tomato & Peppers — Managing Diseases in Home Vegetable Gardens (AG-436) ........ Vegetable Disease Note 0
Bacterial Leaf Spot on Tomato & Peppers — (VDIN-018) .................................................. Vegetable Disease Note 18
on Geraniums (Pelargonium) — Geraniums (HIL 8504) .............................................. Ornamental Leaflet 504

Cercospora Leaf Spot
on Melons & Pumpkin —
Managing Diseases in Home Vegetable Gardens (AG-436) ........................................ Vegetable Disease Note 0
on Snapdragons (UC Davis - Diseases) ................................................................. Ornamental Disease Note 26

Cercosporella Leaf Spot (White Spot) (fungus) on Cruciferous Greens —
Diseases of Greens (VDIN-0014) ........................................................................ Vegetable Disease Note 14

Entomosporium (fungus) Leaf Spot
on Photinia, Loquat, Indian Hawthorn, Pear (ODIN-011) .................................................. Ornamental Disease Note 11

Phyllosticta Leaf Spot
on Snapdragons (link to Rutgers Univ) ........................................................................ Ornamental Disease Note 26

Septoria Leaf Spot
on Tomato — Managing Diseases in Home Vegetable Gardens (AG-436) .................... Vegetable Disease Note 0
on Dogwood — Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) Ornamental Leaflet 600-A

Leaf Symptoms of damage, disease, stress
Deformities — see Pesticide Damage — see Aphids — see Thrips — see Mites
Edges brown and dry — see Drought Stress, Fertilizer Injury —
see also Scorch Diseases on Shade Trees (bacterial) (ODIN-010) ............................................. Ornamental Disease Note 10

Shotholes
Flea Beetles on Vegetables (Veg27) ................................................................................ Vegetable Insect Note 27
Shothole Borer — Pest Management Calendar for Cherry & Cherry Laurel (ENT/or-87) .... Ornamental Insect Note 87

Ornamentals: Determining Growth Difficulties (UHN 13) ................................................. Urban Hort Note 13

Leafy Greens
Leafy Greens in the Garden
Leafy Greens: Turnips, Mustard, Collards, Spinach (HIL 8016) ........................................ Vegetable Leaflet 16
Turnips & Rutabagas (HIL 8026) ..................................................................................... Vegetable Leaflet 26
LEAFY GREENS, continued

Collards (HIL 8012) ...................................................................................................... Vegetable Leaflet 12
Spinach (HIL 8017) ..................................................................................................... Vegetable Leaflet 17
Upland Cress (HIL 8016-A) ........................................................................................ Vegetable Leaflet 16-A
Mini-Gardening (HIL 8102) ......................................................................................... Vegetable Leaflet 102
Home Vegetable Gardening (AG-06) .......................................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ................................................................. Vegetable Leaflet 0-A
Growing a Fall Vegetable Garden (HIL 8001) ............................................................. Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) ................................................................................ Vegetable Leaflet 108
Diseases of Greens (VDIN-0014) ................................................................................ Vegetable Disease Note 14

See also Crucifers

Leak — see Strawberry — see Rot: Fruit Rot

Leather Rot — see Strawberry — see Rot: Fruit Rot

Leek — see Onion

Legumes — Beans, Peas

Pests of Legumes

Bean Leaf Beetle (Veg28) .............................................................................................. Vegetable Insect Note 28
Corn Earworm (Veg19) ............................................................................................... Vegetable Insect Note 19
Cowpea Curculio (Veg29) ............................................................................................ Vegetable Insect Note 29
Cucumber Beetle (Veg025e) ........................................................................................ Vegetable Insect Note 25
Mexican Bean Beetle (Veg026) ...................................................................................... Vegetable Insect Note 26
Seedcorn Maggot (on germinating or decaying plants) (Veg31) ................................. Vegetable Insect Note 31
Stink Bug (on seeds) — True Bugs in the Field and Garden (Veg-42) ......................... Vegetable Insect Note 42
Weevils in Stored Beans and Peas, Control of (Veg10) ................................................ Vegetable Insect Note 10

Diseases of Legumes

Managing Diseases in Home Vegetable Gardens (AG-436) ......................................... Vegetable Disease Note 0
• Publication covers Bacterial Blights, Rust, and disease prevention.

Southern Blight in Beans — Southern Blight of Vegetable Crops (VDIN-009) .......... Vegetable Disease Note 9
Western-grown bean seed —
  Managing Diseases in Home Vegetable Gardens (AG-436) ...................................... Vegetable Disease Note 0
Beans, Disease-Resistant Varieties (Clemson Univ link) ............................................ Vegetable Disease Note 6???

Lettuce

Lettuce in the Garden

Lettuce, Home Garden (HIL 8011) ................................................................................. Vegetable Leaflet 11
Home Vegetable Gardening (AG-06) .......................................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ................................................................. Vegetable Leaflet 0-A
Container Vegetable Gardening (HIL 8105) ................................................................. Vegetable Leaflet 105
Growing a Fall Vegetable Garden (HIL 8001) ............................................................. Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) ................................................................................ Vegetable Leaflet 108

Lettuce Pest — Cabbage Looper (Veg040e) .................................................................. Vegetable Insect Note 40

Lettuce, Disease-Resistant Varieties (hgic.edu/factsheets-lettuce) ............................... Vegetable Disease Note 6???

Leucothoe

Leucothoe fontanesiana — Shrubs 1-4ft for NC Landscapes (HIL 634) ....................... Ornamental Leaflet 634

Phytophthora Root Rot and its Control (ODIN 013) ....................................................... Ornamental Disease Note 13

Leyland Cypress = × Cupressocyparis leylandii

Leyland Cypress in the Landscape

(Note: Use caution when recommending Leyland cypress, because of its susceptibility to disease.
It also grows a great deal larger than many homeowners expect.)

Large Trees for North Carolina (HIL 638) .................................................................. Ornamental Leaflet 638
Recommended Trees for Urban Landscapes (HIL 8617) .............................................. Ornamental Leaflet 617

Pests of Leyland Cypress

Check first: Pest Management Calendar for Leyland Cypress (ENT/ort-86) .................. Ornamental Insect Note 86
See index entries for Bagworms, Scale (Juniper Scale), Mites (Spruce Spider Mite)

Diseases of Leyland Cypress (ODIN-017) .................................................................. Ornamental Disease Note 17
• Publication covers Seiridium (fungal) canker, Botryosphaeria dieback, and Formos root rot.

Liatris — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ................. Ornamental Leaflet 632
Ligustrum = Privet
Plants for Seashore Conditions (HIL 606) .............................................................. Ornamental Leaflet 606
Shrubs 8ft+ for NC Landscapes (HIL 636) ............................................................... Ornamental Leaflet 636
Ligustrum, curlyleaf — Shrubs 1-4ft for NC Landscapes (HIL 634) ....................... Ornamental Leaflet 634

Lilac = Syringa
Early Lilac (Syringa oblata var. dilatata) — Trees for Use Under Utility Lines (HIL 8616)......................... Ornamental Leaflet 616
Japanese Tree Lilac (Syringa reticulata) —
Persian Lilac (Syringa laciniata)— Shrubs 8ft+ for NC Landscapes (HIL 636) ........................................... Ornamental Leaflet 636
Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617
Trees for Use Under Utility Lines (HIL 8616) ............................................................................................... Ornamental Leaflet 616

Lily (Lilium spp.) — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) .......................... Ornamental Leaflet 632
Lily, Daylily — see Daylily (Hemerocallis)
Lily, Gloriosa (Climbing) — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ............. Ornamental Leaflet 632
Lily-of-the-Nile — see Agapanthus
Lily-of-the-Valley (Convallaria)
Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ................................................................. Ornamental Leaflet 632
Ground Covers for North Carolina (AG-75) ......................................................................................... Ornamental Leaflet 633-B

Lily, Pineapple — see Eucomis
Lilyturf — see Liriope

Lime — see Soil pH and Lime — see Soil Amendments — see Soil Testing

Linden = Tilia
Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617
Large Trees for North Carolina (HIL 638) .............................................................................................. Ornamental Leaflet 638
See also Trees

Liriope (Lilyturf, Monkeygrass) — see also Mondo Grass
Ground Covers for North Carolina (AG-75) ................................................................................................. Ornamental Leaflet 633-B
Liriope pest: Fern Scale (North Carolina Pest News) ..................................................................................... Ornamental Insect Note 71

Livestock
Refer caller to Karen McAdams, Agent in Orange County (see Orange County)
Royce Hardin, Agent in Orange County, handles dairy.

Locusts — see Cicadas (ENT/or-17) ................................................................................................. Ornamental Insect Note 17

London Plane Tree (Platanus × acerifolia) — see also Sycamore (Platanus occidentalis)
Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617
See also Trees

Lonicera — see Honeysuckle

Loquat = Eriobotrya
Small & Intermediate Trees for North Carolina (HIL 637) ................................................................. Ornamental Leaflet 637
Recommended Trees for Urban Landscapes (HIL 8617) ................................................................. Ornamental Leaflet 617
Entomosporium (fungal) Leaf Spot on Loquat (ODIN-011) ........................................................................ Ornamental Disease Note 11
See also Trees

Low-Maintenance Landscaping
Growing Annual & Perennial Flowers in Durham County (UHN 8) .................................................... Urban Hort Note 8
  * Publication includes a list of well-adapted and durable perennials.
Natural Areas in the Landscape (HIL 627) ............................................................................................... Ornamental Leaflet 627
Under-Utilized Bedding Plants for NC Landscapes (HIL 556) ................................................................. Ornamental Leaflet 556
Installation & Maintenance of Bedding Plants (HIL 555) ................................................................. Ornamental Leaflet 555

Luffa — see Gourds
Lygus Bugs
control of — Alternatives to Synthetic Chemicals for Insect & Mite Control .......................................................... Ornamental Insect Note 91
See also Tarnished Plant Bug

Lyme Disease — see Ticks & Tick-Borne Diseases in NC (AG-428) ................................................................. Ornamental Insect drawer, at rear

Maackia
Recommended Trees for Urban Landscapes (HIL 8617) .......................................................... Ornamental Leaflet 617
Trees for Use Under Utility Lines (HIL 8616) .......................................................... Ornamental Leaflet 616
See also Trees

Maggot Flies, Seedcorn or Fungus-Infected (ENT/ort-20) .......................................................... Ornamental Insect Note 20
See also Dogwood Pests

Magnolia, Southern = Magnolia grandiflora
Southern Magnolia, starting from seed — Overcoming Seed Dormancy (HIL 8704) ............................................. Ornamental Leaflet 704

Southern Magnolia in the Landscape
Large Trees for North Carolina (HIL 638) .......................................................... Ornamental Leaflet 638
Small & Intermediate Trees for North Carolina (HIL 637) .......................................................... Ornamental Leaflet 637
Plants for Seashore Conditions (HIL 606) .......................................................... Ornamental Leaflet 606

Asian Ambrosia Beetle — see Borers
Espalier (HIL 619) .......................................................... Ornamental Leaflet 619
See also Trees

Magnolia, spring-blooming = Magnolia × soulangeana (Saucer), M. stellata (Star), etc.

Spring-blooming Magnolias in the Landscape
Saucer Magnolia (Magnolia soulangeana) —
Small & Intermediate Trees for North Carolina (HIL 637) .......................................................... Ornamental Leaflet 637
Star Magnolia (Magnolia stellata) —
Shrubs 8ft+ for NC Landscapes (HIL 636) .......................................................... Ornamental Leaflet 636
Trees for Use Under Utility Lines (HIL 8616) .......................................................... Ornamental Leaflet 616

Asian Ambrosia Beetle — see Borers
Pruning Trees & Shrubs (AG-071) .......................................................... Ornamental Leaflet 602-A

Magnolia virginiana (Sweet Bay)
Plants for Seashore Conditions (HIL 606) .......................................................... Ornamental Leaflet 606
Shrubs 8ft+ for NC Landscapes (HIL 636) .......................................................... Ornamental Leaflet 636

Mahonia
Pruning Trees & Shrubs (AG-071) .......................................................... Ornamental Leaflet 602-A
Shrubs 1-4ft for NC Landscapes (HIL 634) .......................................................... Ornamental Leaflet 634
Shrubs 4-8ft for NC Landscapes (HIL 635) .......................................................... Ornamental Leaflet 635

Maintenance of Planting Areas
Growing Annual & Perennial Flowers in Durham County (UHN 8) .......................................................... Urban Hort Note 8
• Publication includes site preparation, planting techniques, maintenance, and very basic landscaping design principles, as well as a perennial plant list.
Installation & Maintenance of Bedding Plants (HIL 555) .......................................................... Ornamental Leaflet 555
See also Weed Control — see also Pruning

Manufacturers — see Sources

Maple = Acer
Maple in the Landscape
Recommended Trees for Urban Landscapes (HIL 8617) .......................................................... Ornamental Leaflet 617
Large Trees for North Carolina (HIL 638) .......................................................... Ornamental Leaflet 638
Small & Intermediate Trees for North Carolina (HIL 637) .......................................................... Ornamental Leaflet 637
Plants for Seashore Conditions (HIL 606) .......................................................... Ornamental Leaflet 606

Japanese Maple (Acer palmatum) in the Landscape
Espalier (HIL 619) .......................................................... Ornamental Leaflet 619
Small & Intermediate Trees for North Carolina (HIL 637) .......................................................... Ornamental Leaflet 637
MAPLE, continued

Pests of Maple

Pest Management Calendar for Maple (ENT/ort-118) ......................................................... Ornamental Insect Note 201
Maple Gall Mites (ENT/ort04) ............................................................................................... Ornamental Insect Note 4
Maple, starting from seed — Overcoming Seed Dormancy (HIL 8704) ........................................ Ornamental Leaflet 704
See also Pruning (Maple is a “bleeder”) — See also Trees

Marigolds — see also Bedding Plants

Southern Bacterial Wilt (Pseudomonas) on Marigolds (ODIN 009) ........................................ Ornamental Disease Note 9
Marigolds as a repellent crop (unproven!) for asparagus beetles, nematodes, slugs, and tomato worms — 
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91

Meadow — see Wildflowers, especially Weed Management for Wildflowers (HIL 645) ........... Ornamental Leaflet 645

Mealybug

Mealybug (ENT/ort-19) ........................................................................................................ Ornamental Insect Note 19
Life cycle and Control — House Plant Pests ........................................................................... Ornamental Insect Note 98
Pest Management Calendars for Holly (#56), Boxwood (#53) ................................................... Ornamental Insect Notes 53, 56
Alternatives to Synthetic Chemicals for Insects & Mites ....................................................... Ornamental Insect Note 91
Horticultural Oils for control of Mealybugs

Horticultural Oils (ENT/ort-45) ........................................................................................... Ornamental Insect Note 45
See also Sooty Mold (ENT/ort-41) ....................................................................................... Ornamental Insect Note 41

Melons — see Cantaloupe (Muskmelon) — see Watermelon — see Cucurbits

Mice — see also Voles (especially outdoors) —

Mice indoors — see Household Pests

Refer all questions to Theresa Clark, Home Economist, at ext. 0521. Or, refer caller to Yellow Pages 
under --- Pest Control Services.

Mice outdoors (and other rodents) — Prevention and Control of Wildlife Damage Binders from University of Nebraska

• Excellent descriptions of animals, habits & habitats, and control measures.

Michelia — see Banana Shrub

Microclimates — Durham’s Weather (UHN 1) ........................................................................... Urban Hort Note 1

Mildew — see Downy Mildew — see Powdery Mildew — see individual plants

Managing Diseases in Home Vegetable Gardens (AG-436) ................................................. Vegetable Disease Note 0

Milky Spore (Bacillus popilliae) — see Grub Control with Milky Spore

Millipedes

Millipedes (ENT/rsc-18) ........................................................................................................ Ornamental Insect Note 88
Millipede traps — Alternatives to Synthetic Chemicals for Insect & Mite Control .................. Ornamental Insect Note 91
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) 106 pages ....................... Turf File 152

Mimosa = Albizia

Small & Intermediate Trees for North Carolina (HIL 637) .................................................... Ornamental Leaflet 637
See also Trees

Mites & Spider Mites ➔ General Information & Control

Spider Mite: Life cycle and Control — House Plant Pests (Managing house plant pest) .......... Ornamental Insect Note 98
Alternatives to Synthetic Chemicals for Insects & Mites ......................................................... Ornamental Insect Note 91

• Publication includes control with sulfur and insecticidal soap

Horticultural Oils for control of Mites & Spider Mites

Horticultural Oils (ENT/ort-45) ........................................................................................... Ornamental Insect Note 45
Pesticide Selection for Water Quality Protection (turf file) ....................................................... Ornamental Insect Note 102
Spider Mite, weeds as hosts for — see Spider Mite (ENT/ort-25) ............................................ Ornamental Insect Note 25

Mites continued on next page...
Mites & Spider Mites ➔ Particular Mites

Boxwood Mite — Pest Management Calendar for Boxwood (ENT/ort-53) ................................................................. Ornamental Insect Note 53
Cyclamen and Broad Mite (ENT/ort-28) ............................................................................................................. Ornamental Insect Note 28
Gall Mites — Horticultural oils as controls for — Horticultural Oils (ENT/ort-45) .............................................. Ornamental Insect Note 45
False Spider Mites
False Spider Mites (ENT/ort-47) ............................................................................................................. Ornamental Insect Note 47
Pest Management Calendar for Juniper (ENT/ort-57) ............................................................................................. Ornamental Insect Note 57
Hemlock Rust Mite — Pest Management Calendar for Hemlock (ENT/ort-78) ......................................................... Ornamental Insect Note 78
Juniper Tip Dwarf Mite
Pest Management Calendar for Juniper (ENT/ort-57) ............................................................................................. Ornamental Insect Note 57
Maple Gall Mite (ENT/ort-04) ............................................................................................................. Ornamental Insect Note 4

Southern Red Mite
Pest Management Calendars for Roses (#59), Holly (#56),
Camellia (#54), Azalea (#52) (Pest Management Calendar Index) ........................................ Ornamental Insect Notes 52, 54, 56, 59
See also Cool Weather Spider Mites (ENT/ort-77) ............................................................................................. Ornamental Insect Note 77

Two-spotted Spider Mite
Two-spotted Spider Mite (ENT/ort-25) ............................................................................................................. Ornamental Insect Note 25
Pest Management Calendars for Roses (#59), Boxwood (#53), Cherry & Cherry Laurel (#87),
Euonymus (#55) (Pest Management Calendar Index) ................................................................................... Ornamental Insect Notes 53, 55, 59, 87

Spruce Spider Mite
Pest Management Calendars for Leyland Cypress (#86),
Hemlock (#78), Juniper (#57) (Pest Management Calendar Index) ........................................ Ornamental Insect Notes 57, 78, 86
See also Cool Weather Spider Mites (ENT/ort-77) ............................................................................................. Ornamental Insect Note 77

Strawberry Spider Mite (FIN s-2) ............................................................................................................... Fruit Insect Note S-2
See also House Plant Pests ............................................................................................................................ Fruit Insect Note 98

Mold
See also Rot — See also Fungus — See also individual crops
Gray Mold (Botrytis fruit rot) on Strawberry —
Strawberries: Disease Control (FDIN-005) ..................................................................................................... Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386) ............................................................................ Fruit Disease Note 5-A
Sooty Mold (ENT/ort-41) ............................................................................................................. Ornamental Insect Note 41
See also Aphid, Whitefly, Scale, Mealybug
White Mold (Sclerotinia head rot) on Cabbage (VDIN-0025) ........................................................................... Vegetable Disease Note 25

Mole Crickets
Mole Crickets in Turf (ENT/ort/79) ...................................................................................................................... Ornamental Insect Note 79
A Complete Guide to Mole Cricket Management in NC (106) ........................................................................ Turf File 157
Insect Management in Turf (AG-447) ........................................................................................................... Turf File 152
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) 106 pages........................................ Turf File 152

Moles — see also Voles

Moles & Voles ................................................................................................................................................ Urban Hort Note 12

• Publication covers how to differentiate voles and moles by plant damage and by animal appearance.
• Publication describes mole biology but doesn’t offer much help on ways to deter moles.
• Publication does not cover vole control.

Moles: Prevention and Control of Wildlife Damage Binders from University of Nebraska
(another chapter in this publication covers Voles)

• Excellent descriptions of animals, habits & habitats, and control measures

Moles in Turf — see Grubs, including Controlling White Grubs in Turf (AG-366) ........................................ Turf File 155
“Mole Plant” (Castor bean, Ricinus communis) as a repellent crop (unproven!) —
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................ Ornamental Insect Note 91

Note: Moles do not eat plants; voles do.

Note: Killing moles is illegal in NC. Live trapping is OK if you get a permit from the NC Wildlife Resources Commission.
**Molluscicides** (slug & snail control)

See Slugs

See also Pest Management — see also Ag-Chem Manual

**Mondo Grass** = *Ophiopogon* — see also Liriope

Ground Covers for North Carolina (AG-75) ............................................................... Ornamental Leaflet 633-B

**Monkey Grass** = *Liriope* — see Liriope

**Mosaic** (virus)

on Cruciferous Greens — Diseases of Greens (VDIN-0014) ................................................................. Vegetable Disease Note 14
on Iris — Bearded Iris for the Home Landscape (HIL 8506) ................................................................ Ornamental Leaflet 506
on Peonies — Peonies in the Home Landscape (HIL 8501) ................................................................. Ornamental Leaflet 501
on Pepper — Peppers (HIL 8021) ........................................................................................................ Vegetable Leaflet 21
on Roses — Rose Diseases and Control (odin-002) ................................................................................. Ornamental Disease Note 2
Cucumber Mosaic, transmission by Cucumber Beetle (Veg025e) ................................................................. Vegetable Insect Note 25
Tobacco Mosaic Virus, precautions to avoid spreading — Managing Diseases in Home Vegetable Gardens (AG-436) ................................................................. Vegetable Disease Note 0

**Mosquito Plant** — see Geraniums (HIL 8504) ....................................................................................... Ornamental Leaflet 504

**Mosquitos**

Control with Bt (Bacillus thuringiensis var. israelensis)

Pesticide Selection for Water Quality Protection (turf file) ................................................................. Ornamental Insect Note 102
Alternatives to Synthetic Chemicals for Insect & Mite Control ................................................................. Ornamental Insect Note 91

Mosquito Control — call City of Durham, 560-0430

**Moss in Lawns**

Miscellaneous problems of Turf (C10turf) ................................................................................................ Turf File 153
Algae & Moss Control in Turf (Agronomy Leaflet) (TM-20) ........................................................................ Turf File 151
Grass for Shade (AG-421) ................................................................................................................ Turf File 103

**Mountain Ash** — see Ash, Mountain (*Sorbus*)

**Mountain Laurel** = *Kalmia*

Shrubs 4-8ft for NC Landscapes (HIL 635) .......................................................................................... Ornamental Leaflet 635
Pests of Mountain Laurel

See index entries for Borers (Azalea Stem Borer), Lace Bug, and Weevil (Two-Banded Japanese)

Diseases of Mountain Laurel

Phytophthora Root Rot and its Control (ODIN 013) ............................................................................... Ornamental Disease Note 13

**Mulch**

Mulches (including black plastic)

Mulches (HIL 608) ........................................................................................................ Ornamental Leaflet 608
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) ............................................ Vegetable Leaflet 33
Weed Control in Vegetable Gardens (HIL 8101) ................................................................................ Vegetable Leaflet 101
Home Vegetable Gardening (AG-06) ...................................................................................................... Vegetable Leaflet 0

Black Plastic Mulch and strawberry disease — Strawberries: Disease Control (FDIN-005) ......................... Fruit Disease Note 5
Installation & Maintenance of Bedding Plants (HIL 555) ........................................................................ Ornamental Leaflet 555
Weed Management in Annual Color Beds (HIL 644) .............................................................................. Ornamental Leaflet 644

Mulches (used with and without landscape fabrics) for weed control —

Best Management Practices for Weeds in Landscapes (AG-508-7) ........................................ Consumer Horticulture Agent has

*The City of Durham offers free compost/mulch at the Transfer Station, 211 E. Club Blvd (just north of I-85). The pile is now near the front of the landfill rather than way back in. Check availability with them; sometimes it’s not well enough decomposed to use as a soil amendment, but is okay for mulch. It is recycled yard waste. Call 560-4611.*

**Mullosk** — see Mollusk

**Municipal Compost**, — see Compost, Municipal

**Muscadines** — see Grapes
Mushrooms
See also Fairy Rings
See also Fungus
Mushrooms on oak tree roots — Root and Butt Rot of Oaks (ODIN 030) ... Ornamental Disease Note 30
Shiitake mushrooms: information is available on NC State’s website: http://www.ces.ncsu.edu/depts/hort/hil/hil-122.html
Sources of Shiitake Spawn (HIL 122)

Muskmelon — see Cantaloupe

Muskrats
Muskrats: Prevention and Control of Wildlife Damage Binders from University of Nebraska
- Excellent descriptions of animals, habits & habitats, and control measures.

Mustard
Mustard in the Garden
Mustard Greens — see Leafy Greens (HIL 8016) ... Vegetable Leaflet 16
Home Vegetable Gardening (AG-06) ... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ... Vegetable Leaflet 0-A
Growing a Fall Vegetable Garden (HIL 8001) ... Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) ... Vegetable Leaflet 108

Pests & Diseases of Mustard — see Crucifers

Nandina
Pruning Trees & Shrubs (AG-071) ... Ornamental Leaflet 602-A
Shrubs 4-8ft for NC Landscapes (HIL 635) ... Ornamental Leaflet 635
dwarf cultivars — Shrubs 1-4ft for NC Landscapes (HIL 634) ... Ornamental Leaflet 634
Nandina, starting from seed — Overcoming Seed Dormancy (HIL 8704) ... Ornamental Leaflet 704

Narcissus — see Daffodil

Native Plant Species — see individual Plant Lists — see Wildflowers — see Sources

Natural Areas
Natural Areas in the Landscape (HIL 627) ... Ornamental Leaflet 627
Weed Management for Wildflowers (HIL 645) ... Ornamental Leaflet 645
Herbaceous Plants for Wildlife (www24) ... Wildlife Note 24
Habitat Improvements at Low Cost (www18) ... Wildlife Note 18
Managing Edges for Wildlife (www15) ... Wildlife Note 15
Nest Boxes for Woodland Wildlife (placement of) (www17) ... Wildlife Note 17
Nest Boxes for Songbirds (placement of) (www16) ... Wildlife Note 16
Snags & Downed Logs (www14) ... Wildlife Note 14
See also Wildlife Stewardship Incentive Program ... Wildlife Note 25

See also Wildlifed Habitat
See also Wetlands

Nectarine
Producing Tree Fruit for Home Use (AG-28) ... Un-numbered Fruit Leaflet
Training & Pruning Fruit Trees (AG-29) ... Un-numbered Fruit Leaflet
Peach tree borer — see Borers
Disease: Peach Scab (Cladosporium) (FDIN 006) ... Fruit Disease Note 6

Nematodes
See also Pest Management
Beneficial Parasitic Nematodes — see Beneficial Insects
in Woody Ornamentals (ODIN 005) ... Ornamental Disease Note 5

NEMATODES continued on next page...
NEMATODES, continued

in Vegetable Gardens
Managing Diseases in Home Vegetable Gardens (AG-436) ...................................................... Vegetable Disease Note 0
Control of Root-Knot Nematodes in the Home Vegetable Garden (AG-420) ....................... Vegetable Disease Note 0-A
  ♦ Publication includes cultural controls but focuses on soil fumigation.
  ♦ Publication includes nematode-resistant vegetable varieties.
on Cruciferous Greens — Diseases of Greens (VDIN-0014) ........................................................ Vegetable Disease Note 14
on Azalea — Azalea Disease Control (ODIN 016) ........................................................................ Ornamental Disease Note 16
on Fig — Fig Diseases (FDIN 007) .......................................................................................... Fruit Disease Note 7
on Geranium — Geraniums (Pelargonium) (HIL 8504) ........................................................... Ornamental Leaflet 504
on Holly (esp. Japanese) — Holly Disease Control (ODIN 007) ................................................ Ornamental Disease Note 7
on Juniper — Juniper Disease Control (odin 015) ................................................................. Ornamental Disease Note 15
on Pine — Pine Wood Nematode (ODIN 006) ........................................................................ Ornamental Disease Note 6
on Roses — Rose Diseases and Control (odin-002) ................................................................. Ornamental Disease Note 2
on Strawberry —
   Diagnosis of Strawberry Diseases (with photos) (AG-386) .................................................. Fruit Disease Note 5-A
   Strawberries: Disease Control (FDIN-005) ........................................................................... Fruit Disease Note 5
on Turf —
   Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) 106 pages............... Turf File 152
   Problems on Centipedegrass (Turf 001) .............................................................................. Turf File 352
   Nematode Damage and Management in Lawns (Turf 002) ................................................ Turf File 156

Root-Knot Nematodes (not a complete list)
on Fig —
   Fig Culture ............from Clemson University... (HGIC 1353 ) .................................................. Fruit Leaflet 210-A
   Fig Diseases (FDIN 007) .......................................................................................... Fruit Disease Note 7
on Geranium — Geraniums (Pelargonium) (HIL 8504) ........................................................... Ornamental Leaflet 504
on susceptible tomato varieties (“N” in VFNT tomato varieties means nematode resistant) —
   Managing Diseases in Home Vegetable Gardens (AG-436) ................................................ Vegetable Disease Note 0
Control of Root-Knot Nematodes in the Home Vegetable Garden (AG-420) ....................... Vegetable Disease Note 0-A
  ♦ Publication includes cultural controls but focuses on soil fumigation.
  ♦ Publication includes nematode-resistant vegetable varieties.
on Cruciferous Greens — Diseases of Greens (VDIN-0014) ................................................ Vegetable Disease Note 14
on Cantaloupe — Diseases of Cantaloupe (VDIN-0013) ......................................................... Vegetable Disease Note 13

Marigold as a repellent crop (unproven!) for Nematodes —
   Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91

Nerium — see Oleander

Nest Box Requirements
for Owls (www22) .............................................................................................................(see also Wildlife Note 17) .... Wildlife Note 22
for Bats (Wild21) (mammals d5) ........................................................................................(see also Wildlife Note 17) .... Wildlife Note 21
for Flicker (www17) ............................................................................................................. Wildlife Note 17
for Flying Squirrel (www17) ............................................................................................... Wildlife Note 17
for Grey Squirrel (www2) .................................................................................................(see also Wildlife Note 17) .... Wildlife Note 2
for Raccoon (www17) ........................................................................................................ Wildlife Note 17
for Songbirds (www16) ....................................................................................................(see also Wildlife Notes 17 and 4) .... Wildlife Note 16
for Wood Duck (www06) ...................................................................................................(see also Wildlife Note 17) .... Wildlife Note 6
for Woodpecker (www17) ................................................................................................. Wildlife Note 17

Newcomers
See Durham
See Plant Lists
See Planting Techniques
See Pruning
See Cold Injury

Nicotine
Nicotine sulfate as a pesticide; toxicity to humans and pets —
   Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91

Durham County  Master Gardener Index File 44

Index Revision Date: 07/24/09
North Carolina Adapted Plants & Techniques
See Durham
See Plant Lists
See Planting Techniques
See Pruning
See Cold Injury

Noxious Weeds — see Weeds

Nursery Pest: Nematodes in Woody Ornamentals (ODIN 005) .............................................................. Ornamental Disease Note 5

Nutsedge
Controlling Nutsedge in Beds (HIL 647) ................................................................. Ornamental Leaflet 647
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ......................... Turf File 152

Oak = Quercus
Oak Trees in the Landscape
Large Trees for North Carolina (HIL 638) ................................................................................ Ornamental Leaflet 638
Recommended Trees for Urban Landscapes (HIL 8617) ............................................................ Ornamental Leaflet 617
Plants for Seashore Conditions (HIL 606) ................................................................................ Ornamental Leaflet 606
Oak, live (Quercus virginiana) — Plants for Seashore Conditions (HIL 606) .................................. Ornamental Leaflet 606

Pests, Diseases, and Problems of Oak
Pest Management Calendar for Oak (ORT 116) ................................................................. Ornamental Insect Note 202
Root and Butt Rot of Oaks (ODIN 030) ................................................................................ Ornamental Disease Note 30
Scorch Diseases on Shade Trees (ODIN 010) ........................................................................... Ornamental Disease Note 10
Oak Trees, sap dripping from — see Slime Flux / Wet Wood (bacterial) (ODIN 008).................. Ornamental Disease Note 8
Oak Gall ...................................................................................................................... Ornamental Insect Note 5
Shumard Oak Pest — Asian Ambrosia Beetle — see Borers
Twig girdler, cultural control for —
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................... Ornamental Insect Note 91

Oak, starting from seed — Overcoming Seed Dormancy (HIL 8704) ......................................... Ornamental Leaflet 704
See also Trees

Oils, Horticultural or Dormant — see Pest Management: Horticultural Oils

Okra
Okra in the Garden
Okra (HIL 8019) ........................................................................................................ Vegetable Leaflet 19
Home Vegetable Gardening (AG-06) ................................................................................ Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ........................................................................ Vegetable Leaflet 0-A
Harvesting Vegetables (HIL 8108) ................................................................................ Vegetable Leaflet 108

Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) ......................... Vegetable Leaflet 33
See also Weed Control in Vegetable Gardens (HIL 8101) ......................................................... Vegetable Leaflet 101

See also Home Vegetable Gardening (AG-06) ................................................................. Vegetable Leaflet 0
Stink Bug — True Bugs in the Field and Garden (Veg-42) ......................................................... Vegetable Insect Note 42

Oleander = Nerium oleander
Plants for Seashore Conditions (HIL 606) ................................................................................ Ornamental Leaflet 606
Shrubs 8ft+ for NC Landscapes (HIL 636) ........................................................................... Ornamental Leaflet 636

Olive — see Eleagnus — see Osmanthus

Onions
Onions in the Garden
Green Bunch Onions (HIL 8018) ................................................................................ Vegetable Leaflet 18
Home Vegetable Gardening (AG-06) ................................................................................ Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ........................................................................ Vegetable Leaflet 0-A
In Containers —
Container Vegetable Gardening (HIL 8105) ........................................................................ Vegetable Leaflet 105
Mini-Gardening (HIL 8102) .............................................................................................. Vegetable Leaflet 102
Growing a Fall Vegetable Garden (HIL 8001) (sets or seeds) ................................................ Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) ................................................................................ Vegetable Leaflet 108
Onions, Disease-Resistant Varieties (clemson factsheets 1314) ........................................ Vegetable Disease Note 6???
Opossums
Opossums: Prevention and Control of Wildlife Damage Binders from University of Nebraska
♦ Excellent descriptions of animals, habits & habitats, and control measures.

Orange County Cooperative Extension Office
Call 732-8181 (Orange County administrative offices) — dial 1, then ext. 2050 for Extension Office secretary.
Royce Hardin, Agent (Urban Horticulture, Dairy, Pesticides)
Karen McAdams, Agent (Livestock, Pastures, Poultry, Fish, Wildlife)
Master Gardeners Ext. 2061 (their office is not regularly staffed)

Orchards, Establishment & Management
See Plant Lists: Tree Fruits
Disease & Insect Management in the Home Orchard (FDIN 002) ................................................................. Fruit Disease Note 2
Producing Tree Fruit for Home Use (AG-28) ................................................................................................ Un-numbered Fruit Leaflet
Cold injury to fruit tree blossoms —
Durham’s Weather (UHN 1) ........................................................................................................................... Urban Hort Note 1
NOTE: Consumer Horticulture Agent takes all calls from commercial fruit growers. Fill in a call-back sheet with as much detail as possible.

Orchid — see House Plants — see Resource List (under Orchids) for Triangle Orchid Society
Contact at http://www.triangleorchidsociety.org/
See Weed Control
See Pest Management
See Composting
See Mulch
See Soil Amendments
See Fertilizer
See Turf

Ornamentals — See Plant Lists (Perennials, Vines, Bulbs, Shrubs...)

Ornamental Grasses — see Plant Lists: Ornamental Grasses
Ornamental Grasses (HIL 8605) ..................................................................................................................... Ornamental Leaflet 605

Osmanthus
Shrubs 4-8ft for NC Landscapes (HIL 635) ................................................................................................. Ornamental Leaflet 635
Shrubs 8ft+ for NC Landscapes (HIL 636) ................................................................................................. Ornamental Leaflet 636

Owls
Owls (www22) ............................................................................................................................................... Wildlife Note 22
Hawks & Owls: Prevention and Control of Wildlife Damage Binders from University of Nebraska
♦ Excellent descriptions of animals, habits & habitats, and control measures.

Ozone — see Air Pollution

Pachysandra — Ground Covers for North Carolina (AG-75) ................................................................. Ornamental Leaflet 633-B

Pagodatree (Sophora japonica)
Recommended Trees for Urban Landscapes (HIL 8617) ................................................................................ Ornamental Leaflet 617
See also Trees

Palmetto, Sabal — Plants for Seashore Conditions (HIL 606) ........................................................................ Ornamental Leaflet 606

Pampas Grass — see Plant Lists: Ornamental Grasses

Paperwhite Narcissus — see Daffodil

Parthenocissus — see Virginia Creeper (P. quinquefolia) — see Ivy, Boston (P. tricuspidata)

Pastures
Refer caller to Karen McAdams, Agent in Orange County (see Orange County)

Paulownia (Empress Tree) — Large Trees for North Carolina (HIL 638) .................................................... Ornamental Leaflet 638

Pea — see Peas
Peach = Prunus

Peach, flowering (Prunus) — Small & Intermediate Trees for North Carolina (HIL 637) Ornamental Leaflet 637
Peach, fruiting
Producing Tree Fruit for Home Use (AG-28) Un-numbered Fruit Leaflet
Training & Pruning Fruit Trees (AG-29) Un-numbered Fruit Leaflet
Growing Peaches in NC (AG-30) Un-numbered Fruit Leaflet

* Publication covers several insect & disease problems.

Cold injury to blossoms — Durham’s Weather (UHN 1) Urban Hort Note 1

Pests of Peach
Asian Ambrosia Beetle — see Borers
Codling moth, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control (FDIN 002) Fruit Disease Note 2
Peach aphid, green — see Aphids
Peach Tree Borer — see Borers

Diseases of Peach
Peach Scab (Cladosporium fungus) (FDIN 006) Fruit Disease Note 6
Phony disease of peach — Scorch Diseases on Shade Trees (ODIN 010) Ornamental Disease Note 10

Peach Tree Borer — see Borers

Pear = Pyrus

Pear, flowering — Pyrus calleryana 'Bradford' and improved cultivars — Small & Intermediate Trees for North Carolina (HIL 637) Ornamental Leaflet 637
Recommended Trees for Urban Landscapes (HIL 8617) Ornamental Leaflet 617

Pear, fruiting
Growing Pears in NC (AG-80) Un-numbered Fruit Leaflet
Producing Tree Fruit for Home Use (including Pears and Asian pears) (AG-28) Un-numbered Fruit Leaflet
Training & Pruning Fruit Trees (AG-29) Un-numbered Fruit Leaflet

Cold injury to blossoms — Durham’s Weather (UHN 1) Urban Hort Note 1

Diseases of Pear
Fire Blight (bacterial) in Apple & Pear (focuses on orchards) (FDIN 003) Fruit Disease Note 3
Fire Blight (bacterial) in Pear — Disease & Insect Management in the Home Orchard (FDIN 002) Fruit Disease Note 2
Entomosporium (fungal) Leaf Spot (ODIN 011) Ornamental Disease Note 11

Pear psylla, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control (FDIN 002) Ornamental Disease Note 91

Pearl Bugs or Pearl Insects — see Ground Pearls

Pearbush = Exochorda

Pruning Trees & Shrubs (AG-071) Ornamental Leaflet 602-A
Shrubs 8ft+ for NC Landscapes (HIL 636) Ornamental Leaflet 636

Peas, Garden

Home Vegetable Gardening (AG-06) Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) Vegetable Leaflet 0-A
Growing a Fall Vegetable Garden (HIL 8001) Vegetable Leaflet 1

Pests & Disases of Peas — see Legumes
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) Vegetable Leaflet 33
See also Weed Control in Vegetable Gardens (HIL 8101) Vegetable Leaflet 101
See also Home Vegetable Gardening (AG-06) Vegetable Leaflet 0

Peas, Southern

Southern Peas (Field, Crowder, Cow, Black-Eye) (HIL 8020) Vegetable Leaflet 20

PEAS (SOUTHERN) continued on next page...
Pelargonium
See also Trees

Peonies in the Home Landscape

See also Weed Control in Vegetable Gardens (HIL 8101)  Vegetable Leaflet 101
See also Home Vegetable Gardening (AG-06)  Vegetable Leaflet 0

Pests & Diseases of Peas — see Legumes

Peat Moss (not recommended) — see Soil Amendments

Pecan = Carya

Pecans in the Orchard and Landscape
Growing Pecans in NC (AG-81)  Un-numbered Fruit Leaflet
Producing Tree Fruit for Home Use (AG-28)  Un-numbered Fruit Leaflet
Training & Pruning Fruit Trees (AG-29)  Un-numbered Fruit Leaflet
Large Trees for North Carolina (HIL 638)  Ornamental Leaflet 638

Pests of Pecan
Insects and Related Pests of Pecan (fruit insect note p-1)  Fruit Insect Note P-1
• Publication covers identification but not control.
Pecan weevil, Twig girdler, Stink bug, Aphid, Leaf-Footed Bug —
Growing Pecans in NC (AG-81)  Un-numbered Fruit Leaflet
Pecan Insects and their Management (Fruit Insect Note P-2)  Fruit Insect Note P-2
Alternatives to Synthetic Chemicals for Insect & Mite Control  Ornamental Insect Note 91
Asian Ambrosia Beetle — see Borers
Phylloxera Gall (ENT/or-49)  Ornamental Insect Note 49
Stink Bug (causes kernel spot) — True Bugs in the Field and Garden (Veg-42)  Vegetable Insect Note 42
Twig Girdler (ENT/or-96)  Ornamental Insect Note 96

Diseases of Pecan
Pecan Disease and Control (odin 003)  Ornamental Disease Note 3
• Publication covers Scab, Powdery mildew, Leaf diseases, Wood or heart rot, Spanish moss,
  Crown gall, Rosette (Zinc deficiency), and Bunch disease.
See also Trees

Pelargonium — see Geranium

Peony

Peonies in the Home Landscape (HIL 8501)  Ornamental Leaflet 501
• Publication covers Botrytis (fungus), Mosaic (virus), Phytaphthora (fungus), and Leaf Spot (several fungi).

Peony Scale — see Scale

Pepper

Peppers in the Garden
Peppers (HIL - 8021)  Vegetable Leaflet 21
Home Vegetable Gardening (AG-06)  Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12)  Vegetable Leaflet 0-A

In Containers —
Container Vegetable Gardening (HIL 8105)  Vegetable Leaflet 105
Mini-Gardening (HIL 8102)  Vegetable Leaflet 102
Harvesting Vegetables (HIL 8108)  Vegetable Leaflet 108
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033)  Vegetable Leaflet 33
See also Weed Control in Vegetable Gardens (HIL 8101)  Vegetable Leaflet 101
See also Home Vegetable Gardening (AG-06)  Vegetable Leaflet 0

Pests of Pepper
Pepper Worm Management (Veg30e)  Vegetable Insect Note 30
• Publication covers Armyworms, Corn Earworm, and European Corn Borer (the three most common)
  as well as Pepper Weevil, Pepper Maggot, Cabbage Looper, and Tobacco Hornworm.
Pepper Insect Control (Veg-37)  Vegetable Insect Note 37
• Publication covers Armyworms, Corn Earworm, and European Corn Borer, Pepper maggot,
  Green peach aphid and tobacco hornworm. Minor pests: Flea beetles, cutworms, plant bugs and pepper
  weevils

European Corn Borer — see also index entry

PEPPER PESTS continued on next page...
Flea Beetles on Vegetables (Veg27) ................................................................. Vegetable Insect Note 27

• Adults on leaves; larvae in roots

Pepper Maggot (veg39) ...................................................................................... Vegetable Insect Note 39

See also Pepper Worm Management (Veg30e) ....................................................... Vegetable Insect Note 30

Pepper Weevil (veg34) .......................................................................................... Vegetable Insect Note 34

See also Pepper Worm Management (Veg30e) ....................................................... Vegetable Insect Note 30

Potato Tuberworm (Veg3) ...................................................................................... Vegetable Insect Note 3

Diseases of Pepper

Prevention — Managing Diseases in Home Vegetable Gardens (AG-436) .............. Vegetable Disease Note 0

Bacterial Leaf Spot on Tomato & Peppers — (VDIN-018) ......................................... Vegetable Disease Note 18

Bacterial Leaf Spot — Managing Diseases in Home Vegetable Gardens (AG-436) ........ Vegetable Disease Note 0

Mosaic (virus) — Peppers (HIL 8021) ...................................................................... Vegetable Leaflet 21

Southern Blight — Southern Blight of Vegetable Crops (VDIN-009) ................. Vegetable Disease Note 9

Peppers, Disease-Resistant Varieties (clemson factsheets 1316) ................................ Vegetable Disease Note 6???

Blossom End Rot (Peppers are also susceptible)

Tomatoes (UHN 10) ......................................................................................... Urban Hort Note 10

Blossom End Rot (HIL 8107-A) ........................................................................ Vegetable Leaflet 107-A

Tomato, Peppers, Watermelon: Blossom End Rot (VDIN-0019) ........................ Vegetable Disease Note 19

Blossom End Rot — Home Vegetable Gardening (AG-06) (not detailed) .............. Vegetable Leaflet 0

Perennials — see Plant Lists: Ornamentals

Periwinkle — see Vinca minor

Persea borbonia (Redbay) — Plants for Seashore Conditions (HIL 606)......................... Ornamental Leaflet 606

Persimmon = Diospyros

Growing Oriental Persimmons in NC (HIL 377) ..................................................... Fruit Leaflet 377

Producing Tree Fruit for Home Use (AG-28) ......................................................... Un-numbered Fruit Leaflet

Large Trees for North Carolina (HIL 638) .............................................................. Ornamental Leaflet 638

Asian Ambrosia Beetle — see Borers

See also Trees

Pesticides — see Pest Management

Pesticide-Resistant Insect Pests

Diamondback Moth (cucurbits) (Veg011e) ............................................................. Vegetable Insect Note 11

Greenhouse Whitefly (ENT/ort-10) ...................................................................... Ornamental Insect Note 10

Silverleaf Whitefly (ENT/ort-83) ......................................................................... Ornamental Insect Note 83

Western Flower Thrips (ENT/ort-72) ................................................................... Ornamental Insect Note 72

Sulfur as a miticide for resistant mites —

Alternatives to Synthetic Chemicals for Insect & Mite Control ............................... Ornamental Insect Note 91

Pest Management ➤ Insects, Mites, Fungus, Mollusks

See also —

Ag-Chem Manual

specific pests — Insect Notes have detailed control information. See Mites

specific hosts, including Turf

Grubs — Mosquitos — Caterpillar Control with Bt

Water Quality Issues

Swarms, nests, etc. — see Wasps, Bees — see Pest Management: Professional Pest Control

Household Pests — Refer questions to Theresa Clark, Home Economist, at ext. 0521.

Effect of weather on insect populations —

Durham’s Weather (UHN 1) ................................................................................ Urban Hort Note 1

Pest Management ➤ Integrated Pest Management (IPM)

Integrated Pest Management: good descriptions

Pesticide Selection for Water Quality Protection (turf file) .................................... Ornamental Insect Note 102

Alternatives to Synthetic Chemicals for Insect & Mite Control ............................... Ornamental Insect Note 91

PEPPER PESTS, continued
PEST MANAGEMENT, continued

**PEST MANAGEMENT ➤ Cultural Practices**

See publications on individual insects and plants, including turf. Cultural controls include crop rotation.

- **House Plant Pests** ........................................................................................................................................................................... Ornamental Insect Note 98
  - Garden Insect Control (Veg15) ............................................................................................................................................ Vegetable Insect Note 15
  - Insect Management for the Home Gardener (Veg-43) ........................................................................................................ Vegetable Insect Note 43
  - Managing Diseases in Home Vegetable Gardens (AG-436) ................................................................................................ Vegetable Disease Note 0
  - Disease & Insect Management in the Home Orchard (FDIN 002) ..................................................................................... Fruit Disease Note 2
  - Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................................ Ornamental Insect Note 91
    - Pest control by keeping plants vigorous
    - Floating Row Covers
    - Crops that repel pests (unproven)
- **Pesticide Selection for Water Quality Protection** (turf file) .................................................................................................. Ornamental Insect Note 102

**PEST MANAGEMENT ➤ Soil Fumigation**

See also Nematodes

- Installation & Maintenance of Bedding Plants (HIL 555) ........................................................................................................ Ornamental Leaflet 555
- Managing Diseases in Home Vegetable Gardens (AG-436) ................................................................................................ Vegetable Disease Note 0
- Control of Root-Knot Nematodes in the Home Vegetable Garden (AG-420) ........................................................................ Vegetable Disease Note 0-A

**PEST MANAGEMENT ➤ Solarization**

See also Nematodes

- Managing Diseases in Home Vegetable Gardens (AG-436) ................................................................................................ Vegetable Disease Note 0

**PEST MANAGEMENT ➤ Alternative Pesticides**

Horticultural Oils for Pest Control — see also Ag-Chem Manual

- Alternatives to Synthetic Chemicals for Insects & Mites ........................................................................................................ Ornamental Insect Note 91
- Pesticide Selection for Water Quality Protection (turf file) .................................................................................................. Ornamental Insect Note 102
- Horticultural Oil as a spreader-sticker (ENT/or-51) ............................................................................................................ Ornamental Insect Note 51
- Horticultural Oil as control for scale on fruit trees — Disease & Insect Management in the Home Orchard (FDIN 002) .......... Fruit Disease Note 2
- Insect Management for the Home Gardener (Veg-43) ........................................................................................................ Vegetable Insect Note 43
- Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................................ Ornamental Insect Note 91
  - Insecticidal Soap
  - Sulfur
  - Insect traps

**PEST MANAGEMENT ➤ Pesticides, Repercussions, and Alternatives**

See also Ag-Chem Manual

- Quick Reference: Brand Names of Insecticides, Molluscicides, and Fungicides ................................................................. Ornamental Insect Note 92
- Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ............................................................ Turf File 152
  - Publication focuses on applying chemicals, with little discussion of environmental impact.
  - Publication includes a cross-reference of pesticide and fungicide active ingredients and brand names
- Garden Insect Control (Veg15) ............................................................................................................................................ Vegetable Insect Note 15
- Application Equipment (Veg16) ........................................................................................................................................ Vegetable Insect Note 16
- Alternatives to Synthetic Chemicals for Insects & Mites ........................................................................................................ Ornamental Insect Note 91
  - Plant-source pesticides, toxicity to humans and pets
- Insecticide Formulations for Home Gardeners (Veg8) ........................................................................................................ Vegetable Insect Note 8
  - Publication defines terms such as dust, granular, suspension, emulsion, etc.
- Pesticide Selection for Water Quality Protection (turf file) ................................................................................................. Ornamental Insect Note 102
  - Systemic Pesticides
  - Pesticides, toxicity to wildlife
- Alkaline Hydrolysis (Breakdown) of Insecticides (ENT/or-80) .......................................................................................... Ornamental Insect Note 80

**PEST MANAGEMENT continued on next page...**
PEST MANAGEMENT, continued

Pest Management ➔ Pesticide Injury to Plants
see also Ag-Chem Manual
Phytotoxicity (plant damage from pesticide application) ........................................................................ Ornamental Insect Note 73

Pest Management ➔ Pesticide Safety & Other Questions
Pesticides in clothing — refer question to Theresa Clark, Home Economist, at ext. 0521.
Pesticide misapplication, spills — Caller should contact the NC Dept. of Agriculture, Pesticide Section, 733-3536. They will send someone to the site to investigate.
Pesticide disposal — see Household Hazardous Waste
The National Pesticide Telecommunications Network (1-800-858-7378) can answer questions about safe use, medical issues, regulations, and manufacturers.

Pest Management ➔ Professional Pest Control
Refer caller to Yellow Pages under Pest Control Services.
Pesticide training & licensing — Refer to Consumer Horticulture Agent (or Agent for caller’s county)
All questions relating to commercial pest control businesses, training received by pest control employees, or their use of pesticides must be referred to Dr. Michael Waldvogel of NCSU at 919-515-8881.

Pest Management ➔ Calendars
Pest Management Calendar for Azalea (ENT/ort-52) ........................................................................ Ornamental Insect Note 52
Pest Management Calendar for Boxwood (ENT/ort-53) .................................................................... Ornamental Insect Note 53
Pest Management Calendar for Camellia (ENT/ort-54) .................................................................... Ornamental Insect Note 54
Pest Management Calendar for Cherry & Cherry Laurel (Prunus) (ENT/ort-87) .................................. Ornamental Insect Note 87
Pest Management Calendar for Crape Myrtle (ENT/ort-54) .......................................................... Ornamental Insect Note 54
Pest Management Calendar for Dogwood (ENT/ort-55) .................................................................. Ornamental Insect Note 55
Pest Management Calendar for Euonymus (ENT/ort-55) .............................................................. Ornamental Insect Note 55
Pest Management Calendar for Hemlock (ENT/ort-78) .................................................................. Ornamental Insect Note 78
Pest Management Calendar for Holly (ENT/ort-56) ........................................................................ Ornamental Insect Note 56
Pest Management Calendar for Juniper (ENT/ort-57) ..................................................................... Ornamental Insect Note 57
Pest Management Calendar for Leyland Cypress (ENT/ort-86) ....................................................... Ornamental Insect Note 86
Pest Management Calendar for Maple (ENT/ort-118) ................................................................... Ornamental Insect Note 201
Pest Management Calendar for Oak (ENT/ort-116) ........................................................................ Ornamental Insect Note 202
Pest Management Calendar for Pine ((ENT/ort-117) ........................................................................ Ornamental Insect Note 200
Pest Management Calendar for Plum (Prunus) (ENT/ort-87) .......................................................... Ornamental Insect Note 87
Pest Management Calendar for Pyracantha (ENT/ort-115) ............................................................ Ornamental Insect Note 203
Pest Management Calendar for Rhododendron (ENT/ort-58) .......................................................... Ornamental Insect Note 58
Pest Management Calendar for Rose (ENT/ort-59) ......................................................................... Ornamental Insect Note 59
Pest Management Calendar for Turf (AG-447) ............................................................................. Turf File 157

Petal Blight
on Azalea (Ovulinia) — Azalea Disease Control(ODIN 016) ........................................................... Ornamental Disease Note 16
on Dogwood — Botrytis (fungal) Petal Blight
Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) ........................................... Ornamental Leaflet 600-A
on Rhododendron — Rhododendron Diseases(ODIN-012) ................................................................. Ornamental Disease Note 12
Botrytis (fungal) Flower & Cane Blight on Roses — Rose Diseases and Control(odin-002) ............... Ornamental Disease Note 2

pH — see Soil pH and Lime — see Soil Amendments — see Soil Testing
Phlox subulata (Creeping Phlox) — Ground Covers for North Carolina (AG-75) ............................ Ornamental Leaflet 633-B

Phoma Blight — see Cucurbits
Phomopsis (fungus) — see Twig Blight — see Rot: Fruit Rot
Phony Disease of Peach — see Scorch Diseases on Shade Trees(ODIN-0010) ................................. Ornamental Disease Note 10

Durham County Master Gardener Index File 51 Index Revision Date: 07/24/09
**Photinia** (Red Tip)

- Pruning Trees & Shrubs ([AG-071](#)) ............................................................ Ornamental Leaflet 602-A
- Espalier ([HIL 619](#)) .................................................................................. Ornamental Leaflet 619
- Shrubs 8ft+ for NC Landscapes ([HIL 636](#)) .............................................. Ornamental Leaflet 636

**Entomosporium** (fungal) Leaf Spot of Photinia ([ODIN-011](#)) ............... Ornamental Disease Note 11

**Photocarpus** — see *Podocarpus*

**Phylloxera** Galls on Hickory & Pecan ([ENT/ort-49](#)) ............................... Ornamental Insect Note 49

**Phytophthora** (fungus) — see Rot: Phytophthora

**Phytotoxicity** (plant damage from pesticide application) ............................. Ornamental Insect Note 73

**Pickleworm** Management ([Veg001e](#)) ...................................................... Vegetable Insect Note 1

**Pick-Your-Own Fruit**

*We do not maintain a list of growers, but we often have a list in the office. Refer caller to newspapers for more current information.*

**Pieris** = Andromeda

- Shrubs 4-8ft for NC Landscapes ([HIL 635](#)) ................................................ Ornamental Leaflet 635
- Phytophthora Root Rot and its Control ([ODIN 013](#)) ................................... Ornamental Disease Note 13

**Pigs, Wild (Feral Hogs, Wild Boar)**

- Wild Pigs: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  - Excellent descriptions of animals, habits & habitats, and control measures.

**Pillbugs**

- Pillbugs and Sowbugs ([ENT/ort-11](#)) ............................................................ Ornamental Insect Note 11
- Pest Control [Insect, Weed, Disease] for Turfgrass Managers ([AG-348](#)) (106 pages) ......................................................... Turf File 152
- See also House Plant Pests ............................................................................. Ornamental Insect Note 98

**Pine**

- Pine in the Landscape
  - several species — Using Pines in the Landscape ([HIL 8603](#)) ............... Ornamental Leaflet 603
  - Loblolly Pine (*Pinus taeda*) — Recommended Trees for Urban Landscapes ([HIL 8617](#)) .................................................. Ornamental Leaflet 617
  - Mugo Pine (*Pinus mugo*) — Shrubs 1-4ft for NC Landscapes ([HIL 634](#)) ........................................................................... Ornamental Leaflet 634
  - several species — Plants for Seashore Conditions ([HIL 606](#)) ........................ Ornamental Leaflet 606
  - Large Trees for North Carolina ([HIL 638](#)) ......................................... Ornamental Leaflet 638

- Pests of Pine
  - Pest Management Calendar for Pine ([ORT/int-117](#)) ............................ Ornamental Insect Note 200
  - Black Turpentine Beetle ([ENT/ort-84](#)) ............................................... Ornamental Insect Note 84
  - Pine Bark Adelgid (*mostly white pine*) ([ENT/ort-62](#)) ...................... Ornamental Insect Note 62
  - Pine Wood Nematode ([odin-006](#)) ......................................................... Ornamental Disease Note 6
  - Southern Pine Beetle ([ENT/ort-82](#)) .................................................... Ornamental Insect Note 82
  - White Pine Weevil ([ENT/ort-33](#)) ......................................................... Ornamental Insect Note 33

- Diseases of Pine
  - White Pine Blister Rust — Currants, Gooseberries, and Jostaberries are banned in NC
    because they (genus *Ribes*) are an alternate host for white pine blister rust, which kills white pines.
  - Pine, starting from seed — Overcoming Seed Dormancy ([HIL 8704](#)) ........ Ornamental Leaflet 704
  - Pine Bark — see Soil Amendments — see Mulch
  - See also Trees

**Pineapple Lily** — see *Eucomis*

**Pine Bark** — see Soil Amendments — see Mulch

**Pinxterbloom** — see Azalea, Pinxterbloom

**Pistacia** (Chinese Pistache)

- Large Trees for North Carolina ([HIL 638](#)) .......................................... Ornamental Leaflet 638
- Recommended Trees for Urban Landscapes ([HIL 8617](#)) ................................. Ornamental Leaflet 617
  - See also Trees
**Pittosporum**

Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
Shrubs 8ft+ for NC Landscapes (HIL 636) ................................................................. Ornamental Leaflet 636

**Planetree** — see London Planetree (*Platanus × acerifolia*)

**Planthoppers** (ENT/ort-48) ......................................................................................... Ornamental Insect Note 48

See also Leafhopper

Planthopper, Flatid

Pest Management Calendars for Holly (#56), Boxwood (#53), Azalea (#52)................. Ornamental Insect Notes 52, 53, 56

**Planting Techniques**

**Planting “High”**

Planting Trees & Shrubs (“Planting High”) (UHN 7) ...................................................... Urban Hort Note 7
Planting Techniques for Trees & Shrubs (HIL 601) ........................................................ Ornamental Leaflet 601
Azalea Culture for NC (HIL 630) .................................................................................. Ornamental Leaflet 630

Raised Beds

Making Raised Beds (UHN 14) ..................................................................................... Urban Hort Note 14

- Publication covers construction of enclosed raised beds with wooden sides.
- Publication also discusses cinder block, untreated lumber, pressure-treated lumber (OK), and creosote-soaked wood (not OK).

Amending Clay Soils (UHN 3) ..................................................................................... Urban Hort Note 3

- Publication mentions treating a berms of amended soil as a raised bed with or without edges.

Transplanting Seedlings

Home Vegetable Gardening (AG-06) ............................................................................... Vegetable Leaflet 0

Planting Vegetables

Home Vegetable Gardening (AG-06) ............................................................................... Vegetable Leaflet 0
Growing a Fall Vegetable Garden (HIL 8001) ................................................................. Vegetable Leaflet 1
Mini-Gardening (*Vegetables*) (HIL 8102) ..................................................................... Vegetable Leaflet 102

Planting Bare-Root Trees

Planting Techniques for Trees & Shrubs (HIL 601) ........................................................ Ornamental Leaflet 601
Producing Tree Fruit for Home Use (AG-28) ............................................................... Un-numbered Fruit Leaflet

Planting Techniques for Trees & Shrubs (HIL 601) ........................................................ Ornamental Leaflet 601

- Publication covers bare-root, balled-and-burlapped, container, planting high, staking, and wound dressings.

Growing Annual & Perennial Flowers in Durham County (UHN 8) .............................. Urban Hort Note 8

- Publication includes site preparation, planting techniques, maintenance, and very basic landscaping design principles, as well as a perennial plant list.

Installation & Maintenance of Bedding Plants (HIL 555) ............................................... Ornamental Leaflet 555

Planting Azaleas — Azalea Culture for NC (HIL 630) .................................................... Ornamental Leaflet 630

Planting Techniques (including Raised Beds and Soil Amendments) for prevention of Phytophthora Root Rot (ODIN 013) ................................................................. Ornamental Disease Note 13

See also Soil Amendment

**PLANT LISTS**

**Plant Lists ➤ Small Fruits**

See specific Fruit Leaflets & Publications ................................................................. Fruit Leaflets

Blueberries (HIL 8207) .................................................................................................. Fruit Leaflet 207
Bunch Grapes (HIL 8202) ............................................................................................. Fruit Leaflet 202
Fig Culture… (HGIC 1353) .......................................................................................... Leaflet 210-A

Grapes & Berries (AG-15) (hard to locate on internet) .............................................. Un-numbered Fruit Leaflet

Nursery List of Small Fruit Cultivars for Home Use in NC (HIL 8210) ......................... Fruit Leaflet 210
Muscadine Grapes (HIL 8203) ..................................................................................... Fruit Leaflet 203
Raspberries (HIL 8204) ............................................................................................... Fruit Leaflet 204
Strawberries (HIL 8205) ............................................................................................. Fruit Leaflet 205

Currants, Gooseberries, and Jostaberry are banned in NC because they (genus *Ribes*) are an alternate host for white pine blister rust, which kills white pines.
**Plant Lists ➔ Tree Fruits**

See specific Fruit Leaflets & Publications ................................................................. Fruit Leaflets

Producing Tree Fruit for Home Use (AG-28) .......................................................... Un-numbered Fruit Leaflet

- Publication includes Apple, Chestnut, Fig, Nectarine, Peach, Pear
  - and Asian Pear, Pecan, Persimmon, and Plum

Growing Apple Trees (HIL 8301) .............................................................................. Fruit Leaflet 301
Growing Peaches in NC (AG-39) ............................................................................ Un-numbered Fruit Leaflet
Growing Pears in NC (AG-80) ................................................................................ Un-numbered Fruit Leaflet
Growing Pecans in NC (AG-81) ................................................................................ Un-numbered Fruit Leaflet
Growing Oriental Persimmons in NC (HIL 377) ......................................................... Fruit Leaflet 377

**Plant Lists ➔ Vegetables**

See specific Vegetable Leaflets ................................................................................ Vegetable Leaflets

Home Vegetable Gardening (AG-06) ........................................................................... Vegetable Leaflet 0

Vegetable Quick Reference Guide (AG-12) ............................................................... Vegetable Leaflet 0-A

Cultivars for fall planting — Growing a Fall Vegetable Garden (HIL 8001) .............. Vegetable Leaflet 1

Cultivars for small gardens — Mini-Gardening (HIL 8102) ....................................... Vegetable Leaflet 102

Disease Resistance in Vegetable Varieties ................................................................. Vegetable Disease Note 6-?

**Plant Lists ➔ Plants For Specific Purposes**

Plants to Attract Hummingbirds and Butterflies(www20) ......................................... Wildlife Note 20

Plants to Attract Wildlife — Managing Edges for Wildlife (www15) ......................... Wildlife Note 15

Conserving Energy with Plants (HIL 631) ............................................................... Ornamental Leaflet 631

**Plant Lists ➔ Plants For Gardens with Deer**

Deer-Tolerant Ornamental Plants (from University of Georgia) (H-97-032) .......... Wildlife Note 3-A

Resistance of Ornamentals to Deer Damage (from W.Va. Univ) (Fact Sheet 655) ... Wildlife Note 3-B

Deer: Prevention and Control of Wildlife Damage Binders from University of Nebraska

- Excellent descriptions of animals, habits & habitats, and control measures. .......... Wildlife Note 3-C

- Includes a list of susceptible and damage-resistant plants.

**Plant Lists ➔ Plants For Difficult Sites**

Plants [large and small] for Seashore Conditions (HIL 606) ...................................... Ornamental Leaflet 606

Plants for Wet Sites (HIL 8646) .............................................................................. Ornamental Leaflet 646

Plants for Water Gardens — Water Gardening in Texas (from Univ of Texas, B-6001) Ornamental Leaflet 445

Plants for Dry Sites — see also Xeriscaping

- Drought-Tolerant Plants for NC Landscapes (AG-508-3) ..................................... Ornamental Leaflet 443

- Xeriscape North Carolina (by NC Urban Water Consortium) ......................... Ornamental Leaflet 442

- Wise Water Use in Landscaping (AG-508-1) ....................................................... Ornamental Leaflet 442-A

Sites with Deer — see Plant Lists: Plants for Gardens with Deer

**Plant Lists ➔ Bedding Plants** (Annuals)

Plants for Seashore Conditions (HIL 606) ............................................................... Ornamental Leaflet 606

Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ......................... Ornamental Leaflet 632

Bedding Plants: Stress-Tolerant Plant Species (HIL 552) ........................................ Ornamental Leaflet 552

Under-Utilized Bedding Plants for NC Landscapes (HIL 556) ............................... Ornamental Leaflet 556

Geraniums (Pelargonium) (HIL 8504) ................................................................. Ornamental Leaflet 504

for Dry, Wet, Seashore Conditions — see Plant Lists: Plants for Difficult Sites

Deer-Resistant Ornamentals — see Plant Lists: Plants for Gardens with Deer

**Plant Lists ➔ Ground Covers**

Ground Covers for North Carolina (AG-75) ............................................................ Ornamental Leaflet 633-B

Ornamental Grasses (HIL 8605) ................................................................................. Ornamental Leaflet 605

for Dry, Wet, Seashore Conditions — see Plant Lists: Plants for Difficult Sites

**Plant Lists ➔ Vines**

Vines that attract wildlife — Managing Edges for Wildlife(www15) ......................... Wildlife Note 15

Plants for Seashore Conditions (HIL 606) ............................................................... Ornamental Leaflet 606

Drought-Tolerant Plants for NC Landscapes (AG-508-3) ........................................... Ornamental Leaflet 443

Vines to cover arbors — Conserving Energy with Plants (HIL 631) ......................... Ornamental Leaflet 631
Plant Lists ➔ Ornamentals (Perennials, Shrubs, Vines, Bulbs)

Growing Annual & Perennial Flowers in Durham County (UHN 8) ....................................................... Urban Hort Note 8
Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) ............................................................ Ornamental Leaflet 632
Vines for NC Landscapes (HIL 633) ........................................................................................................ Ornamental Leaflet 633
Ground Covers for North Carolina (AG-75) ............................................................................................ Ornamental Leaflet 633-B
Under-Utilized Bedding Plants for NC Landscapes (HIL 556) ................................................................. Ornamental Leaflet 556
Bearded Iris for the Home Landscape (HIL 8506) .................................................................................... Ornamental Leaflet 506
Bedding Plants: Stress-Tolerant Plant Species (HIL 552) ....................................................................... Ornamental Leaflet 552
Dahlias in the Home Landscape (HIL 8500) ............................................................................................ Ornamental Leaflet 500
Peonies in the Home Landscape (HIL 8501) ............................................................................................ Ornamental Leaflet 501
Ornamental Grasses (HIL 8605) ............................................................................................................. Ornamental Leaflet 605
Plants [large and small] for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
Plants for Wet Sites (HIL 8646) ............................................................................................................. Ornamental Leaflet 646
Deer-Resistant Ornamentals — see Plant Lists: Plants for Gardens with Deer

Plant Lists ➔ Ornamental Grasses

Ornamental Grasses (HIL 8605) ............................................................................................................. Ornamental Leaflet 605
Pampas Grass (Cortaderia selloana) — Shrubs 4-8ft for NC Landscapes (HIL 635) ......................... Ornamental Leaflet 635
for Dry, Wet, Seashore Conditions — see Plant Lists: Plants for Difficult Sites

Plant Lists ➔ Shrubs

See also Plant Lists — Small Fruits
Azalea Varieties for NC (HIL 629) ........................................................................................................ Ornamental Leaflet 629
Boxwoods in the Landscape (HIL 8628) ................................................................................................ Ornamental Leaflet 628
Crape Myrtles (HIL 642) ..................................................................................................................... Ornamental Leaflet 642
Junipers for NC (HIL 640) .................................................................................................................... Ornamental Leaflet 640
Hollies for NC (HIL 639) ..................................................................................................................... Ornamental Leaflet 639
Roses for NC (HIL 641) ........................................................................................................................ Ornamental Leaflet 641
Shrubs 1-4ft for NC Landscapes (HIL 634) ............................................................................................ Ornamental Leaflet 634
Shrubs 4-8ft for NC Landscapes (HIL 635) ............................................................................................ Ornamental Leaflet 635
Shrubs 8ft+ for NC Landscapes (HIL 636) ............................................................................................ Ornamental Leaflet 636
Shrubs for windbreaks — Conserving Energy with Plants (HIL 631) ......................................................... Ornamental Leaflet 631
Plants [large and small] for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
Shrubs to attract wildlife — Managing Edges for Wildlife(www15) ....................................................... Wildlife Note 15
Shrubs as ground cover — Ground Covers for North Carolina (AG-75) .............................................. Ornamental Leaflet 633-B
for Dry, Wet, Seashore Conditions — see Plant Lists: Plants for Difficult Sites
Deer-Resistant Shrubs — see Plant Lists: Plants for Gardens with Deer

Plant Lists ➔ Trees

See also Plant Lists: Tree Fruits
Small & Intermediate Trees for North Carolina (HIL 637) .................................................................... Ornamental Leaflet 637
Crabapple Trees for Landscape (HIL 8613) ............................................................................................ Ornamental Leaflet 613
Crape Myrtles (HIL 642) ..................................................................................................................... Ornamental Leaflet 642
[Trees & Shrubs for] Espalier (HIL 619) ................................................................................................. Ornamental Leaflet 619
Trees for Use Under Utility Lines (HIL 8616) ....................................................................................... Ornamental Leaflet 616
Use of Small and Intermediate Trees in the Landscape (HIL 8621) ..................................................... Wildlife Note 15

Large Trees for North Carolina (HIL 638) ............................................................................................ Ornamental Leaflet 638
Recommended Trees for Urban Landscapes (HIL 8617) ........................................................................ Ornamental Leaflet 617
Shade trees and tall hedges — Conserving Energy with Plants (HIL 631) .................................................... Ornamental Leaflet 631
Using Pines in the Landscape (HIL 8603) (covers several species) ....................................................... Ornamental Leaflet 603
Plants [large and small] for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
Trees that attract wildlife — Managing Edges for Wildlife(www15) ....................................................... Wildlife Note 15
for Dry, Wet, Seashore Conditions — see Plant Lists: Plants for Difficult Sites
Deer-Resistant Trees — see Plant Lists: Plants for Gardens with Deer
Plum = Prunus

Plum, fruiting
Producing Tree Fruit for Home Use (AG-28) ................................................................. Un-numbered Fruit Leaflet
Training & Pruning Fruit Trees (AG-29) ........................................................................ Un-numbered Fruit Leaflet

Plum, Purple-leaf (Prunus cerasifera) —
Small & Intermediate Trees for North Carolina (HIL 637) ............................................ Ornamental Leaflet 637
Trees for Use Under Utility Lines (HIL 8616) .................................................................. Ornamental Leaflet 616

Cold injury to blossoms — Durham’s Weather (UHN 1) .................................................. Urban Hort Note 1

Pests of Plum
Check first: Pest Management Calendar for Cherry (Prunus) (ENT/ort-87) ....................... Ornamental Insect Note 87
Peach tree borer — see Borers
Plum curculio (insect) — Disease & Insect Management in the Home Orchard (FDIN 002) .... Fruit Disease Note 2
Asian Ambrosia Beetle — see Borers

Diseases of Plum
Black Knot (fungal) on Cherry & Plum (FDIN 004) ......................................................... Fruit Disease Note 4
Black Knot (fungal) on Cherry & Plum Disease & Insect Management in the Home Orchard (FDIN 002) . Fruit Disease Note 2

See also Trees

Podocarpus
Shrubs 8ft+ for NC Landscapes (HIL 636) ................................................................. Ornamental Leaflet 636
Plants for Seashore Conditions (HIL 606) .................................................................. Ornamental Leaflet 606

Poinsettias, Consumer Care of (HIL 608) ............................................................... Ornamental Leaflet 508

POISON CONTROL CENTER 1-800-222-1222

Poisoning Voles with Rozol — see Voles

Poisoning moles is illegal in NC. But moles won’t eat Rozol anyway because they’re carnivorous.

Poisonous Plants
The Poison Control Center (1-800-845-6946) will answer questions about poisonous plants.
MGVs should not answer questions about poisonous plants.

Pomegranate (Punica)
Small & Intermediate Trees for North Carolina (HIL 637) ............................................ Ornamental Leaflet 637
Shrubs 8ft+ for NC Landscapes (HIL 636) ................................................................. Ornamental Leaflet 636
See also Trees

Ponds
See also Water Gardens

Building, management, etc — Refer caller to the Durham County Soil & Water Conservation District (Foster St) at 560-0558
Pond weeds, Fish — Refer caller to Karen McAdams, Agent in Orange County (see Orange County)

Ponyfoot — see Dichondra

Poplar, Lombardy = Populus — Large Trees for North Carolina (HIL 638) ..................... Ornamental Leaflet 638

Poplar, Tulip = Liriodendron tulipfera — see Tulip Poplar

Porcelain Vine = Amelopsis brevipedunculara (INVASIVE!) — Vines for NC Landscapes (HIL 633) . Ornamental Leaflet 633

’Possums — see Opossums

Potato, Irish — see also Sweetpotato
Irish Potatoes in the Garden
Home Vegetable Gardening (AG-06) ........................................................................ Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ................................................................. Vegetable Leaflet 0-A
Mini-Gardening (HIL 8102) .................................................................................. Vegetable Leaflet 102
Harvesting Vegetables (HIL 8108) ........................................................................ Vegetable Leaflet 108

Pests of Potato
Cabbage Looper (Veg040e) ..................................................................................... Vegetable Insect Note 40
Cucumber Beetle (Veg025e) ..................................................................................... Vegetable Insect Note 25

POITAT PESTS continued on next page...
European Corn Borer in Potatoes (Veg2) ................................................................. Vegetable Insect Note 2
See also index entry on European Corn Borer
Alternatives to Synthetic Chemicals for Insect & Mite Control .................................. Ornamental Insect Note 91
Flea Beetles on Vegetables (Veg27)  ......................................................................... Vegetable Insect Note 27
  • Adults on leaves; larvae in roots; beetles transmit Early Blight
Potato Tuberworm (Veg3) .......................................................................................... Vegetable Insect Note 3
Seedcorn Maggot (on germinating or decaying plants) (Veg31) ................................. Vegetable Insect Note 31
Tomato Pinworm (Leafminer) (Veg33) ...................................................................... Vegetable Insect Note 33
Potato beetles: horseradish or flax as repellent crops (unproven!) —
  Alternatives to Synthetic Chemicals for Insect & Mite Control ............................ Ornamental Insect Note 91

Diseases of Potato
Prevention — Managing Diseases in Home Vegetable Gardens (AG-436) ................ Vegetable Disease Note 0
Irish Potato, Disease-Resistant Varieties (Potato-HGIC-1317) ............................... Vegetable Disease Note 677
Southern Blight in Potato — Southern Blight of Vegetable Crops (V DIN-009) .......... Vegetable Disease Note 9
Early Blight transmission by Potato Flea Beetle — Flea Beetles on Vegetables (Veg27) .... Vegetable Insect Note 27

Pots, Flowerpots — see Container Gardening

Powdery Mildew (several host-specific fungi: Oidium, Uncinia, Sphaerotheca...)
Powdery Mildew on Ornamentals & Trees (odin 004) ............................................ Ornamental Disease Note 4
Publication mentions host-specificity, life cycle, and includes a list of susceptible plants.
on Azalea — Azalea Disease Control (ODIN 016) ............................................. Ornamental Disease Note 16
on Apple — Disease & Insect Management in the Home Orchard (FDIN 002) ........ Fruit Disease Note 2
on Muscadine — Diseases of Muscadines (FDIN-012) ................................. Fruit Disease Note 12
on Strawberry, especially ‘Titan’ —
  Strawberries: Disease Control (FDIN-005) .................................................... Fruit Disease Note 5
  Diagnosis of Strawberry Diseases (with photos) (AG-386) ....................... Fruit Disease Note 5-A
on Pecans — Pecan Disease and Control (odin-003) ........................................ Ornamental Disease Note 3
on Roses — Rose Diseases and Control (odin-002) ........................................ Ornamental Disease Note 2
  on Snapdragons — .................................................................................. Ornamental Disease Note 26
on Vegetables —
  Managing Diseases in Home Vegetable Gardens (AG-436) ......................... Vegetable Disease Note 0
  Diseases of Greens (Cruciferous) (VDIN-0014) .......................................... Vegetable Disease Note 14
  Diseases of Cantaloupe (VDIN-0013) .......................................................... Vegetable Disease Note 13
See also Downy Mildew

Power lines, trees under — Trees for Use Under Utility Lines (HIL 8616) ..................... Ornamental Leaflet 616
Pressure-Treated Lumber in the Landscape
see Making Raised Beds (UHN 14) ........................................................................ Urban Hort Note 14
Privet — see Ligustrum

Propagation — See also Dirr (woody plants) or Armitage (herbaceous plants) for detailed instructions on propagating.
Vegetative (Asexual) Propagation
Plant Propagation by Leaf, Cane, & Root Cuttings (HIL 8700) ............................ Ornamental Leaflet 700
Plant Propagation by Stem Cuttings (HIL 8702) ................................................. Ornamental Leaflet 702
  • Publication covers greenhouse-like environments for rooting cuttings
Plant Propagation by Layering (HIL 8701) ......................................................... Ornamental Leaflet 701
Propagation of Geraniums (Pelargonium) (HIL 8504) ........................................ Ornamental Leaflet 504
Seed (Sexual) Propagation
Starting Plants From Seed (HIL 8703) ...................................................... Ornamental Leaflet 703
Vegetables from seed
  Growing Vegetable Transplants (HIL 8104) ................................................ Vegetable Leaflet 104
  Home Vegetable Gardening (AG-06) .......................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ......................................................... Vegetable Leaflet 0-A
Overcoming Seed Dormancy in Trees & Shrubs (HIL 8704) .............................. Ornamental Leaflet 704
Storing seed — Control of Weevils in Stored Beans and Peas (Veg10) ............ Vegetable Insect Note 10

PROPAGATION continued on next page...
PROPAGATION, continued

Damping Off (seedlings die shortly after emergence) of seedlings (odin-0014) ................................................................. Ornamental Disease Note 14
of snapdragon seedlings ............................................................. Ornamental Disease Note 14
of vegetable seedlings —
  Home Vegetable Gardening (AG-06) ........................................ Vegetable Leaflet 0
  Managing Diseases in Home Vegetable Gardens (AG-436) .......... Vegetable Disease Note 0
  • Publication covers prevention and fungicide on seeds
of Cruciferous Greens — Diseases of Greens (VDIN-0014) ........ Vegetable Disease Note 14
Transplanting Seedlings
  Home Vegetable Gardening (AG-06) ......................................... Vegetable Leaflet 0

Pruning
  Pruning Techniques
  Pruning Trees & Shrubs (AG-071) .............................................. Ornamental Leaflet 602-A
  Pruning Trees (HIL 602) ............................................................. Ornamental Leaflet 602
  Pruning Basics (UHN 9) ............................................................ Urban Hort Note 9
  Trees: Homeowner Guide (pamphlet from Forest Service) ........ Ornamental Leaflet 602-B
  • Publication covers Pruning, Treatments for wounds and cavities, Placing cables, Staking, and other topics.
  Dogwoods — Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) ......... Ornamental Leaflet 600-A
  Roses — Roses for NC (HIL 641) .............................................. Ornamental Leaflet 641
  Grapes & Berries (hard to locate on internet) ................................ Un-numbered Fruit Leaflet
  Blackberries —
    Growing Blackberries in NC (AG-401) .................................... Fruit Leaflet 200-A
    Blackberries: Pruning & Training (HIL 8206) ......................... Fruit Leaflet 206
  Training & Pruning Fruit Trees (AG-29) .................................... Un-numbered Fruit Leaflet
  Espalier (HIL 619) ................................................................. Ornamental Leaflet 619
  Pruning after cold damage — Durham’s Weather (UHN 1) ........ Urban Hort Note 1
Pruning Tools
  Pruning Trees & Shrubs (AG-071) .............................................. Ornamental Leaflet 602-A
  Pruning Trees (HIL 602) ............................................................. Ornamental Leaflet 602
  Pruning Basics (UHN 9) ............................................................ Urban Hort Note 9
Pruning: wound dressings not recommended
  Planting Techniques for Trees & Shrubs (HIL 601) .................... Ornamental Leaflet 601
  Trees: Homeowner Guide (Forest Service) NE-INF-58-84 ............. Ornamental Leaflet 602-B
  • Publication covers Pruning, Treatments for wounds and cavities, Placing cables, Staking, and other topics.
Certified Arborists (UHN 11) ...................................................... Urban Hort Note 11

Psylla, pear, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control .......... Ornamental Insect Note 91

Psyllids
  Boxwood Psyllid
  Pest Management Calendar for Boxwood (ENT/ort-53) ............... Ornamental Insect Note 53

Horticultural oils as controls for immature Psyllids — Horticultural Oils (ENT/ort-45) .......... Ornamental Insect Note 45

Pumpkins
  Pumpkins in the Garden
  Pumpkins & Winter Squash (HIL 24) ........................................ Vegetable Leaflet 24
  Home Vegetable Gardening (AG-06) ........................................ Vegetable Leaflet 0
  Vegetable Quick Reference Guide (AG-12) ............................. Vegetable Leaflet 0-A
  Harvesting Vegetables (HIL 8108) ............................................ Vegetable Leaflet 108
  Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) ........ Vegetable Leaflet 33
  See also Weed Control in Vegetable Gardens (HIL 8101) .......... Vegetable Leaflet 101
  See also Home Vegetable Gardening (AG-06) ......................... Vegetable Leaflet 0
Storage of Pumpkins & Winter Squash (HIL 24-c) ..................... Vegetable Leaflet 24-C
Pests & Diseases of Pumpkin — see Cucurbits

Pyracantha
  Pruning Trees & Shrubs (AG-071) .............................................. Ornamental Leaflet 602-A
  Espalier (HIL 619) ................................................................. Ornamental Leaflet 619

PYRACANTHA continued on next page...
**PYRACANTHA, continued**

- Shrubs 8ft+ for NC Landscapes (HIL 636) ................................................................. Ornamental Leaflet 636
- Hawthorn Lace Bug (ENT/ort-39) ........................................................................... Ornamental Insect Note 39
- Pest Management Calendar for Pyracantha (ENT/ort-115) ........................................ Ornamental Insect Note 203

**Quail, Bobwhite (www08) ............................................................................................ Wildlife Note 7

**Quince**, flowering = *Chaenomeles*

- Espalier (HIL 619) ........................................................................................................ Ornamental Leaflet 619
- Pruning Trees & Shrubs (AG-071) ............................................................................... Ornamental Leaflet 602-A
- Shrubs 1-4ft for NC Landscapes (HIL 634) ................................................................. Ornamental Leaflet 634

**Rabbits**

- Cottontail Rabbit (www7) ............................................................................................ Wildlife Note 7
  * Excellent descriptions of animals, habits & habitats, and control measures.

**Raccoons**

- Raccoon (www11) ........................................................................................................ Wildlife Note 11
  * Excellent descriptions of animals, habits & habitats, and control measures.

**Radish**

- Radish (HIL 25) ........................................................................................................... Vegetable Leaflet 25
- Home Vegetable Gardening (AG-06) ......................................................................... Vegetable Leaflet 0-A
- Vegetable Quick Reference Guide (AG-12) .............................................................. Vegetable Leaflet 0-A
  - In Containers —
    - Container Vegetable Gardening (HIL 8105) ...................................................... Vegetable Leaflet 105
    - Mini-Gardening (HIL 8102) ............................................................................... Vegetable Leaflet 102
- Growing a Fall Vegetable Garden (HIL 8001) ......................................................... Vegetable Leaflet 1
- Harvesting Vegetables (HIL 8108) ............................................................................ Vegetable Leaflet 108
- Pests & Diseases of Radishes — see Crucifers

**Railroad Ties** in the Landscape

  - see Making Raised Beds (UHN 14) .............................................................................. Urban Hort Note 14

**Raised Beds** — see also Planting Techniques

- Making Raised Beds (UHN 14) .................................................................................... Urban Hort Note 14

**Raisintree, Japanese (Hovenia dulcis)**

- Trees for Use Under Utility Lines (HIL 8616) ............................................................ Ornamental Leaflet 616
  - See also Trees

**Rapa / Rapine / Rappone** — see Broccoli-Raab (HIL 8005-A) ................................... Vegetable Leaflet 5-A

**Raphiolepsis** = Indian Hawthorn

- *Raphiolepsis indica* — Shrubs 1-4ft for NC Landscapes (HIL 634) ......................... Ornamental Leaflet 634
- *Raphiolepsis umbellata*
  - Plants for Seashore Conditions (HIL 606) .............................................................. Ornamental Leaflet 606
  - Shrubs 4-8ft for NC Landscapes (HIL 635) .............................................................. Ornamental Leaflet 635

**Entomosporium** (fungal) Leaf Spot on Indian Hawthorn (ODIN-011) .................... Ornamental Disease Note 11

**Raspberries**

- Raspberries (HIL 8204) ............................................................................................. Fruit Leaflet 204
- Grapes & Berries (AG-15) (hard to locate on internet) ........................................ Un-numbered Fruit Leaflet
- Floating Row Cover for pest control —
  - Alternatives to Synthetic Chemicals for Insect & Mite Control ......................... Ornamental Insect Note 91
- Birds eating small fruit — Grapes & Berries (AG-15) (hard to locate on internet)  Un-numbered Fruit Leaflet
Rats
Rats indoors — see Household Pests

Refer all questions to Theresa Clark, Home Economist, at ext. 0521. Or, refer caller to Yellow Pages under Pest Control Services.

Rats outdoors (and other rodents) — Prevention and Control of Wildlife Damage Binders from University of Nebraska

* Excellent descriptions of animals, habits & habitats, and control measures.

Red Bay — see Persea borbonia

Redbud = Cercis

Redbud, starting from seed — Overcoming Seed Dormancy (HIL 8704) ........................................ Ornamental Leaflet 704

Redbud in the Landscape

Small & Intermediate Trees for North Carolina (HIL 637) ........................................ Ornamental Leaflet 637

Trees for Use Under Utility Lines (HIL 8616) ........................................................................ Ornamental Leaflet 616

Espalier (HIL 619) .................................................................................................................. Ornamental Leaflet 619

Red Mite, Southern — see Mite, Southern Red

Red Stele — see Photinia

Redwood, Dawn (Metasequoia glyptostroboides)

Recommended Trees for Urban Landscapes (HIL 8617) ........................................ Ornamental Leaflet 617

Red Worms — see Composting — see Vermicomposting

Residential Landscaping (AG-248) ....................................................................................... Ornamental Leaflet 400

See also Landscaping

RESOURCE LIST — located in front of Phone Log binder on MG desk

Rhododendron
See also Azalea

Rhododendron in the Landscape

Shrubs 4-8ft for NC Landscapes (HIL 635) ............................................................................ Ornamental Leaflet 635

Shrubs 8ft+ for NC Landscapes (HIL 636) ............................................................................. Ornamental Leaflet 636

Native Rhododendrons (deciduous Azaleas) — Shrubs 4-8ft for NC Landscapes (HIL 635) .......... Ornamental Leaflet 635

Pests of Rhododendron

Check first: Pest Management Calendar for Rhododendron (ENT/ort-58) ................................ Ornamental Insect Note 58

See index entries for Borers (Azalea Stem Borer, Rhododendron Borer), Lace Bug (Rhododendron), Weevil (Black Vine Weevil and Two-Banded Japanese Weevil)

Climbing Cutworms — Pest Management Calendar for Rhododendron (ENT/ort-58) ............. Ornamental Insect Note 58

Rhododendron Tip Midge — Pest Management Calendar for Rhododendron (ENT/ort-58) ....... Ornamental Insect Note 58

Diseases of Rhododendron

Rhododendron Diseases (ODIN-012) ......................................................................................... Ornamental Disease Note 12

* Publication covers Phytophthora dieback, Phytophthora root rot, Petal Blight, Twig Blight (Botryosphaeria, occasionally Phomopsis), Leaf Spot, and Fertilizer Injury.

Phytophthora Root Rot and its Control (ODIN 013) ................................................................. Ornamental Disease Note 13

Rocky Mountain Spotted Fever — Ticks & Tick-Borne Diseases in NC (AG-428) ................. Ornamental Insect drawer, at rear

Roly-Poly Bugs

Pillbugs and Sowbugs (ENT/ort-11) ........................................................................................... Ornamental Insect Note 11

Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ............ Turf File 152

See also House Plant Pests ........................................................................................................ Ornamental Insect Note 98

Root Competition with Turfgrass

Miscellaneous problems of Turf (C10turf) ............................................................................... Turf File 153

Problems on Centipedegrass (Turf 001) ..................................................................................... Turf File 352

Rooting Cuttings — see Propagation

Roots in buried pipes

* Call City of Durham (if on city property) — or Plumbers in Yellow Pages (on homeowner’s property)

Rose-all = Rozol — see Voles

Rose of Sharon — see Althea
Roses

Roses in the Landscape
Roses for NC (HIL 641) ........................................................................................ Ornamental Leaflet 641
Ground Covers for North Carolina (AG-75) ............................................................. Ornamental Leaflet 633-B
Lady Banks’ Rose (Rosa banksiae) — Vines for NC Landscapes (HIL 633) ............................ Ornamental Leaflet 633
Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606

Pests of Roses
Check first: Pest Management Calendar for Roses (ENT/ort-59) ...................... Ornamental Insect Note 59
See index entries for Aphids, Japanese Beetles, Mites (Two-spotted Spider Mite and
Southern Red Mite), Thrips, Weevils (Two-Banded Japanese)
Budworms — Pest Management Calendar for Roses (ENT/ort-59) .............................. Ornamental Insect Note 59
Fuller Rose Beetle — Pest Management Calendar for Roses (ENT/ort-59) ...................... Ornamental Insect Note 59
Rose Chafer — Pest Management Calendar for Roses (ENT/ort-59) ...................... Ornamental Insect Note 59
Alternatives to Synthetic Chemicals for Insect & Mite Control ............................. Ornamental Insect Note 91
Covering roses with cheesecloth to prevent damage from chewing beetles —
Alternatives to Synthetic Chemicals for Insect & Mite Control ............................. Ornamental Insect Note 91

Diseases of Roses
Rose Diseases and Control(odin-002) ............................................................................ Ornamental Disease Note 2
• Publication covers Black Spot, Powdery Mildew, Canker, Botrytis Flower & Cane Blight,
Nematodes, Crown Gall, and Mosaic.
See index entries for Black Spot, Powdery Mildew

Rot ➔ Phytophthora (fungus) Root Rot
Check first: Phytophthora Root Rot and its Control(OVIN 013) .................................. Ornamental Disease Note 13
• Publication covers Azalea, Rhododendron, Camellia japonica, Pieris, Yew, Deodar Cedar,
Mountain Laurel, Heather, Juniper, Highbush Blueberry, Fraser Fir, White and Shortleaf Pine,
Leucothoe, Aucuba, and others.
See also specific ornamentals. Camellia japonica and Yew (Taxus) are also very susceptible.
on Azalea — Azalea Disease Control(OVIN 016) .......................................................... Ornamental Disease Note 16
on Boxwood — Boxwoods in the Landscape (HIL 8628) ............................................ Ornamental Leaflet 628
on Juniper — Juniper Disease Control(odin 015) ......................................................... Ornamental Disease Note 15
on Peonies — Peonies in the Home Landscape (HIL 8501) ........................................ Ornamental Leaflet 501
on Rhododendron — Rhododendron Diseases(OVIN-012) ........................................... Ornamental Disease Note 12

Fungicide treatment of Phytophthora — see above notes

Ornamentals: Determining Growth Difficulties (UHN 13) .......................................... Urban Hort Note 13
Phytophthora also causes Leather rot (Phytophthora cactorum) and Red Stele (Phytophthora fragariae) on Strawberry —
Diagnosis of Strawberry Diseases (with photos) (AG-386) ........................................ Fruit Disease Note 5-A
Strawberries: Disease Control (FDIN-005) ................................................................. Fruit Disease Note 5
Phytophthora also causes Trunk Canker (Phytophthora cactorum) on Dogwood —
Growing & Maintaining Healthy Dogwoods (Forest Service r8-fr14) .............................. Ornamental Leaflet 600-A

Rot ➔ Root Rot (non-Phytophthora)
see also Phytophthora (fungus) Root Rot(OVIN 013) ..................................................... Ornamental Disease Note 13

Ornamentals: Determining Growth Difficulties (UHN 13) .......................................... Urban Hort Note 13
on Leyland Cypress (Formes fungus) — Leyland Cypress Diseases(OVIN-017) .................. Ornamental Disease Note 17
Root and Butt Rot of Oaks (causal fungi listed in note) (ODIN 030) ............................... Ornamental Disease Note 30
Black Root Rot
on Holly (Thielaviopsis fungus) — Holly Disease Control(OVIN 007) ............................ Ornamental Disease Note 7
on Strawberry (several fungi) —
Strawberries: Disease Control(FDIN-005) ................................................................. Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386) ........................................ Fruit Disease Note 5-A

Rot ➔ Crown, Stem, Wood Rot
See also Anthracnose
Anthracnose Crown or Runner Rot on Strawberry (Colletotrichum and Glomerella fungi) —
Strawberries: Disease Control (FDIN-005) ................................................................. Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386) ........................................ Fruit Disease Note 5-A

ROT ➔ CROWN, STEM, WOOD ROT continued on next page...
Black Rot / Black Leg
on Cabbage, Cauliflower, Broccoli, Sweetpotato (no causal fungus mentioned) —
Managing Diseases in Home Vegetable Gardens (AG-436) .......................................................... Vegetable Disease Note 0
on Cabbage & Crucifers (bacterial) (VDIN-0016) ........................................................................ Vegetable Disease Note 16
on Cruciferous Greens — Diseases of Greens (VDIN-0014) .......................................................... Vegetable Disease Note 14
on Geraniums (Pelargonium) (HIL 8504) ......................................................................................... Ornamental Leaflet 504
See also Cucurbits: Gummy Stem Blight

Crown Rot
_Sclerotium crown rot infects several vegetables, ornamentals, ground cover plants, and tobacco_
Crown Rot on Asparagus (no causal fungus mentioned)
Managing Diseases in Home Vegetable Gardens (AG-436) .......................................................... Vegetable Disease Note 0
Crown or Runner Rot on Strawberry (Colletotrichum and Glomerella fungi) —
Strawberries: Disease Control (FDIN-005) .................................................................................... Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386) ............................................................... Fruit Disease Note 5-A

Stem Rot
See also Fusarium Wilt
on Cruciferous Greens (Rhizoctonia and Erwinia fungi)— Diseases of Greens (VDIN-0014) ..Vegetable Disease Note 14
Wood or Heart Rot on Pecans— Pecan Disease and Control(edin 003) ........................................... Ornamental Disease Note 3

Damping-Off — see Propagation: Seeds

_Rust ➔ Fruit Rot_ (including Blossom End Rot)

_Anthracnose (fungus) Fruit Rot_
on Strawberry (Colletotrichum fungus) —
Strawberries: Disease Control (FDIN-005) .................................................................................... Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386) ............................................................... Fruit Disease Note 5-A
on Fig — Fig Diseases (FDIN 007) ................................................................................................. Fruit Disease Note 7

_Blossom End Rot_
Blossom End Rot on Tomato, Peppers, Watermelon (VDIN-0019) .................................................. Vegetable Disease Note 19
Tomatoes: Blossom End Rot (HIL 8107-A)

Botrytis (fungus) Fruit Rot
on Strawberry (Botrytis fungus) (gray mold) —
Strawberries: Disease Control(FDIN-005) ..................................................................................... Fruit Disease Note 5
Diagnosis of Strawberry Diseases (with photos) (AG-386) ............................................................... Fruit Disease Note 5-A

_Brown rot (fungus) Fruit Rot_
on peaches, cherries, plums (Brown rot, fungal) —
Disease & Insect Management in the Home Orchard(FDIN 002) ..................................................... Fruit Disease Note 2

_Leather rot (Phytophthora) on Strawberry —_
Diagnosis of Strawberry Diseases (with photos) (AG-386) ............................................................... Fruit Disease Note 5-A
Strawberries: Disease Control (FDIN-005) ..................................................................................... Fruit Disease Note 5

_Leak (Rhizopus) on Strawberry —_
Diagnosis of Strawberry Diseases (with photos) (AG-386) ............................................................... Fruit Disease Note 5-A
Strawberries: Disease Control (FDIN-005) ..................................................................................... Fruit Disease Note 5

_Phoenopsis (fungus) Fruit Rot_
on Blueberry — Twig Blight of Blueberry (FDIN-010) ................................................................. Fruit Disease Note 10

_Other Fruit Rots_
on Muscadine: Diseases of Muscadines(FDIN-012) ................................................................. Fruit Disease Note 12

• Publication covers Bitter rot (Melanconia fungus), Ripe rot (Glomerella cingulata),
  Macrophoma rot (Botryosphaeria), and Black rot (Guignardia).
on Cucumbers(VDIN-001) ................................................................................................................ Vegetable Disease Note 1
on Cantaloupe (Erwinia fungus) — Diseases of Cantaloupe (VDIN-0013) ........................................ Vegetable Disease Note 13
see also Peach Scab (Cladosporium fungus) [FDIN 006] ................................................................. Fruit Disease Note 6

_Rozol — see Voles_

_Russian Olive — see Eleagnus_

_Rust (fungus)_
on Asparagus and Beans — Managing Diseases in Home Vegetable Gardens (AG-436) ............ Vegetable Disease Note 0

_RUST continued on next page..._
Scadoxus

Santolina

Rutabagas in the Garden

Pests & Diseases of Rutabaga — see Crucifers

St Johnswort — see Hypericum

Salt Injury or Salt Damage

Sand (not recommended) — see Soil Amendments

Santolina (Lavender Cotton) — Ground Covers for North Carolina (AG-75) Ornamental Leaflet 633-B

Sawfly

Sawyer beetles — see Pine Wood Nematode (ODIN-006) Ornamental Disease Note 6

Scab (fungus)

ScaDoxus (Blood Lily) — Summer and Fall Flowering Bulbs for the Landscape (HIL 8632) Ornamental Leaflet 632

Scale

Armored scales (tea scale, euonymus scale, etc.)

Particular Scale Insects

SCALE continued on next page...
SCALE, continued

Fern Scale (ag-136) ........................................................................................................... Ornamental Insect Note 71
Gloomy Scale (ENT/ort-60) .............................................................................................. Ornamental Insect Note 60
Hemispherical Scale (ENT/ort-30) .................................................................................... Ornamental Insect Note 30
Indian Wax Scale (ENT/ort-13) ........................................................................................ Ornamental Insect Note 13
Pest Management Calendar for Leyland Cypress (ENT/ort-53) .............................. Ornamental Insect Note 53
Juniper Scale — Pest Management Calendars for Leyland Cypress (#86), Juniper (#57) ...................... Ornamental Insect Notes 57, 86
Lecanium Scale (ORT/int-36) ............................................................................................ Ornamental Insect Note 36
Peach Scale — Disease & Insect Management in the Home Orchard(FDIN 002) ................ Fruit Disease Note 2
Peony Scale — Pest Management Calendars for Azalea (#52), Camellia (#54) ............ Ornamental Insect Notes 52, 54
Tea Scale (ENT/ort-50) ..................................................................................................... Ornamental Insect Note 50
Pest Management Calendar for Camellia (ENT/ort-54) ................................................ IPM Notes 50
Wax Scale — Pest Management Calendars for Holly (#56), Camellia (#54). ................. Ornamental Insect Notes 54, 56

Control of Scale

Scale: Life cycle and Control — House Plant Pests ................................................................ Ornamental Insect Note 98
Alternatives to Synthetic Chemicals for Insects & Mites .............................................. Ornamental Insect Note 91
Horticultural Oils for Control of Scale Insects ................................................................. Ornamental Insect Note 45
Disease & Insect Management in the Home Orchard(FDIN 002) ................ Fruit Disease Note 2
See also Sooty Mold (ENT/ort-41) ................................................................................. Ornamental Insect Note 41

Sciarification — Overcoming Seed Dormancy (HIL 8704) ................................................ Ornamental Leaflet 704

Sclerotium Fungus — see Rot: Crown Rot — see Southern Blight

Scoliid Wasps (ENT/ort-12) ............................................................................................ Ornamental Insect Note 12

Scorch Diseases

Scorch Diseases on Shade Trees (bacterial) .......................................................................... Ornamental Disease Note 10
Scorch (Diplocarpon fungus) on strawberry leaves — see Strawberries

Seashore Conditions, Plants for (HIL 606) ....................................................................... Ornamental Leaflet 606

Seasons — see Durham: Weather

Sedum as ground cover — Ground Covers for North Carolina (AG-75) ......................... Ornamental Leaflet 633-B

Seedcorn Maggot

Seedcorn Maggot Flies (ENT/ort-20) ............................................................................. Ornamental Insect Note 20
Seedcorn Maggot (Veg31) ............................................................................................. Vegetable Insect Note 31

Seeds & Seedlings — see Propagation: Seeds — see Sources

Seiridium (fungal) canker on twigs of Leyland Cypress — Leyland Cypress Diseases(ODIN-017). Ornamental Disease Note 17

Septic Tanks

Refer caller to Durham County Health Department, Environmental Health Division, 560-7800

Serviceberry = Amelanchier

Trees for Use Under Utility Lines (HIL 8616) ................................................................. Ornamental Leaflet 616
Plants for Seashore Conditions (HIL 606) ....................................................................... Ornamental Leaflet 606

Shade, Grass for (AG-421) — See also Turf ................................................................ Turf File 103

Shotholes in leaves

Flea Beetles on Vegetables(Veg27) ................................................................................ Vegetable Insect Note 27
Shothole Borer — Pest Management Calendar for Cherry & Cherry Laurel (ENT/ort-87) .......... Ornamental Insect Note 87

Shrews

Shrews (and other rodents): Prevention and Control of Wildlife Damage Binders from University of Nebraska

• Excellent descriptions of animals, habits & habitats, and control measures.

Shrubs

See Plant Lists: Shrubs — See Planting Techniques — See Propagation — see Pruning

Siberian Peashrub (Caragana arborescens) — Trees for Use Under Utility Lines (HIL 8616) .......... Ornamental Leaflet 616
Silverbell (Halesia) — Small & Intermediate Trees for North Carolina (HIL 637) ...................... Ornamental Leaflet 637
Skunks

- Skunks: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  - Excellent descriptions of animals, habits & habitats, and control measures.

Slide Show Scripts

- Slide show script: Dogwood Pest Management (Ent/rt-136) Ornamental Insect Note 94
- Slime Flux / Wet Wood (bacterial) (ODIN-008) Ornamental Disease Note 8

Slime Mold

- Miscellaneous problems of Turf (C10turf) Turf File 153
- Slime Mold on Strawberry — Diagnosis of Strawberry Diseases (with photos) (AG-386) Fruit Disease Note 5-A

Slow-Release Fertilizers — see Fertilizers

Slugs

- Slugs (on Ornamentals) (ENT/or-22) Ornamental Insect Note 22
  - Publication includes various forms of control. Good discussion of life cycle!
- Slugs (on Vegetables) (Veg9) Vegetable Insect Note 9
  - Publication includes various forms of control. Do not use molluscicides on food crops.

Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages)

Alternatives to Synthetic Chemicals for Insect & Mite Control Ornamental Insect Note 91

- Slug Control
- Marigolds as a repellent crop (unproven?)
- Slug traps, and beer as bait

See also Pest Management

Smilax — Vines for NC Landscapes (HIL 633) Ornamental Leafllet 633

Smoke Tree = Cotinus

- Smoke Tree in the Landscape
  - Small & Intermediate Trees for North Carolina (HIL 637) Ornamental Leafllet 637
  - Recommended Trees for Urban Landscapes (HIL 8617) Ornamental Leafllet 617
  - Trees for Use Under Utility Lines (HIL 8616) Ornamental Leafllet 616
  - Plants for Seashore Conditions (HIL 606) Ornamental Leafllet 606

See also Trees

Smut on Corn — Managing Diseases in Home Vegetable Gardens (AG-436) Vegetable Disease Note 0

Snails — see Slugs

Snakes — See also Wildlife

- Consumer Horticulture Agent has a list of people who remove nuisance animals, snakes, etc.— for a fee.
- Nonpoisonous Snakes: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  - Excellent descriptions of animals, habits & habitats, and control measures.
- Rattlesnakes: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  - Excellent descriptions of animals, habits & habitats, and control measures.

Snapdragon — Diseases of Snapdragons in NC Ornamental Disease Note 26

Snowball = Viburnum macrocephalum

Snowbell — Japanese — see Styrax japonicus

Sod — see Turf

Sod Webworms — see Webworms, Sod
Soil Amendments — see also Soil pH and Lime

- Durham’s Soil (UHN 2) ...................................................... Urban Hort Note 2
  - Publication introduces concept of soil amendment, and covers how to measure soil drainage.
- Amending Clay Soils (UHN 3) ...................................................... Urban Hort Note 3
  - Publication covers recommended soil amendments, other materials that aren’t recommended, and also covers purchased topsoil.
- Improving Soil Fertility (UHN 4) ...................................................... Urban Hort Note 4
  - Publication covers lime and fertilizer, and advantages of organic fertilizers.
- Understanding the Soil Test Report (UHN 6) ...................................................... Urban Hort Note 6
- Bedding Plants: Soil Preparation & Fertilization (HIL 551) ...................................................... Ornamental Leaflet 551
  - Publication covers recommended soil amendments, other materials that aren’t recommended, and includes technical detail on plant nutrients.
- Soil Amendments for prevention of Phytophthora Root Rot (ODIN 013) ...................................................... Ornamental Disease Note 13
- Using Compost in Beds (AG-473-14) ...................................................... Q Vegetable Leaflet 100-D
- Green manure crops — Home Vegetable Gardening (A-06) ...................................................... Vegetable Leaflet 0

See also Composting

See also Planting Techniques

Soil Conditioner — see Soil Amendments

Soil Fumigation — See Pest Management — See Weed Control

Soil pH and Lime

- Improving Soil Fertility (UHN 4) ...................................................... Urban Hort Note 4
  - Publication covers calcitic and dolomitic limestone, and covers pulverized vs. pelletized lime.
- Understanding the Soil Test Report (UHN 6) ...................................................... Urban Hort Note 6

Soil Test

- Submitting Samples for Soil Testing (UHN 5) ...................................................... Urban Hort Note 5
- Understanding the Soil Test Report (UHN 6) ...................................................... Urban Hort Note 6

Soil type and pesticide movement therein —

A Gardener’s Guide to Protecting Water Quality (ag-612) ...................................................... Ornamental Insect Note 102

Soap, Insecticidal — See Pest Management

Solarization (covering soil with plastic to kill weeds & microorganisms)

See Pest Management: Solarization

See Weed Control: Solarization

Sooty Mold (ENT/ort-41) ...................................................... Ornamental Insect Note 41

See also Aphid, Whitefly, Scale, Mealybug

Sophora — see Pagodatree

Sources

See also Binders on topics of interest

of Beneficial Insects
- Suppliers of Beneficial Insects (HIL 8207) ...................................................... Fruit Leaflet 207
- Lady Beetles (ENT/ort-74) ...................................................... Ornamental Insect Note 99
- Biological Control: Purchasing Natural Enemies (HIL 129) ...................................................... Ornamental Leaflet 129
- Biological Control: Applying Natural Enemies (HIL 130) ...................................................... Ornamental Leaflet 130
- Muscadine plants — Muscadine Grapes (HIL 8203) ...................................................... Fruit Leaflet 203
- Shiitake mushroom spawn — information is available on NC State’s website: http://www.ces.ncsu.edu/depts/hort/hil/hil-122.html
- Suppliers of Shiitake Spawn (HIL 122)
- Nursery List of Small Fruit Cultivars for Home Use in NC (HIL 8210) ...................................................... Fruit Leaflet 210

SOURCES continued on next page...
SOURCES, continued

of Pesticides
Insecticide Manufacturers —

Quick Reference: Brand Names of Insecticides, Molluscicides, and Fungicides .......................... Ornamental Insect Note 92

of Other Items
of Compost — Using Compost in Beds (AG-473-14) ................................................................. Vegetable Leaflet 100-D
of Red Worms — Vermicomposting (AG-473-18) ................................................................. Vegetable Leaflet 100-B

Sourwood = Oxydendrum
Small & Intermediate Trees for North Carolina (HIL 637) ......................................................... Ornamental Leaflet 637
See also Trees

Southern Bacterial Wilt
See also Bacterial Wilt
Southern Bacterial Wilt, resistant tomato varieties —
Managing Diseases in Home Vegetable Gardens (AG-436) ........................................................ Vegetable Disease Note 0
Southern Bacterial Wilt (Pseudomonas) on Marigolds (ODIN 009) ...................................... Ornamental Disease Note 9

Southern Blight (Southern Wilt, Southern Stem Rot) (fungal)
Southern Blight on Strawberry —
Diagnosis of Strawberry Diseases (with photos) (AG-386) ..................................................... Fruit Disease Note 5-A
Southern Blight (Sclerotium fungus) of Vegetable Crops (VDIN-009) ................................. Vegetable Disease Note 9
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) .................... Turf File 152
Diseases of Cantaloupe (Sclerotium fungus) (VDIN-0013) ................................................... Vegetable Disease Note 13

Southern Corn Rootworm = larvae of Spotted Cucumber Beetle (Veg025e) ............................. Vegetable Insect Note 25

Southern Magnolia — see Magnolia, Southern

Southern Red Mite — see Mite, Southern Red

Sowbugs
Pillbugs and Sowbugs (ENT/ort-11) ........................................................................................ Ornamental Insect Note 11
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) ................................. (106 pages)
See also House Plant Pests ......................................................................................................... Ornamental Insect Note 98

Spanish Moss on Pecan Trees — Pecan Disease and Control (ODIN-003) ............................. Ornamental Disease Note 3

Spiders (ENT/rsc-1) ...................................................................................................................... Ornamental Insect drawer, at rear
See also Household Pests

Spider Mites — see Mites

Spider Mites, False — see Mites

Spinach
Spinach in the Garden
Spinach (HIL 8017) .................................................................................................................... Vegetable Leaflet 17
See also Leafy Greens (HIL 8016) ........................................................................................ Vegetable Leaflet 16
Home Vegetable Gardening (AG-06) ......................................................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ............................................................................... Vegetable Leaflet 0-A
Container Vegetable Gardening (HIL 8105) ............................................................................... Vegetable Leaflet 105
Growing a Fall Vegetable Garden (HIL 8001) ......................................................................... Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) ............................................................................................ Vegetable Leaflet 108

Pests & Diseases of Spinach — see Crucifers

Spiraea (Spirea)
Spiraea in the Landscape
Plants for Seashore Conditions (HIL 606) .................................................................................. Ornamental Leaflet 606
Shrubs 1-4ft for NC Landscapes (HIL 634) ............................................................................. Ornamental Leaflet 634
Shrubs 4-8ft for NC Landscapes (HIL 635) .............................................................................. Ornamental Leaflet 635
Pruning Trees & Shrubs (AG-071) ............................................................................................. Ornamental Leaflet 602-A
**Spittlebugs**

*Pest Management Calendars for Hemlock* (#78), Holly (#56) ([*Pest Management Calendar Index*](#))

Two-Lined Spittlebug ([ENT/ort-97](#)) ................................................................. Ornamental Insect Note 97
Identification of — Insect Management in Turf ([AG-447](#)) ................................... Turf File 157
Control of —

*Alternatives to Synthetic Chemicals for Insect & Mite Control* ................................... Ornamental Insect Note 91
*Pest Control [Insect, Weed, Disease] for Turfgrass Managers* ([AG-348](#)) .......... Turf File 152

**Spray Equipment** — see Pest Management: Insecticides

**Spread-Sticker** — one reference ([ENT/ort-51](#)) ....................................................... Ornamental Insect Note 51

**Sprouts** — Beansprouts and Other Vegetable Seed Sprouts ([HIL 8106](#)) ................ Vegetable Leaflet 106

**Spruce** = *Picea*

White Spruce (*Picea glauca*) — Plants for Seashore Conditions ([HIL 606](#)) ........... Ornamental Leaflet 606
White Pine Weevil ([ENT/ort-33](#)) ........................................................................ Ornamental Insect Note 33
See also Trees

**Spruce Spider Mite** — See Mites

**Squash**

*Using Plastic Mulches & Drip Irrigation for Vegetable Gardens* ([HIL 8033](#)) ........ Vegetable Leaflet 33
*See also Weed Control in Vegetable Gardens* ([HIL 8101](#)) ................................. Vegetable Leaflet 101
*See also Home Vegetable Gardening ([AG-06](#)) ................................................... Vegetable Leaflet 0

**Summer Squash in the Garden**

Summer Squash ([HIL 24-A](#)) ................................................................................ Vegetable Leaflet 24-A
Home Vegetable Gardening ([AG-06](#)) .................................................................. Vegetable Leaflet 0
Vegetable Quick Reference Guide ([AG-12](#)) ......................................................... Vegetable Leaflet 0-A
In Containers —

Container Vegetable Gardening ([HIL 8105](#)) ....................................................... Vegetable Leaflet 105
Mini-Gardening ([HIL 8102](#)) ................................................................................ Vegetable Leaflet 102
Harvesting Vegetables ([HIL 8108](#)) ..................................................................... Vegetable Leaflet 108
Squash sets fruit poorly — Home Vegetable Gardening ([AG-06](#)) ......................... Vegetable Leaflet 0

**Winter Squash in the Garden**

Winter Squash and Pumpkins ([HIL 24-c](#)) ........................................................... Vegetable Leaflet 24
Home Vegetable Gardening ([AG-06](#)) .................................................................. Vegetable Leaflet 0
Vegetable Quick Reference Guide ([AG-12](#)) ......................................................... Vegetable Leaflet 0-A
Storage of Winter Squash and Pumpkins ([HIL 24-c](#)) ............................................. Vegetable Leaflet 24-C

**Pest: Squash Bug**

Squash Bug — True Bugs in the Field and Garden ([Veg-42](#)) ................................. Vegetable Insect Note 42
Squash bugs: tansy as a repellent crop (unproven!) —

*Alternatives to Synthetic Chemicals for Insect & Mite Control* ................................. Ornamental Insect Note 91
Squash bug (young), control of —

*Alternatives to Synthetic Chemicals for Insect & Mite Control* ................................. Ornamental Insect Note 91

**Pest: Squash Vine Borer**

Summer Squash Pest — Squash Vine Borer ([Veg20](#)) ............................................. Vegetable Insect Note 20
Squash vine borer, control of —

*Alternatives to Synthetic Chemicals for Insect & Mite Control* ................................. Ornamental Insect Note 91

**Pests: Other Pests of Squash**

See Cucurbit Pests

Pickleworm Management ([Veg001e](#)) ................................................................. Vegetable Insect Note 1

† Publication includes resistant varieties of Summer Squash.

**Diseases of Squash** — see Cucurbits

**Squirrels**

Eastern Gray Squirrel ([www2](#)) ................................................................................. Wildlife Note 2
Tree Squirrels (includes flying squirrel): Prevention and Control of Wildlife Damage Binders from University of Nebraska

† Excellent descriptions of animals, habits & habitats, and control measures.

**Staking** — see Planting Techniques
Stewartia

Styrax

Steam as a Soil Fumigant

Installation & Maintenance of Bedding Plants (HIL 555) .......................................................... Ornamental Leaflet 555

Stellite (Red Stele) — see Strawberry: Diseases

Sterilization of soil mixes —

Mini-Gardening (HIL 8102) ...................................................................................................................... Vegetable Leaflet 102

Home Vegetable Gardening (AG-06) ........................................................................................................... Vegetable Leaflet 0

Stewartia — Espalier (HIL 619) ..................................................................................................................... Ornamental Leaflet 619

Sticker-Spreader — one reference in (ENT/ort-51) ...................................................................................... Ornamental Insect Note 51

Stink Bug

Growing Pecans in NC (AG-81) ................................................................................................................. Un-numbered Fruit Leaflet

Pecan Insects and their Management (Fruit Insect Note P-2) ........................................................................ Un-numbered Fruit Leaflet

Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................ Ornamental Insect Note 91

Vegetables and other crops as host plants for stink bugs —

Pecan Insects and their Management (Fruit Insect Note P-2) ........................................................................ Un-numbered Fruit Leaflet

True Bugs in the Field and Garden (Veg-42) ................................................................................................... Vegetable Insect Note 42

Publication includes the Two-Spotted Stink Bug (beneficial?)

Storm Water — see Water Quality Issues

Stratification — Overcoming Seed Dormancy (HIL 8704) ............................................................................ Ornamental Leaflet 704

Strawberries

Strawberries in the Garden & Landscape

Strawberries (HIL 8205) ............................................................................................................................... Fruit Leaflet 205

Grapes & Berries (AG-15) (hard to locate on internet) ................................................................................ Un-numbered Fruit Leaflet

Ground Covers for North Carolina (AG-75) ................................................................................................. Ornamental Leaflet 633-B

Nursery List of Small Fruit Cultivars for Home Use in NC (HIL 8210) .......................................................... Fruit Leaflet 210

Pests of Strawberry

Insects and Related Pests of Strawberry (Note s-1) ......................................................................................... Fruit Insect Note S-1

• Publication covers a wide variety of pests.

Strawberry Sap Beetles And Their Management (Note s-3) ......................................................................... Fruit Insect Note S-3

• Publication also discusses Picnic Beetles.

Strawberry Spider Mite (note s-2) ................................................................................................................. Fruit Insect Note S-2

Two-Banded Japanese Weevil — see Weevil, Two-Banded Japanese

Strawberry rootworm, control of —

Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................ Ornamental Insect Note 91

Floating Row Cover for pest control —

Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................................................ Ornamental Insect Note 91

Birds eating small fruit — Grapes & Berries (AG-15) (hard to locate on internet) ................................................. Un-numbered Fruit Leaflet

Diseases of Strawberry

Diagnosis of Strawberry Diseases (with photos) (AG-386) .............................................................................. Fruit Disease Note 5-A

Strawberries: Disease Control (FDIN-005) .................................................................................................... Fruit Disease Note 5

• These publications cover: Black plastic mulch and disease, Soil fumigation, Leaf scorch, Powder mildew, Anthracnose fruit/crown/runner rot, Botrytis (gray mold) and other fruit rots, Nematodes, Red Stele, Black root rot, and just about everything else.

Styrax (Japanese Snowbell)

Trees for Use Under Utility Lines (HIL 8616) ................................................................................................. Ornamental Leaflet 616

See also Trees

Sulfur as a miticide — Alternatives to Synthetic Chemicals for Insect & Mite Control .................................................. Ornamental Insect Note 91

Sumac = Rhus — Plants for Seashore Conditions (HIL 606) ........................................................................... Ornamental Leaflet 606

Summer Oil — see Pest Management: Alternative Pesticides (summer oil is the same as horticultural oil)

Suppliers — see Sources
Swallows — Swallows: Prevention and Control of Wildlife Damage Binders from University of Nebraska
   • Excellent descriptions of animals, habits & habitats, and control measures.

Sweet Bay — see Magnolia virginiana

Sweetgum = Liquidambar styraciflua
   Sweetgum, fruitless = Liquidambar styraciflua ‘Rotundiloba’
   Sweetgum in the Landscape
   Large Trees for North Carolina (HIL 638) ................................................................. Ornamental Leaflet 638
   Recommended Trees for Urban Landscapes (HIL 8617) ........................................... Ornamental Leaflet 617
   Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606

Asian Ambrosia Beetle — see Borers
See also Pruning — See also Trees

Sweetpotato
   Sweetpotato in the Garden
   Home Vegetable Gardening (AG-06) ........................................................................ Vegetable Leaflet 0
   Vegetable Quick Reference Guide (AG-12) ............................................................. Vegetable Leaflet 0-A
   Harvesting Vegetables (HIL 8108) ........................................................................... Vegetable Leaflet 108

Pests of Sweetpotato
   Asian Ambrosia Beetle — see Borers
   Corn Earworm (Veg19) .......................................................................................... Vegetable Insect Note 19
   Flea Beetles on Vegetables (Veg27) ........................................................................ Vegetable Insect Note 27
   • Adults on leaves; larvae in roots
   Sweetpotato Weevil (Veg38) ..................................................................................... Vegetable Insect Note 38
   Tomato Pinworm (Leafminer) (Veg33) ................................................................. Vegetable Insect Note 33
   Whitefringed Beetle on Sweetpotato (Veg44) ......................................................... Vegetable Insect Note 44
   • Adults on leaves; larvae in roots. Publication includes resistant varieties.
   Wireworms on Sweetpotato (Veg24) ......................................................................... Vegetable Insect Note 24

Diseases of Sweetpotato
   Prevention — Managing Diseases in Home Vegetable Gardens (AG-436) ................. Vegetable Disease Note 0
   Southern Blight in Sweetpotato — Southern Blight of Vegetable Crops (VDIN-09) ........ Vegetable Disease Note 9
   Sweetpotato, Disease-Resistant Varieties (Sweet Potato -HGIC 1322) ......................... Vegetable Disease Note 6???

Sweet Shrub = Calycanthus — Pruning Trees & Shrubs (AG-071) ........................................ Ornamental Leaflet 602-A

Swiss Chard
   Home Vegetable Gardening (AG-06) ........................................................................ Vegetable Leaflet 0
   Vegetable Quick Reference Guide (AG-12) ............................................................. Vegetable Leaflet 0-A
   Harvesting Vegetables (HIL 8108) ........................................................................... Vegetable Leaflet 108

Sycamore = Platanus occidentalis (see also London Plane Tree)
   Large Trees for North Carolina (HIL 638) ................................................................. Ornamental Leaflet 638
   Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
   Scorch Diseases on Shade Trees ............................................................................. Ornamental Disease Note 10
See also Pruning — See also Trees

Tall Fescue Grass — see Turf: Cool-Season

Tamarix = Tamarisk
   Plants for Seashore Conditions (HIL 606) ................................................................. Ornamental Leaflet 606
   Shrubs 8ft+ for NC Landscapes (HIL 636) ................................................................. Ornamental Leaflet 636

Tarnished Plant Bug
   True Bugs in the Field and Garden (Veg-42) ............................................................. Vegetable Insect Note 42
   control of — Alternatives to Synthetic Chemicals for Insect & Mite Control ............... Ornamental Insect Note 91

Taxus — see Yew

Tent Caterpillar
   Eastern Tent Caterpillar (ENT/orl-61) ........................................................................ Ornamental Insect Note 61
   Forest Tent Caterpillar - on maple, oak, poplar ....................................................... Ornamental Insect Note 75
See also Fall Webworm (ENT/orl-46) ......................................................................... Ornamental Insect Note 46
Termites
Refer questions on Household Pests to Theresa Clark, Home Economist, at ext. 0521.
Do not diagnose ants vs. termites over the phone.

Ternstroemia — see Cleyera

Thrips
Thrips, Flower (ENT/ort-21) ................................................................. Ornamental Insect Note 21
Thrips, Western Flower (ENT/ort-72) .............................................. Ornamental Insect Note 72
Alternatives to Synthetic Chemicals for Insects & Mites ..................... Ornamental Insect Note 91
House Plant Pests ................................................................. Ornamental Insect Note 98
Pest Management Calendar for Roses (ENT/ort-59) ......................... Ornamental Insect Note 59

Ticks & Tick-Borne Diseases in NC (AG-428) ................................ Vegetable Disease Note 0

Toads
Frogs and Toads: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  * Excellent descriptions of animals, habits & habitats, and control measures.

Tobacco — Refer caller to County Agent

Tobacco Mosaic Virus
Tobacco Mosaic Virus (“T” in VFNT tomato varieties) and precautions to avoid spreading —
Managing Diseases in Home Vegetable Gardens (AG-436) ....................... Vegetable Disease Note 0

Tomatoes
Tomatoes in the Garden
Tomatoes (UHN 10) ........................................................................................................ Urban Hort Note 10
  * Publication covers planting, supporting, fertilizing, “code letters” in tomato names, and common physiological and disease problems.
Tomatoes (HIL 8107) ........................................................................................................ Vegetable Leaflet 107
Tomatoes: Pruning & Supporting (HIL 8107-B) ........................................ Vegetable Leaflet 107-B
Home Vegetable Gardening (AG-06) ................................................................. Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) .................................................. Vegetable Leaflet 0-A
In Containers —
  Container Vegetable Gardening (HIL 8105) ......................................................... Vegetable Leaflet 105
  Mini-Gardening (HIL 8102) .................................................................................... Vegetable Leaflet 102
  Harvesting Vegetables (HIL 8108) ........................................................................ Vegetable Leaflet 108
Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) ........ Vegetable Leaflet 33
  See also Weed Control in Vegetable Gardens (HIL 8101) ................................. Vegetable Leaflet 101
  See also Home Vegetable Gardening (AG-06) ....................................................... Vegetable Leaflet 0

Pests of Tomato
  Cabbage Looper (Veg040e) ................................................................................ Vegetable Insect Note 40
  Corn Earworm (Veg19) ......................................................................................... Vegetable Insect Note 19
  Cucumber Beetle (Veg025e) ................................................................................... Vegetable Insect Note 25
  Flea Beetles on Vegetables (Veg27) ...................................................................... Vegetable Insect Note 27
    * Adults on leaves; larvae in roots
  Potato Tubeworm (Veg3) .................................................................................... Vegetable Insect Note 3
  Stink Bug (on fruit) — True Bugs in the Field and Garden (Veg-42) .................. Vegetable Insect Note 42
  Tomato Pinworm (Leafminer) (Veg33) ................................................................. Vegetable Insect Note 33
  Hornworm, control of —
    Pepper Worm Management (Veg30e) ................................................................. Vegetable Insect Note 30
    Alternatives to Synthetic Chemicals for Insect & Mite Control .................. Ornamental Insect Note 91
  Tomato worms: repellent crops (unproven!) —
    Alternatives to Synthetic Chemicals for Insect & Mite Control .................. Ornamental Insect Note 91

Diseases of Tomato
  Prevention — Managing Diseases in Home Vegetable Gardens (AG-436) ........ Vegetable Disease Note 0
  Tomatoes (UHN 10) .............................................................................................. Urban Hort Note 10
    * Publication covers disease prevention by cultural practices.
  Tobacco & Peppers: Bacterial Leaf Spot — (VDIN-018) ........................................ Vegetable Disease Note 18
  Tomato, Peppers, Watermelon: Blossom End Rot (VDIN-0019) ...................... Vegetable Disease Note 19
  Southern Blight in Tomato — Southern Blight of Vegetable Crops (VDIN-009) .... Vegetable Disease Note 9

TOMATO DISEASES continued on next page...
TOMATO DISEASES, continued

Tomato, Disease-Resistant Varieties (Tomato-HGIC-1323) ................................................................. Vegetable Disease Note 6???
Disease resistance “code letters” in tomato names — Tomatoes (UHN 10) ................................. Urban Hort Note 10

Blossom End Rot
Tomatoes (UHN 10) ................................................................................................................ Urban Hort Note 10
Blossom End Rot (HIL 8107-A) .......................................................................... Vegetable Leaflet 107-A
Tomato, Peppers, Watermelon: Blossom End Rot (VDIN-19) .................................................. Vegetable Disease Note 19
Blossom End Rot — Home Vegetable Gardening (AG-06) (not detailed) ............................. Vegetable Leaflet 0

Other Problems of Tomato
Tomatoes (UHN 10) ........................................................................................................ Urban Hort Note 10

• Publication covers most of the common problems seen in tomatoes.
Tomatoes flower but don’t set fruit — Home Vegetable Gardening (AG-06) ...................... Vegetable Leaflet 0

Tools — see Pruning Tools — see Gardening Tools

Topsoil — see Soil Amendments

Trachelospermum jasminoides (Confederate or Star Jasmine) — see Jasmine

Training — see also Pruning

Growing Blackberries in NC (AG-401) .................................................................................. Fruit Leaflet 200-A
Blackberries: Pruning & Training (HIL 8206) ................................................................. Fruit Leaflet 206
Grapes & Berries (AG-15) (hard to locate on internet)......................................................... Un-numbered Fruit Leaflet
Pruning Trees & Shrubs (AG-071) ....................................................................................... Ornamental Leaflet 602-A
Training & Pruning Fruit Trees (AG-29) ................................................................................... Un-numbered Fruit Leaflet
Espalier (HIL 619) ........................................................................................................ Ornamental Leaflet 619

Transplanting — see Planting Techniques

Transplants from seed — see Propagation

Traps for Insects
See also Japanese Beetles
See also Pest Management
Alternatives to Synthetic Chemicals for Insects & Mites............................................................ Ornamental Insect Note 91

Tree Paint (not recommended) — see Pruning

Trees
See Plant Lists: Trees — See Planting Techniques — See Propagation — see Pruning
See also Christmas Trees
Questions about shade or ornamental trees may be referred to County Foresters, Bill Colville and Wayne Williams (office upstairs) at 560-0562.

Questions about fruit trees may be referred to Consumer Horticulture Agent.

Planting trees: recent research — Planting Trees & Shrubs (“Planting High”) (UHN 7) .................. Urban Hort Note 7
See also Planting Techniques

Tree Culture
Pruning Trees (HIL 602) ........................................................................................................ Ornamental Leaflet 602
Pruning Trees & Shrubs (AG-071) ................................................................................... Ornamental Leaflet 602-A
Trees: Homeowner Guide (pamphlet from Forest Service NE-INF-58-84) ????????????????????????? Ornamental Leaflet 602-B
Publication covers Pruning, Treatments for wounds and cavities, Placing cables, Staking, and other topics.
Fertilizing Deciduous Trees (HIL 618) .................................................................................... Ornamental Leaflet 618
Staking Trees — see Planting Techniques
Certified Arborists (UHN 11) ................................................................................................................ Urban Hort Note 11

Pests of Trees — See individual species
Diseases of Trees
See also individual species
Scorch Diseases on Shade Trees(odin 010) ................................................................................... Ornamental Disease Note 10
Trees, sap dripping from — see Slime Flux / Wet Wood (bacterial)(odin 008) ....................... Ornamental Disease Note 8
Recognizing Hazardous Defects in Trees — Forest Service NA-FR-01-96 ................................. Ornamental Leaflet 602-C

Trumpet Creeper = Campsis
Chinese Trumpet Creeper (Campsis grandiflora) — Vines for NC Landscapes (HIL 633) ............ Ornamental Leaflet 633
Trumpet Creeper (Campsis radicans) — Plants for Seashore Conditions (HIL 606) ................. Ornamental Leaflet 606
**Tulip Poplar, Tulip Tree = Liriodendron tulipfera**

Large Trees for North Carolina (HIL 638) .................................................................................................................. Ornamental Leaflet 638

**Turf ➤ General Information**

Carolina Lawns (AG-69) ............................................................................................................................................. Turf File 101

- Publication covers selection, site preparation, establishment, and maintenance.

Organic Lawn Care .................................................................................................................................................... Turf File 105

- An excellent companion or alternative to Carolina Lawns.

Grass for Shade (AG-421) ............................................................................................................................................. Turf File 103

Turfgrass with endophytic fungus for insect resistance — Organic Pest Control in Turf (ENT/ort-95)........................................................................................................ Ornamental Insect Note 95

**Turf ➤ Establishing a New Lawn**

Send Carolina Lawns and/or Organic Lawn Care, and Calendar for the caller’s preferred grass type(s)

**Turf ➤ Warm-Season Turf Varieties**

Carolina Lawns (AG-69) ............................................................................................................................................. Turf File 101

Organic Lawn Care .................................................................................................................................................... Turf File 105

Bermuda Grass Lawn Maintenance Calendar (AG-431) ................................................................................................. Turf File 302

Carpetgrass Lawn Maintenance Calendar (AG-541) .......................................................................................................... Turf File 304

Centipede Grass Lawn Maintenance Calendar (AG-381) ................................................................................................. Turf File 303

Zoysia Grass Lawn Maintenance Calendar (AG-432) ................................................................................................. Turf File 301

Diseases of Warm-Season Grass (AG-360) .................................................................................................................. Turf File 351

Problems on Centipedegrass (Turf 001) .................................................................................................................. Turf File 352

**Turf ➤ Cool-Season Turf Varieties**

Carolina Lawns (AG-69) ............................................................................................................................................. Turf File 101

Organic Lawn Care .................................................................................................................................................... Turf File 105

Tall Fescue Grass Lawn Maintenance Calendar (AG-367) ................................................................................................. Turf File 201

Diseases of Tall Fescue (Turf 006) .................................................................................................................. Turf File 252

Diseases of Cool-Season Grass (AG-361) .................................................................................................................. Turf File 251

**Turf ➤ Lawn Care** (fertilizing, mowing, watering)

Carolina Lawns (AG-69) ............................................................................................................................................. Turf File 101

Organic Lawn Care .................................................................................................................................................... Turf File 105

Lawn Care and Water Quality —

- Home Lawn Care and Water Quality (WQWM-151) ................................................................................................. Turf File 102

- Lawn Care and the Environment (AG-597) .................................................................................................................. Turf File 102-A

- Soil Facts: Managing Lawns & Gardens to Protect Water Quality (AG-439-21) ................................................ Turf File 102-B

See also calendars for specific kinds of grass

- Grass-Cycling (mulching grass clippings into lawn) ................................................................................................. Turf File 104

  - pamphlet from NC CES, Office of Waste Reduction, and Turfgrass Council

Drought-Tolerant Plants for NC Landscapes (AG-508-3) ................................................................................................ Ornamental Leaflet 443

Xeriscape North Carolina (by NC Urban Water Consortium) .................................................................................... Ornamental Leaflet 442

**Turf ➤ Pest Management**

See also index entry for Pest Management

General Pest Management in Turf

- Pest Management Calendar for Turf (AG-447) ........................................................................................................ Turf File 157

- Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages)................................................ Turf File 152

- Organic Pest Control in Turf (ENT/ort-95) ........................................................................................................ Turf File 157

Organic Lawn Care ................................................................................................................................................ Turf File 105

Symptoms of Insect Pests in Turf — Insect Management in Turf (AG-447) ................................................................ Turf File 157

Bees (or wasps) in Turf (ENT/prt-100) .................................................................................................................. Ornamental Insect Note 100

See also Cicada Killer Wasp (ENT/ort/63) ........................................................................................................ Turf File 155

See Moles

Nematodes — see Turf: Diseases & Problems
Turf Diseases & Problems

Organic Lawn Care .......................................................................................................................... Turf File 105

General Turf Diseases & Problems (Publications)

Diseases of Warm-Season Grass (AG-360) .................................................................................. Turf File 351
Diseases of Cool-Season Grass (AG-361) ....................................................................................... Turf File 251
Diseases of Tall Fescue (Turf 006) .................................................................................................. Turf File 252
Problems on Centipedegrass (Turf 001) ......................................................................................... Turf File 352
Miscellaneous problems of Turf (C10turf) ..................................................................................... Turf File 135
Turfgrass Disease Prevention (TURF 007) .................................................................................... Turf File 154

Algae

Miscellaneous problems of Turf (C10turf) ..................................................................................... Turf File 153
Algae & Moss Control in Turf (Agronomy Leaflet) (TM-20) ............................................................... Turf File 151
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) .................... Turf File 152

Brown Patch (Rhizoctonia fungus)

Diseases of Tall Fescue (Turf 006) (Turf 015) ................................................................................ Turf File 252
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ........................ Turf File 152

Chlorosis (Yellowing) from high pH or high phosphorus

Problems on Centipedegrass (Turf 001) ........................................................................................... Turf File 352

Dollar Spot (Sclerotina fungus)

Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) .................... Turf File 152
Problems on Centipedegrass (Turf 001) ........................................................................................... Turf File 352

Fairy Rings (fungus)

Diseases of Tall Fescue (Turf 006) .................................................................................................. Turf File 252
Problems on Centipedegrass (Turf 001) ........................................................................................... Turf File 352
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) .................... Turf File 152
Miscellaneous problems of Turf (C10turf) ..................................................................................... Turf File 153

General decline — Problems on Centipedegrass (Turf 001) ............................................................ Turf File 352

Herbicide damage — Problems on Centipedegrass (Turf 001) ........................................................ Turf File 352

Moss

Miscellaneous problems of Turf (C10turf) ..................................................................................... Turf File 153
Algae & Moss Control in Turf (Agronomy Leaflet) (TM-20) ............................................................... Turf File 151
Grass for Shade (AG-421) ............................................................................................................... Turf File 103

Mushrooms — see Fairy Rings above

Nematodes

See also index entry for Nematodes
Problems on Centipedegrass (TURF 001) ....................................................................................... Turf File 352
Nematode Damage and Management in Lawns (Turf 002) ............................................................... Turf File 156

Root Competition
Problems on Centipedegrass (TURF 001) ....................................................................................... Turf File 352

Rust (fungus)

Diseases of Tall Fescue (Turf 006) .................................................................................................. Turf File 252
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) .................... Turf File 152

Salt damage — Miscellaneous problems of Turf (C10turf) ................................................................ Turf File 153

Slime Molds

Miscellaneous problems of Turf (C10turf) ..................................................................................... Turf File 153
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) .................... Turf File 152

Urine Damage

Diseases of Tall Fescue (Turf 006) .................................................................................................. Turf File 252
Miscellaneous problems of Turf (C10turf) ..................................................................................... Turf File 153

Turf Weed Control

See also index entry for Weed Control
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) .................... Turf File 152

- Publication covers weed grasses, Nutsedge, and broadleaf weeds
- Publication covers turfgrass tolerance of herbicides

Algae & Moss Control in Turf (Agronomy Leaflet) (TM-20) ............................................................... Turf File 151

Carolina Lawns (AG-69) ............................................................................................................... Turf File 101

Organic Lawn Care ............................................................................................................................ Turf File 105

Wildlife Note 5

Durham County Master Gardener Index File 74

Index Revision Date: 07/24/09
Turnips

Turnips in the Garden

Turnips & Rutabagas (HIL 8026) ................................................................. Vegetable Leaflet 26
See also Leafy Greens (HIL 8016) ................................................................. Vegetable Leaflet 16
Home Vegetable Gardening (AG-06) ......................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ................................................ Vegetable Leaflet 0-A
Growing a Fall Vegetable Garden (HIL 8001) ............................................. Vegetable Leaflet 1
Harvesting Vegetables (HIL 8108) ................................................................. Vegetable Leaflet 108

Pests & Diseases of Turnips — see Crucifers

Turtles

Turtles: Prevention and Control of Wildlife Damage Binders from University of Nebraska

- Excellent descriptions of animals, habits & habitats, and control measures.

Twig Blight

Twig blight (Phomopsis fungus) on Azalea — Azalea Disease Control (ODIN 016) ................................ Ornamental Disease Note 16
Twig blight and dieback (Phomopsis & Kabatina fungi) on Juniper — Juniper Disease Control (odin 015) ......... Ornamental Disease Note 15
  Twig blight (Botryosphaeria, occasionally Phomopsis, fungi) on Rhododendron — Rhododendron Diseases (ODIN-012) ............................................. Ornamental Disease Note 12
Twig Blight & Fruit Rot on Blueberry (Phomopsis fungus) (FDIN-010) ............................................................ Fruit Disease Note 10

Twig Girdler

Twig Girdler (pecan, hickory, oak), cultural control for —

Alternatives to Synthetic Chemicals for Insect & Mite Control .......................................................... Ornamental Insect Note 91

Twig Girdler on Pecan

Growing Pecans in NC (AG-81) ................................................................. Un-numbered Fruit Leaflet
Pecan Insects and their Management (Fruit Insect Note P-2) ......................... Fruit Insect Note P-2

Twig Girdler on Pecan, Hickory (ENT/or-96) ................................................ Ornamental Insect Note 96

Urine Damage

Diseases of Tall Fescue (Turf 006) ................................................................. Turf File 252
Miscellaneous problems of Turf (C10turf) .................................................... Turf File 153
See also Salt Damage, Fertilizer Damage

Utility Lines, Trees for Use Under (HIL 8616) .............................................. Ornamental Leaflet 616

Vaccinium — see Blueberry

Vegetable Gardening — see also specific crops ............................................... Vegetable Leaflets

Basic Information

Home Vegetable Gardening (AG-06) ......................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ................................................ Vegetable Leaflet 0-A
Mini-Gardening (HIL 8102) ................................................................. Vegetable Leaflet 102

See also Soil Amendments

Vegetable Gardening ➔ Transplants from seed

Growing Vegetable Transplants (HIL 8104) ............................................... Vegetable Leaflet 104
Starting Plants From Seed (HIL 8703) ......................................................... Ornamental Leaflet 703
Home Vegetable Gardening (AG-06) ......................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ................................................ Vegetable Leaflet 0-A

Vegetable Gardening ➔ in the Fall

Growing a Fall Vegetable Garden (HIL 8001) ............................................. Vegetable Leaflet 1
Home Vegetable Gardening (AG-06) ......................................................... Vegetable Leaflet 0
Vegetable Quick Reference Guide (AG-12) ................................................ Vegetable Leaflet 0-A

Vegetable Gardening ➔ in Containers

Container Vegetable Gardening (HIL 8105) ................................................ Vegetable Leaflet 105
Mini-Gardening (HIL 8102) ................................................................. Vegetable Leaflet 102

Vegetable Gardening ➔ Harvesting

Harvesting Vegetables (HIL 8108) ................................................................. Vegetable Leaflet 108
Home Vegetable Gardening (AG-06) ......................................................... Vegetable Leaflet 0
Vegetable Gardening ➤ Pest Management — see also index entry for Pest Management
Floating Row Covers for pest control —
Alternatives to Synthetic Chemicals for Insect & Mite Control ........................................ Vegetable Insect Note 91
Greenhouse Vegetable Insect Control ......................................................................................... Vegetable Insect Note 17
  ▶ Publication covers cultural as well as chemical control

Vegetable Gardening ➤ Disease Control
See also specific crops ................................................................................................................... Vegetable Leaflets
See Vegetable Disease Notes .................................................................................................... Vegetable Disease Notes
Managing Diseases in Home Vegetable Gardens (AG-436) ......................................................... Vegetable Disease Note 0
  Vegetables: Disease-Resistant Varieties ................................................................................. Vegetable Disease Note 6??
Southern Blight of Vegetables(VDIN-009) ............................................................................. Vegetable Disease Note 9
Vegetable seedlings die shortly after emergence — Home Vegetable Gardening (AG-06) ........ Vegetable Leaflet 0

Vegetable Gardening ➤ Weed Control — see also index entry for Weed Control
Mulches (including black plastic) on vegetable beds —
  Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) ......................... Vegetable Leaflet 33
Weed Control in Vegetable Gardens (HIL 8101) ........................................................................ Vegetable Leaflet 101
Home Vegetable Gardening (AG-06) ......................................................................................... Vegetable Leaflet 0
Cover Crops
  Weed Control in Vegetable Gardens (HIL 8101) ......................................................................... Vegetable Leaflet 101
  ▶ Publication also covers cultural techniques including cover crops.
Home Vegetable Gardening (AG-06) ......................................................................................... Vegetable Leaflet 0

Vegetable Gardening ➤ Other Topics
Cover Crops
  Weed Control in Vegetable Gardens (HIL 8101) ......................................................................... Vegetable Leaflet 101
  ▶ Publication also covers cultural techniques including cover crops.
Home Vegetable Gardening (AG-06) ......................................................................................... Vegetable Leaflet 0
Common Problems — Home Vegetable Gardening (AG-06) ......................................................... Vegetable Leaflet 0

Vermicomposting (AG-473-18) ................................................................................................ Vegetable Leaflet 100-B

Verticillium Wilt
  on Tomato (“V” in VFNT tomato varieties) —
  Managing Diseases in Home Vegetable Gardens (AG-436) ......................................................... Vegetable Disease Note 0
  on Strawberry — Strawberries: Disease Control(FDIN-005) ......................................................... Fruit Disease Note 5

Viburnum
Espalier (HIL 619) ............................................................................................................. Ornamental Leaflet 619
Viburnum davidii — Shrubs 1-4ft for NC Landscapes (HIL 634) .................................................. Ornamental Leaflet 634
Shrubs 4-8ft for NC Landscapes (HIL 635) .................................................................................. Ornamental Leaflet 635
Shrubs 8ft+ for NC Landscapes (HIL 636) ..................................................................................... Ornamental Leaflet 636
Trees for Use Under Utility Lines (HIL 8616) ............................................................................. Ornamental Leaflet 616

Vinca minor (Periwinkle)
  Ground Covers for North Carolina (AG-75) ............................................................................... Ornamental Leaflet 633-B
  Plants for Seashore Conditions (HIL 606) ............................................................................... Ornamental Leaflet 606

Vines — see Plant Lists: Vines

Violets as ground cover — Ground Covers for North Carolina (AG-75) ........................................ Ornamental Leaflet 633-B

Virginia Creeper = Parthenocissus quinquefolia
  Plants for Seashore Conditions (HIL 606) ............................................................................... Ornamental Leaflet 606
  Vines for NC Landscapes (HIL 633) ....................................................................................... Ornamental Leaflet 633

Virus Diseases of Vegetables
  See also specific crops
  Managing Diseases in Home Vegetable Gardens (AG-436) ......................................................... Vegetable Disease Note 0

Vitis — see Chaste Tree

Vitis — see Grape
Voles — see also Moles

Moles & Voles.................................................................Urban Hort Note 12

• Publication covers how to differentiate vole and moles by plant damage and by animal appearance.

Voles in Horticultural Plantings (AG-472-3)................................................................................................Urban Hort Note 12

• Publication covers identification, ecology, monitoring, traps, and rodenticides, with methods for both Pine Vole and Meadow Vole.

Voles: Prevention and Control of Wildlife Damage Binders from University of Nebraska

(另一个chapter in this publication covers Moles)

• Excellent descriptions of animals, habits & habitats, and control measures.

Pine Vole — Alternatives to Synthetic Chemicals for Insects & Mites.............................................Ornamental Insect Note 91

Wake County Cooperative Extension Office (Anyone)

Call 250-1100 — press 13 for Master Gardeners

Wasps — see also Bees — see also Yellow Jackets

Wasps in Turf

Bees in Turf (ENT/prt-100)................................................................................................................Ornamental Insect Note 100

Cicada Killer Wasp (ENT/or/63)........................................................................................................Ornamental Insect Note 63

Cicada Killer Wasp (ENT/or/63)........................................................................................................Ornamental Insect Note 63

Scoliid Wasps (ENT/or-12).............................................................................................................Ornamental Insect Note 12

Clegg’s Extermination Co. (477-2134) has an entomologist on staff. They will handle wasp nests for homeowners — for a fee. There may be others who provide this service; refer caller to Yellow Pages under Pest Control Services.

See Insect Pests notebook for do-it-yourself instructions.

Waterfowl — see also Wetlands

Waterfowl (Ducks, Geese, Swans): Prevention and Control of Wildlife Damage Binders from University of Nebraska

• Excellent descriptions of animals, habits & habitats, and control measures.

Water Gardens

See also Wetlands — see also Wet Sites — see also Ponds

Water Gardening in Texas (from Univ of Texas, B-6001).................................................................Ornamental Leaflet 445

• Publication covers design, construction, maintenance, plants and fish.

Water Gardens and Weeds (un-numbered publication).................................................................Ornamental Leaflet 446

Watermelon

Home Vegetable Gardening (AG-06)..............................................................................................Vegetable Leaflet 0

Vegetable Quick Reference Guide (AG-12)..................................................................................Vegetable Leaflet 0-A

Harvesting Vegetables (HIL 8108).................................................................................................Vegetable Leaflet 108

Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033)..............................Vegetable Leaflet 33

See also Weed Control in Vegetable Gardens (HIL 8101)..............................................................Vegetable Leaflet 101

See also Home Vegetable Gardening (AG-06)............................................................................Vegetable Leaflet 0

Pests & Diseases of Watermelon — see Cucurbits

Blossom End Rot (Peppers are also susceptible)

Tomatoes (UHN 10)..................................................................................................................Urban Hort Note 10

Blossom End Rot (HIL 8107-A).................................................................................................Vegetable Leaflet 107-A

Tomato, Peppers, Watermelon: Blossom End Rot (YDIN-19)..................................................Vegetable Disease Note 19

Blossom End Rot — Home Vegetable Gardening (AG-06) (not detailed)..................................Vegetable Leaflet 0

Water Quality Issues

Wildlife Stewardship Incentive Program.................................................................Wildlife Note 25

Fertilizer and Water Quality

Home Lawn Care and Water Quality (WQWM-151).................................................................Turf File 102

Lawn Care and the Environment (AG-597)..................................................................................Turf File 102-A

Soil Facts: Managing Lawns & Gardens to Protect Water Quality (AG-439-21).......................Turf File 102-B

WATER QUALITY ISSUES continued on next page...
**WATER QUALITY ISSUES, continued**

**Gardening Practices**
- Xeriscape North Carolina (by NC Urban Water Consortium) ............................................................. Ornamental Leaflet 442
- Watering to avoid runoff —
  - Carolina Lawns (AG-69) ................................................................................................................. Turf File 101
  - Organic Lawn Care ....................................................................................................................... Turf File 105
- Preventing Erosion —
  - Home Lawn Care and Water Quality (WQWM-151) ................................................................. Turf File 102

**Pesticide/Herbicide Use**
- Pesticide Selection for Water Quality Protection (turf file) ............................................................. Ornamental Insect Note 102
- Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) ........................................ Turf File 152
- Best Management Practices for Weeds in Landscapes (AG-508-7) .............................................. (Consumer Horticulture Agent has)

Publication discusses herbicide application methods to prevent leaching and other hazards.

**Storm Water** — Refer caller to Durham City/County Engineering Dept. at 560-4326. for detailed questions on Water Quality, refer caller to Craven Hudson, Area Environmental Management Agent, at (336) 599-1195

**Water Testing** in private wells

Refer caller to Philip Cates at Durham County Health Department, Environmental Health Division, 560-7800. They will collect and analyze wellwater samples (from private wells) for bacteria. Fee is $47.

**Wax Myrtle** = Myrica cerifera

Wax Myrtle in the Landscape
- Trees for Use Under Utility Lines (HIL 8616) ..................................................................................... Ornamental Leaflet 616
- Plants for Seashore Conditions (HIL 606) ......................................................................................... Ornamental Leaflet 606
- Shrubs 8ft+ for NC Landscapes (HIL 636) ......................................................................................... Ornamental Leaflet 636

**Botryosphaeria** (fungus) on wax myrtle — Blueberry Stem Blight (FDIN-009) ............................... Fruit Disease Note 9

Wax Myrtle, starting from seed — Overcoming Seed Dormancy (HIL 8704) ......................................... Ornamental Leaflet 704

See also Bayberry, Myrica pennsylvanica

**Weasels**

Weasels: Prevention and Control of Wildlife Damage Binders from University of Nebraska
- Excellent descriptions of animals, habits & habitats, and control measures.

**Weather** — see Durham’s Weather

**Webbing** on plants
- See Mites: Spider Mite
- See Tent Caterpillar
- See Webworm

**Websites** — Cooperative Extension addresses on the World Wide Web

Durham County Cooperative Extension Center Home Page ...................................................................... http://www.ces.ncsu.edu/durham

From this website, a user should be able to access all horticultural Extension info available from NC State.

Direct URLs:
- Hort Inf Leaflets (HIL) index (0-8000+) .............................................................................................. Horticulture Information Leaflets
- Hort Inf Leaflets (HIL) on Home Landscaping (8000+) ................................................................. Horticulture Information Leaflets
- Insect Notes ........................................................................................................................................ North Carolina Insect Notes
- Plant Disease Notes (Plant Pathology) ....................................................................................... NCSU Plant Disease Information Notes -- Ornamentals
- Plant Disease & Insect Clinic ........................................................................................................ NCSU Plant Disease and Insect Clinic

Other Sites:
- JC Raulston Arboretum ................................................................................................................. JC Raulston Arboretum - Home Page

**Webworm**

Fall Webworm (ENT/ort-46) ............................................................................................................. Ornamental Insect Note 46
- Juniper Webworm (ENT/ort-14) ........................................................................................................ Ornamental Insect Note 14
- Sod Webworm
  - Sod Webworms (ORT/ent-08) ........................................................................................................ Ornamental Insect Note 8
  - Insect Management in Turf (AG-447) ............................................................................................ Turf File 157
  - Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ............... Turf File 152

Webworms on cruciferous vegetables — Cabbage Worm Complex (Veg012e) ................................ Vegetable Insect Note 12
Weeds

Weed life cycles — Weed Management in Annual Color Beds (HIL 644) ........................................ Ornamental Leaflet 644
Weeds as hosts for spider mites — see Spider Mite (ENT/ort-25) ..................................................... Ornamental Insect Note 25
Herbaceous Plants for Wildlife(www24) .......................................................................................... Wildlife Note 24
Aquatic weeds — Water Gardens and Weeds (un-numbered publication) ........................................ Ornamental Leaflet 446
Noxious Weeds — on the Web:
http://www.ces.ncsu.edu/depts/hort/weeds/nox.html (definition) ???
http://www.ces.ncsu.edu/depts/hort/weeds/classA.html (list of Class A Noxious Weeds) ????

Weed Control — see also Ag-Chem Manual

Integrated Pest Management: good descriptions
Pesticide Selection for Water Quality Protection (turf file) .......................................................... Ornamental Insect Note 102
Alternatives to Synthetic Chemicals for Insect & Mite Control .................................................. Ornamental Insect Note 91
Best Management Practices for Weeds in Landscapes (AG-508-7) ........................................(Consumer Horticulture Agent has)

Weed Control ➔ in Specific Types of Gardens
Weed Control in Vegetable Gardens (HIL 8101) ........................................................................ Vegetable Leaflet 101
Weed Management in Annual Color Beds (HIL 644) ................................................................. Ornamental Leaflet 644
Weed Management for Wildflowers (HIL 645) ............................................................................ Ornamental Leaflet 645
Installation & Maintenance of Bedding Plants (HIL 555) ............................................................ Ornamental Leaflet 555
Controlling Nutsedge in Beds (HIL 647) ..................................................................................... Ornamental Leaflet 647
in orchards — Producing Tree Fruit for Home Use (AG-28) ......................................................... Un-numbered Fruit Leaflet
in landscaped areas — Best Management Practices for Weeds in Landscapes (AG-508-7) ............... (Consumer Horticulture Agent has)

Weed Control ➔ in Turf & Lawns
See also Turf: Weed Control
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) ........................................ (106 pages)
Carolina Lawns (AG-69) ........................................................................................................ Turf File 101
Organic Lawn Care ................................................................................................................. Turf File 105

Weed Control ➔ Cultural Practices

Cultural practices, including mulching, cultivating, and hand-pulling, are included in most publications.
Site preparation for weed control
Weed Management for Wildflowers (HIL 645) ................................................................. Ornamental Leaflet 645
Carolina Lawns (AG-69) ........................................................................................................ Turf File 101
Organic Lawn Care ................................................................................................................. Turf File 105
Weed Management in Annual Color Beds (HIL 644) ................................................................. Ornamental Leaflet 644
Weed Management for Wildflowers (HIL 645) ............................................................................ Ornamental Leaflet 645
Cover Crops
Weed Control in Vegetable Gardens (HIL 8101) ........................................................................ Vegetable Leaflet 101
• Publication also covers cultural techniques including cover crops.
Home Vegetable Gardening (AG-06) ................................................................. Vegetable Leaflet 0
Best Management Practices for Weeds in Landscapes (AG-508-7) ........................................... (Consumer Horticulture Agent has)
• Publication discusses many methods for weed control.

Weed Control ➔ Soil Fumigation
See also Ag-Chem Manual
Weed Management in Annual Color Beds (HIL 644) ................................................................. Ornamental Leaflet 644
Weed Management for Wildflowers (HIL 645) ............................................................................ Ornamental Leaflet 645
Installation & Maintenance of Bedding Plants (HIL 555) ............................................................ Ornamental Leaflet 555
• Publication also covers steam as a fumigant.
Managing Diseases in Home Vegetable Gardens (AG-436) ......................................................... Vegetable Disease Note 0

Weed Control ➔ Solarization
Managing Diseases in Home Vegetable Gardens (AG-436) ......................................................... Vegetable Disease Note 0

WEED CONTROL continued on next page...
**WEED CONTROL, continued**

**Weed Control  Herbicides**
See also Ag-Chem Manual

Installation & Maintenance of Bedding Plants (HIL 555) ............................................................... Ornamental Leaflet 555
Weed Management in Annual Color Beds (HIL 644) ........................................................................ Ornamental Leaflet 644
  - Publication covers both Pre-and Post-emergence herbicides
  - Weed life cycles, and optimum susceptibility to post-emergence herbicides
Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) ..................... Turf File 152
  - Publication covers weed grasses, Nutsedge, and broadleaf weeds
  - also turfgrass tolerance and weed susceptibility
  - both Pre-and Post-emergence herbicides
  - and a cross-reference of herbicide active ingredients and brand names
Pre-Emergence Herbicides — Pest Control [Insect, Weed, Disease] for Turfgrass Managers (AG-348) (106 pages) Turf File 152
also Lawn Maintenance Calendars for various turfgrass species (see Turf)
Post-Emergence, Nonselective Herbicides in Beds (HIL 648) .......................................................... Ornamental Leaflet 648
Weed Control in Vegetable Gardens (HIL 8101) ........................................................................ Vegetable Leaflet 101
Best Management Practices for Weeds in Landscapes (AG-508-7) .............................................. (Consumer Horticulture Agent has)
  - Publication covers both Pre-and Post-emergence herbicides
  - Publication discusses herbicide application methods to prevent leaching and other hazards.

**Weed Control  Herbicide Injury** to non-target plants
see also Ag-Chem Manual
Herbicide (2,4-D) damage on tomatoes — Tomatoes (UHN 10) .................................................. Urban Hort Note 10
Herbicide damage on grass — Problems on Centipedegrass (TURF 001) ........................................ Turf File 352

**Weed Control  Herbicide Safety & Other Questions**
see also Ag-Chem Manual

Best Management Practices for Weeds in Landscapes (AG-508-7) .............................................. (Consumer Horticulture Agent has)
  - Publication discusses herbicide application methods to prevent leaching and other hazards.

_Herbicides in clothing — refer question to Theresa Clark, Home Economist, at ext. 0521._

_Herbicide disposal — see Household Hazardous Waste_

**Weevils**
Black Vine Weevil
  on Rhododendron, Hosta, Euonymus (ENT/ort-66) ................................................................. Ornamental Insect Note 66
  Pest Management Calendars for Hemlock (#78) and Rhododendron (#58) ............................ Ornamental Insect Notes 78, 58
  Alternatives to Synthetic Chemicals for Insect & Mite Control ................................................. Ornamental Insect Note 91
Cowpea Pod Weevil = Cowpea Curculio — see Curculio
Pales Weevil — Pest Management Calendar for Hemlock (ENT/ort-78) ........................................ Ornamental Insect Note 78
Pecan Weevil
  Pecan Insects and their Management (Fruit Insect Note P-2) ..................................................... Fruit Insect Note P-2
  Growing Pecans in NC (AG-81) ................................................................................................. Un-numbered Fruit Leaflet
Root Weevil, control of — Alternatives to Synthetic Chemicals for Insect & Mite Control ....... Ornamental Insect Note 91
Sweetpotato Weevil (Veg38) ........................................................................................................ Vegetable Insect Note 38
Two-Banded Japanese Weevil (ENT/ort-34) ................................................................................. Ornamental Insect Note 34
Pest Management Calendar for Rhododendron (ENT/ort-58) ...................................................... Ornamental Insect Note 58
White Pine Weevil (ENT/ort-33) ................................................................................................. Ornamental Insect Note 33
Control of Weevils in Stored Beans and Peas (Veg10) ................................................................. Vegetable Insect Note 10
Control of weevils in stored foods — see Household Pests

**Weigela**
Shrubs 4-8 ft for NC Landscapes (HIL 635) ..................................................................................... Ornamental Leaflet 635
Pruning Trees & Shrubs (AG-071) ............................................................................................... Ornamental Leaflet 602-A
Wetlands

Mammals
Bats (Wild21(mammals d5)) ............................................................................................................. Wildlife Note 21
Aquatic mammals including Beavers, Muskrats, Nutria:
  Prevention and Control of Wildlife Damage Binders from University of Nebraska
  * Excellent descriptions of animals, habitats & control measures.

Birds
Waterfowl (Ducks, Geese, Swans):
  Prevention and Control of Wildlife Damage Binders from University of Nebraska
  * Excellent descriptions of animals, habitats & control measures.
Wood Duck (www06) ..................................................................................................................... Wildlife Note 6

Reptiles & Amphibians
  Reptiles & Amphibians including Frogs & Toads, Nonpoisonous Snakes, Rattlesnakes, and Turtles:
  Prevention and Control of Wildlife Damage Binders from University of Nebraska
  * Excellent descriptions of animals, habitats & control measures.
Pools for Amphibians (www19) ........................................................................................................ Wildlife Note 19

General Topics
Beaver Pond Management(www23) ................................................................................................ Wildlife Note 23
Beavers (and their ponds): Prevention and Control of Wildlife Damage Binders from University of Nebraska
  * Excellent descriptions of animals, habitats & control measures.
Habitat Improvements at Low Cost(www18) ................................................................................ Wildlife Note 18
Pesticide Selection for Water Quality Protection (turf file) .......................................................... Ornamental Insect Note 102
See also Water Quality Issues
See also Water Gardens

Wet Sites, plants tolerant of
Plants for Wet Sites (HIL 8646) ........................................................................................................ Ornamental Leaflet 646
Recommended Trees for Urban Landscapes (HIL 8617) ................................................................ Ornamental Leaflet 617
See also Water Gardens

Wet Wood / Slime Flux (bacterial)(odin 008) ................................................................................ Ornamental Disease Note 8

Wheel Bug (ENT/ort-65) ............................................................................................................ Ornamental Insect Note 65

Whitefly
Particular Whiteflies
  Azalea Whitefly — Pest Management Calendar for Azalea (ENT/ort-52) .................................. Ornamental Insect Note 52
  Citrus Whitefly — Pest Management Calendar for Cherry & Cherry Laurel (ENT/ort-87) ........... Ornamental Insect Note 87
  Greenhouse Whitefly (ENT/ort-10) ............................................................................................ Ornamental Insect Note 10
  Silverleaf Whitefly (ENT/ort-83) ............................................................................................... Ornamental Insect Note 83

Control of Whitefly
See also Pest Management
Life cycle and Control — House Plant Pests ................................................................................. Ornamental Insect Note 98
Pest Management Calendar for Holly (ENT/ort-56) .................................................................. Ornamental Insect Note 56
Traps, soap, etc. — Alternatives to Synthetic Chemicals for Insects & Mites ......................... Ornamental Insect Note 91
Horticultural oils as controls for Whitefly — Horticultural Oils (ENT/ort-45) ......................... Ornamental Insect Note 45
See also Sooty Mold (ENT/ort-41) ... ................................................................................. Ornamental Insect Note 41

White Grubs — see Grubs

Wildflowers
Herbaceous Plants for Wildlife(www24) ...................................................................................... Wildlife Note 24
Wildflowers as ground cover — Ground Covers for North Carolina (AG-75) ......................... Ornamental Leaflet 633-B
Weed Management for Wildflowers (HIL 645) ........................................................................... Ornamental Leaflet 645
See also Resource List — local Botanical Gardens can provide more information.
  NC Botanical Garden (962-0522) has a weekday Public Service Hour from 12-1 pm to answer wildflower/native plant questions.
  Duke Gardens: Blomquist Garden of Native Plants (684-3698)
Wildlife
See also Animals — see also specific animals — see also Birds — see also Wetlands
Endangered Species ([link](http://www14)) ................................................................. Wildlife Note 1
Wildlife Terms (glossary) ([link](http://www13)) ......................................................... Wildlife Note 13
Wildlife Stewardship Incentive Program ([link](http://www14)) ................................. Wildlife Note 25
Wildlife Damage Control Agent Program ([link](http://www25a)) ............................... Wildlife Note 25a
See also Prevention and Control of Wildlife Damage Binders from University of Nebraska

- Excellent descriptions of animals, habits & habitats, and control measures.
This information is available on the Web: [http://www.ces.ncsu.edu/nreos/wild/wildlife/prevent.html](http://www.ces.ncsu.edu/nreos/wild/wildlife/prevent.html)

Wildlife Rescue / Rehabilitation — see Animals

Wildlife Violations — US Fish & Wildlife Service 1-800-662-7137 (wildlife violations only).

NC Wildlife Resources Commission — (919) 471-1743 — George Strader, District Biologist

Nuisance Animals, Removal of — see Animals

Wildlife Habitats — see also specific animals — see also Wetlands

See also Prevention and Control of Wildlife Damage Binders from University of Nebraska

- Excellent descriptions of animals, habits & habitats, and control measures.

Habitat Improvements at Low Cost ([link](http://www18)) ........................................... Wildlife Note 18
Hummingbirds and Butterflies ([link](http://www20)) ................................................ Wildlife Note 20
Managing Edges for Wildlife ([link](http://www15)) ..................................................... Wildlife Note 15
Natural Areas in the Landscape ([HIL 627]) ................................................................. Ornamental Leaflet 627
Nest Boxes for Woodland Wildlife ([link](http://www17)) ......................................... Wildlife Note 17
Herbaceous Plants for Wildlife ([link](http://www24)) ................................................ Wildlife Note 24
Snags & Downed Logs ([link](http://www14)) ............................................................ Wildlife Note 14
Songbird Boxes, Building of ([link](http://www16)) ..................................................... Wildlife Note 16
Wildlife Stewardship Incentive Program ................................................................. Wildlife Note 25
See also Wildlife Terms (glossary) ([link](http://www13)) ........................................... Wildlife Note 13

Willow = *Salix*

Pussy-willow — Small & Intermediate Trees for North Carolina ([HIL 637]) .................... Ornamental Leaflet 637
Weeping Willow — Large Trees for North Carolina ([HIL 638]) ................................. Ornamental Leaflet 638
Willow, several species — Plants for Seashore Conditions ([HIL 606]) ......................... Ornamental Leaflet 606
*Botryosphaeria* (fungus) on willow — Blueberry Stem Blight ([FDIN-009]) .................. Fruit Disease Note 9
See also Trees

Windbreaks — see Hedges

Wintercreeper (*Euonymus fortunei* and *E. radicans*)

Ground Covers for North Carolina ([AG-75]) ............................................................... Ornamental Leaflet 633-B
Plants for Seashore Conditions ([HIL 606]) ................................................................. Ornamental Leaflet 606
Vines for NC Landscapes ([HIL 633]) ........................................................................ Ornamental Leaflet 633

Winter Damage — see Cold Injury

Wire Stem (*Rhizoctonia* fungus) on Cruciferous Greens — Diseases of Greens ([VDIN-0014]) .... Vegetable Disease Note 14

Wireworm

Wireworm, control of, including traps —

*Alternatives to Synthetic Chemicals for Insect & Mite Control* ........................................ Ornamental Insect Note 91
Wireworms on Sweetpotato ([Veg24]) ........................................................................ Vegetable Insect Note 24

Wireworms are the larvae of “click” beetles.

*Wisteria* *sinensis* (Chinese Wisteria)

Plants for Seashore Conditions ([HIL 606]) ................................................................. Ornamental Leaflet 606
Vines for NC Landscapes ([HIL 633]) ........................................................................ Ornamental Leaflet 633

*Witch Hazel* = *Hamamelis* — Shrubs 8ft+ for NC Landscapes ([HIL 636]) .................. Ornamental Leaflet 636

Wolves (Red Wolves being reintroduced in eastern NC)

Wolves: Prevention and Control of Wildlife Damage Binders from University of Nebraska

- Excellent descriptions of animals, habits & habitats, and control measures.
Wood-Boring Insects — see Borers

Woodchucks — see Groundhogs

Woodpeckers

Woodpeckers: Prevention and Control of Wildlife Damage Binders from University of Nebraska
  • Excellent descriptions of animals, habits & habitats, and control measures.

Wooly Alder Aphid (ENT/ort-06) ................................................................. Ornamental Insect Note 6

Worms

See Caterpillars

Red Worms — see Composting — see Vermicomposting

Wound Dressings (not recommended) — see Pruning

Xanthoceras sorbifolium (Yellowhorn) — Trees for Use Under Utility Lines (HIL 8616) .................... Ornamental Leaflet 616

Xeriscaping (Plants & Techniques for Dry Locations and Low Water Use)

Xeriscape North Carolina (by NC Urban Water Consortium) ........................................................... Ornamental Leaflet 442

Drought-Tolerant Plants for NC Landscapes (AG-508-3) .......................................................... Ornamental Leaflet 443

Growing Annual & Perennial Flowers in Durham County (UHN 8) ........................................... Urban Hort Note 8
  • Publication includes a list of (mostly) drought-tolerant perennial plants.

Wise Water Use in Landscaping (AG-508-1) ................................................................. Ornamental Leaflet 442-A
  • Publication includes a list of drought-tolerant ornamentals, shrubs, and trees.

Bedding Plants: Stress-Tolerant Plant Species (HIL 552) ............................................................ Ornamental Leaflet 552

Ornamental Grasses (HIL 8605) .................................................................................................. Ornamental Leaflet 605

Junipers for NC (HIL 640) ........................................................................................................... Ornamental Leaflet 640

Muscadine Grapes (HIL 8203) .......................................................................................... Fruit Leaflet 203

Recommended Trees for Urban Landscapes (HIL 8617) ............................................................ Ornamental Leaflet 617

Using Plastic Mulches & Drip Irrigation for Vegetable Gardens (HIL 8033) ................................ Vegetable Leaflet 33

See also Weed Control in Vegetable Gardens (HIL 8101) ......................................................... Vegetable Leaflet 101

See also Home Vegetable Gardening (AG-06) ................................................................. Vegetable Leaflet 0

Yard Waste — see Composting

Removal of yard waste — Caller should contact City of Durham (560-4185) for pickup.

Yaupon = Ilex vomitoria — see Holly

Yellowhorn = Xanthoceras sorbifolium — Trees for Use Under Utility Lines (HIL 8616) .................... Ornamental Leaflet 616

Yellowing — see Chlorosis

Yellow Jackets .......................................................................................................................... Ornamental Insect Note 69

See also Wasps — see also Bees

Yew = Taxus

Phytophthora Root Rot and its Control (ODIN 013) ................................................................. Ornamental Disease Note 13

Shrubs 4-8ft for NC Landscapes (HIL 635) ........................................................................... Ornamental Leaflet 635

Espalier (HIL 619) ...................................................................................................................... Ornamental Leaflet 619

Yucca

Plants for Seashore Conditions (HIL 606) ............................................................................... Ornamental Leaflet 606

Yucca filamentosa — Shrubs 1-4ft for NC Landscapes (HIL 634) ........................................... Ornamental Leaflet 634

Yucca gloriosa — Shrubs 4-8ft for NC Landscapes (HIL 635) .................................................. Ornamental Leaflet 635

Zelkova

Large Trees for North Carolina (HIL 638) ............................................................................... Ornamental Leaflet 638

Recommended Trees for Urban Landscapes (HIL 8617) ............................................................ Ornamental Leaflet 617

See also Trees

Zoysia Grass — see Turf: Warm-Season

Zucchini — see Squash, Summer — see Cucurbits
Publications Cross-Reference — AG’s & Others

AG-CHEM Ag-Chem Manual .................................................................................................................. Binder in our Library
AG-06 Turfgrass Pest Management Manual [insects, weeds, disease, etc] (AG-348) ................... Book in our Library

AG-12 Vegetable Quick Reference Guide)........................................................................................ Turf File 351
AG-15 Grapes & Berries (hard to locate on internet)....................................................................... Un-numbered Fruit Leaflet
AG-19 Insect Control for Vegetable Gardeners (AG-19)................................................................. Book in our Library
AG-28 Producing Tree Fruit for Home Use ................................................................................. Un-numbered Fruit Leaflet
AG-29 Training & Pruning Tree Fruits ......................................................................................... Un-numbered Fruit Leaflet
AG-30 Growing Peaches in NC ..................................................................................................... Un-numbered Fruit Leaflet
AG-69 Carolina Lawns .................................................................................................................. Turf File 101
AG-071 Pruning Trees & Shrubs .................................................................................................. Ornamental Leaflet 602-A
AG-75 Ground Covers for NC ...................................................................................................... Ornamental Leaflet 633-B
AG-80 Growing Pears in NC .......................................................................................................... Un-numbered Fruit Leaflet
AG-81 Growing Pecans in NC ....................................................................................................... Un-numbered Fruit Leaflet

HGIC 1353 Fig Culture. Clemson University Publication........................................................................... Fruit Leaflet 210-A

AG-189 Insects & Related Pests of Shrubs ....................................................................................... Book in our Library
AG-208 Identifying Seedling and Mature Weeds (AG-208, out of print)........................................... Book in our Library

AG-248 Residential Landscaping ...................................................................................................... Ornamental Leaflet 400
AG-268 Insects and Other Pests Associated with Turf .................................................................... Book in our Library
AG-348 Turfgrass Pest Management Manual [insects, weeds, disease, etc] (AG-348) ................... Book in our Library

AG-360 Diseases of Warm-Season Grass (AG-360) ...................................................................... Turf File 351
AG-361 Diseases of Cool-Season Grass (AG-361) ......................................................................... Turf File 251
AG-366 Controlling White Grubs in Turf (AG-366) ....................................................................... Turf File 155
AG-367 Tall Fescue Grass Lawn Maintenance Calendar (AG-367) ................................................. Turf File 201
AG-381 Centipede Grass Lawn Maintenance Calendar (AG-381).................................................... Turf File 303
AG-386 Diagnosis of Strawberry Diseases (with photos) (AG-386) ...................................................... Fruit Disease Note 5-A
AG-401 Growing Blackberries in NC ............................................................................................. Fruit Leaflet 200-A
AG-405 Commercial Production of Staked Tomatoes in NC ............................... Book in our Library
AG-427 Weed Control Suggestions for Christmas Trees, Woody Ornamentals, and Flowers (this is a book got to look for it) Book in our Library
AG-428 Ticks & Tick-Borne Diseases in NC .................................................................................. Ornamental Insect drawer, at rear
AG-431 Bermuda Grass Lawn Maintenance Calendar ................................................................. Turf File 302
AG-432 Zoysia Grass Lawn Maintenance Calendar ....................................................................... Turf File 301
AG-433 MG Insect Guide for Ornamentals & Turf (AG-433) ................................................................. Book in our Library
AG-436 Managing Diseases in Home Vegetable Gardens ............................................................... Vegetable Disease Note 0
AG-439-18 SoilFacts: Nutrient Content of Fertilizer and Organic Materials .................................... filed after Urban Hort Note 6
AG-447 Insect Management in Turf (AG-447) (replaces Orn IN 70) ................................................. Turf File 157
AG-467 Composting: Managing Yard Wastes ............................................................................... Vegetable Leaflet 100-A
AG-472-3 Voles in Horticultural Plantings ..................................................................................... filed after Urban Hort Note 12
AG-473-14 Using Compost in Beds ............................................................................................... Vegetable Leaflet 100-D
AG-473-18 Vermicomposting ......................................................................................................... Vegetable Leaflet 110-A
HIL-125 Basil Production ............................................................................................................... Vegetable Leaflet 110-A
AG-486 Fire Ant Control (Insect Note - ENT/ rsc-35).......................................................................... Ornamental Insect drawer, at rear
AG-508-1 Wise Water Use in Landscaping ....................................................................................... Ornamental Leaflet 442-A

PUBLICATIONS continued on next page
PUBLICATIONS, continued

AG-508-3  Drought-Tolerant Plants for NC Landscapes ................................................................. Ornamental Leaflet 443
AG-508-6  Efficient Irrigation ........................................................................................................ Consumer Horticulture Agent has
AG-508-7  Best Management Practices for Weeds in Landscapes) ........................................ Consumer Horticulture Agent has
AG-541    Carpetgrass Lawn Maintenance Calendar ........................................................................ Turf File 304
          Organic Lawn Care [includes Pest Management] ................................................................. Turf File 105
AG-570-1  Biological Control: Purchasing Natural Enemies (Biological Control: Purchasing). Ornamental Insect Note 99a
AG-570-2  Biological Control: Applying Natural Enemies (Biological Contol: Application)... Ornamental Insect Note 99b
AG-597    Lawn Care and the Environment .................................................................................. Turf File 102-A

WQWM-151 Water Quality and Home Lawn Care ........................................................................... Turf File 102

ENT/rsc-4 Carpenter Bees (Residential, Structural, and Community Pests) .................. Ornamental Insect drawer, at rear
ENT/rsc-1 Spiders (Residential, Structural, and Community Pests) ........................................ Ornamental Insect drawer, at rear
ENT/ORT-101 A Complete Guide to Mole Cricket Management in NC ................................. Ornamental Insect drawer, at rear

Ext Circular 313 Vegetable Insects of NC ................................................................................. Book in our Library
Grass-Cycling (pamphlet from NC CES, Office of Waste Reduction, and Turfgrass Council) ......................................... Turf File 104
Xeriscape North Carolina (by NC Urban Water Consortium) ........................................... Ornamental Leaflet 442
Trees: Homeowner Guide (pamphlet from Forest Service N E - I N F - 5 8 - 8 4) ..................... Ornamental Leaflet 602-B
Water Gardening in Texas (from Univ of Texas, B-6001) ......................................................... Ornamental Leaflet 445
Water Gardens and Weeds (un-numbered publication from NCSU) ...................................... Ornamental Leaflet 446
Urban Horticulture Notes

UHN 1  Durham’s Weather
UHN 2  Durham’s Soil
UHN 3  Amending Clay Soils
UHN 4  Improving Soil Fertility
UHN 5  Submitting Samples for Soil Testing
UHN 6  Understanding the Soil Test Report
UHN 8  Planting Trees & Shrubs (“Planting High”)
UHN 9  Growing Annual & Perennial Flowers in Durham County
UHN 10  Pruning Basics
UHN 11  Tomatoes
UHN 12  Certified Arborists
UHN 13  Moles & Voles
UHN 14  Voles in Horticultural Plantings (AG-472-3)
UHN 15  UNDER CONSTRUCTION: Ornamentals: Determining Growth Difficulties (Consumer Horticulture Agent has draft)
UHN 16  Making Raised Beds or Gardening for all ages
UHN 17  Asparagus
UHN 18  Month-By-Month Gardening Calendar

Proposed Urban Hort Notes

UHN  Avoiding Deer Damage in Gardens
UHN  Hostas
UHN  Invasive Plants
UHN  Seed/Plant Sources?
# TURF FILE

## TURF 100 — GENERAL TURFGRASS INFO

<table>
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<tr>
<th>TURF 101</th>
<th>Carolina Lawns</th>
<th>(AG-69) revision 01/07</th>
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<tr>
<td>TURF 102</td>
<td>Home Lawn Care and Water Quality</td>
<td>(WQWM-151) revision 10/05</td>
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<td>TURF 102-A</td>
<td>Lawn Care and the Environment</td>
<td>(AG-597) revision 06/99</td>
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<td>TURF 102-B</td>
<td>Soil Facts: Managing Lawns &amp; Gardens to Protect Water Quality</td>
<td>(AG-439-21) revision 03/96</td>
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<td>TURF 103</td>
<td>Grass for Shade</td>
<td>(AG-421) revision 03/98</td>
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<td>TURF 104</td>
<td>Grass-Cycling - Community Backyard Composting Programs</td>
<td>(AG-599) revision 03/2000</td>
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<td>TURF 105</td>
<td>Organic Lawn Care</td>
<td>(no NCSU # -- no revision date)</td>
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<tr>
<td>TURF 151</td>
<td>Algae &amp; Moss Control in Turf (Agronomy Leaflet)</td>
<td>(TM-20) revision 09/95</td>
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<tr>
<td>TURF 152</td>
<td>Pest Control [Insect, Weed, Disease] for Turfgrass Managers</td>
<td>(AG-348) revision 10/06</td>
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<tr>
<td>TURF 153</td>
<td>Miscellaneous problems of Turf</td>
<td>(TURF 007) revision 01/2000</td>
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<tr>
<td>TURF 154</td>
<td>Turfgrass Disease Prevention</td>
<td>(ENT/ort-67) revision 04/2002</td>
</tr>
<tr>
<td>TURF 155</td>
<td>Controlling White Grubs in Turf</td>
<td>(Turf - 002) revision 01/2000</td>
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<tr>
<td>TURF 156</td>
<td>Nematode Damage and Management in Lawns</td>
<td>(AG-447) revision 04/1998</td>
</tr>
</tbody>
</table>

## TURF 200 — COOL-SEASON TURFGRASSES (250 starts disease/insect control)

| TURF 201  | Tall Fescue Grass Lawn Maintenance Calendar | (AG-367) revision 12/2000 |
| TURF 251  | Diseases of Cool-Season Grass | (AG-361) revision 05/1998 |
| TURF 252  | Diseases of Tall Fescue | (Turf - 006) revision 04/2005 |

## TURF 300 — WARM-SEASON TURFGRASSES (350 starts disease/insect control)

| TURF 301  | Zoysia Grass Lawn Maintenance Calendar | (AG-432) revision 04/1990 |
| TURF 302  | Bermuda Grass Lawn Maintenance Calendar | (AG-431) revision 12/2000 |
| TURF 303  | Centipede Grass Lawn Maintenance Calendar | (AG-381) revision 12/2000 |
| TURF 304  | Carpetgrass Lawn Maintenance Calendar | (AG-541) revision 10/2000 |
| TURF 351  | Diseases of Warm-Season Grass | (AG-360) revision 04/1994 |
| TURF 352  | Problems on Centipedegrass | (TDIN – 001) revision 10/2000 |

### Managing Insects in Turf

See Turf Files above (150+, 250+, 350+)

See Ornamental & Turf Insects Notes File
**VEGETABLE FILE**  
(also contains information on Herbs and Composting)

### Growing Vegetables

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<td><strong>Asparagus Production, Home Garden</strong></td>
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<td><strong>Collards</strong></td>
<td>13</td>
<td><strong>Sweet Corn</strong></td>
</tr>
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<td><strong>Spinach</strong></td>
<td>14-B</td>
<td><strong>Cucumbers, Trellised</strong></td>
</tr>
<tr>
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<td>Veg</td>
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<td>16</td>
<td><strong>Upland Cress</strong></td>
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<tr>
<td>16-A</td>
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<td>17</td>
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<td><strong>Pepers</strong>                                    <strong>Beansprouts and Other Vegetable Seed Sprouts</strong></td>
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<td>24</td>
<td><strong>Pumpkins &amp; Winter Squash</strong></td>
<td>24-A</td>
<td><strong>Summer Squash</strong></td>
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<td>Veg</td>
<td><strong>Pumpkins &amp; Winter Squash: Storage</strong></td>
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<td><strong>Pumpkins &amp; Winter Squash: Storage</strong></td>
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<tr>
<td>25</td>
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<td><strong>Radish</strong>                                    <strong>Beansprouts and Other Vegetable Seed Sprouts</strong></td>
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<td><strong>Turnips &amp; Rutabagas</strong></td>
</tr>
<tr>
<td>27</td>
<td><strong>Celery, Home Garden, in Eastern NC</strong></td>
<td>28</td>
<td><strong>Gourds</strong></td>
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<tr>
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<td><strong>Using Plastic Mulches &amp; Drip Irrigation for Vegetable Gardens</strong></td>
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<td><strong>Composting for Home Gardens</strong></td>
<td>100-A</td>
<td><strong>Composting: Managing Yard Wastes</strong></td>
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<tr>
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<td></td>
<td>100-B</td>
<td><strong>Vermicomposting — Worms Can Recycle Your Garbage</strong></td>
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<td>100-D</td>
<td><strong>Using Compost in Beds</strong></td>
<td>101</td>
<td><strong>Weed Control in Vegetable Gardens</strong></td>
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<tr>
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<td></td>
<td>102</td>
<td><strong>Mini-Gardening</strong></td>
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<tr>
<td>104</td>
<td><strong>Growing Vegetable Transplants</strong></td>
<td>105</td>
<td><strong>Growing Vegetables in Containers</strong></td>
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<td>Veg</td>
<td></td>
<td>106</td>
<td><strong>Beansprouts and Other Vegetable Seed Sprouts</strong></td>
</tr>
<tr>
<td>107</td>
<td><strong>Tomatoes</strong></td>
<td>107-A</td>
<td><strong>Tomatoes: Blossom End Rot</strong></td>
</tr>
<tr>
<td>Veg</td>
<td></td>
<td>107-B</td>
<td><strong>Tomatoes: Pruning &amp; Supporting</strong></td>
</tr>
<tr>
<td>108</td>
<td><strong>Harvesting Vegetables</strong></td>
<td>109</td>
<td><strong>Herbs</strong>                                             <strong>Composting for Home Gardens</strong></td>
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<tr>
<td>Veg</td>
<td></td>
<td>110</td>
<td><strong>Basil Production</strong></td>
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<tr>
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<td>110-A</td>
<td><strong>Basil Production</strong></td>
</tr>
<tr>
<td>129</td>
<td><strong>Seed &amp; Plant Sources for Medicinal Herbs &amp; Botanicals</strong></td>
<td>130</td>
<td><strong>Suppliers of Culinary &amp; Ornamental Herb Seeds and/or Plants</strong></td>
</tr>
</tbody>
</table>
Insects of Vegetables

Veg IN 1  Pickleworm Management  Veg001e  revision 05/1996
Veg IN 2  European Corn Borer in Potatoes  Veg2  revision 03/2005
Veg IN 3  Potato Tubeworm  Veg3  revision 05/94
Veg IN 8  Insecticide Formulations for Home Gardeners  Veg8  revision 03/2005
Veg IN 9  Slugs  Veg9  revision 05/1994
Veg IN 10  Control of Weevils in Stored Peas and Beans  Veg10  revision 01/1994
Veg IN 11  Diamondback Moth  Veg011e  revision 05/1996
Veg IN 12  Cabbage Worm Complex  Veg012e  revision 05/1996
Veg IN 15  Garden Insect Control  Veg15  revision 04/1994
Veg IN 16  Application Equipment for the Home Gardener  Veg16  revision 05/2005
Veg IN 17  Greenhouse Vegetable Insect Control  Veg17  revision 03/2005
Veg IN 19  Corn Earworm  Veg19  revision 06/1993
Veg IN 20  The Squash Vine Borer  Veg20  revision 01/1994
Veg IN 24  Wireworms on Sweetpotatoes  Veg24  revision 03/2005
Veg IN 25  Cucumber Beetles  Veg025e  revision 03/2005
Veg IN 26  Mexican Bean Beetle  Veg26  revision 04/1994
Veg IN 27  Flea Beetles on Vegetables  Veg27  revision 02/1994
Veg IN 28  Bean Leaf Beetle  Veg28  revision 05/1994
Veg IN 29  Cowpea Curculio  Veg29  revision 05/1994
Veg IN 30  Pepper Worms and their Management  Veg30e  revision 06/1993
Veg IN 31  Seedcorn Maggot  Veg31  revision 03/1994
Veg IN 33  Tomato Pinworm  Veg33  revision 03/2005
Veg IN 34  Pepper Weevil  Veg34  revision 03/2005
Veg IN 35  Asparagus Insects and their Control  Veg35  revision 06/1993
Veg IN 36  Asparagus Aphid  Veg36  revision 02/1994
Veg IN 37  Pepper Insects and their Control  Veg37  revision 03/2005
Veg IN 38  Sweetpotato Weevil  Veg38  revision 03/2005
Veg IN 39  Pepper Maggot  Veg39  revision 06/1993
Veg IN 40  Cabbage Looper  Veg40  revision 06/1993
Veg IN 42  True Bugs in the Field and Garden  Veg42  revision 06/1994
Veg IN 43  Insect Management for the Home Gardener  Veg43  revision 06/1994
Veg IN 44  Whitefringed Beetle on Sweetpotato  Veg44  revision 03/2005

Diseases of Vegetables

Veg DN 0  Managing Diseases in Home Vegetable Gardens  (AG-436)  revision 06/1992
Veg DN 0-A  Control of Root-Knot Nematodes in the Home Vegetable Garden  (AG-420)  revision 06/1989
Veg DN 1  Cucumbers: Fruit Rot  VDIN-001  revision 01/2000
Veg DN 6  Vegetables: Disease-Resistant Varieties  VDIN-008  revision 01/2000
Veg DN 8  Cucurbits: Gummy Stem & Phoma Blights  VDIN-009  revision 01/2000
Veg DN 9  Southern Blight of Vegetables  VDIN-009  revision 01/2000
Veg DN 10  Salt Injury to Vegetable Crops  VDIN-009  revision 01/2000
Veg DN 11  Anthracnose of Cucurbits  VDIN-011  revision 01/2000
Veg DN 13  Diseases of Cantaloupe  VDIN-013  revision 01/2000
Veg DN 14  Diseases of Greens (Cruciferous)  VDIN-014  revision 01/2000
Veg DN 16  Black Rot of Cabbage & Crucifers  VDIN-017  revision 01/2000
Veg DN 17  Club Root of Cabbage & Crucifers  VDIN-018  revision 01/2000
Veg DN 18  Tomato & Peppers: Bacterial Leaf Spot  VDIN-019  revision 01/2000
Veg DN 19  Tomato, Peppers, Watermelon: Blossom End Rot  VDIN-025  revision 01/2000
Veg DN 25  Head Rot of Cabbage  VDIN-025  revision 01/2000
FRUIT FILE

Growing Small Fruit

Fruit 200 Blackberries (HIL 8200) revision Dec 1996
Fruit 200-A Growing Blackberries in NC (AG-401) revision Aug 1990
Fruit 202 Bunch Grapes (HIL 8202) revision April 1998
Fruit 203 Muscadine Grapes (HIL 8203) revision June 2006
Fruit 204 Raspberries (HIL 8204) revision December 1996
Fruit 205 Strawberries (HIL 8205) revised 8/1993
Fruit 206 Blackberries: Pruning & Training Thornless (HIL 8206) revision Feb 1999
Fruit 207 Blueberries (HIL 8207) revision 11/2002
Fruit 208 Kiwifruit (HIL 208) Revised 09/06
Fruit 210 Nursery List of Small Fruit Cultivars for Home Use in NC (HIL 8210) revised 12/97
Fruit 210-A Figs (HGIC 1353) no date from Clemson University
Fruit Grapes & Berries (hard to locate on internet) (AG-15) revised 8/1999

Growing Tree Fruit and Nuts

Fruit Producing Tree Fruit for Home Use (AG-28) part 1: Planning no revision date
Fruit Producing Tree Fruit for Home Use (AG-28) part 2: Cultural Practices no revision date
Fruit Training & Pruning Fruit Trees (AG-29) no revision date
Fruit 301 Growing Apple Trees (HIL 8301) revised 5/1997
Fruit Growing Peaches in NC (AG-30B) no revision date
Fruit Growing Pears in NC (AG-80) no revision date
Fruit Growing Pecans in NC (AG-81) no revision date
Fruit 377 Growing Oriental Persimmons in NC (HIL 8377) revised 9/1993

Insects of Fruit and Nut Trees

Fruit IN A-1 Integrated Mite Control on Apple (Fruit Insect Nove A-1) revised 9/1998
Fruit IN B-1 Four Economic Larvae of Blueberries at Harvest Time (Fruit Insect Note B-1) revised 2/2005
Fruit IN B-2 Blueberry Maggot (Fruit Insect Note B-2) revised 9/1990
Fruit IN B-4 Blueberry Bud Mite and its Control (Fruit Insect Note B-4) revised 8/1994
Fruit IN C-1 Chestnut Insects (Fruit Insect Note C-1) revised 6/1994
Fruit IN G-2 Grape: Insects Reported on Grapes in North Carolina (Fruit Insect Note G-2) revised 2/2005
Fruit IN G-3 Grape Root Borer (Fruit Insect Note G-3) revised 6/94
Fruit IN P-1 Pecan: Insects and Related Pests of Pecan (Fruit Insect Note P-1) revised 9/2004
Fruit IN P-2 Pecan Insects and their Management (Fruit Insect Note P-2) revised: 2/17/05
Fruit IN P-3 Pecan: Asian Ambrosia Beetle (Fruit Insect Note p-3) revised 9/1995
Fruit IN S-1 Strawberry: Insects and Related Pests of Strawberry (Fruit Insect Note S-1) revised 8/1993
Fruit IN S-2 Strawberry Spider Mite and Its Control (Fruit Insect Note S-2) revised 02/17/05
Fruit IN S-3 Strawberry Sap Beetles and Their Management (Fruit Insect Note S-3) revised 02:17/05

Diseases of Fruit

Fruit DN 2 Diseases & Insect Management in the Home Orchard (Spray Program) (FDIN 002) no date
Fruit DN 3 Fire Blight in Apple & Pear (FDIN 003) update 4/2002
Fruit DN 4 Black Knot in Plum & Cherry (FDIN 004) update 12/ 2000
Fruit DN 5 Strawberries: Disease Control (FDIN 005) updated 2/2002
Fruit DN 5-A Strawberry Diseases and Thier (AG-386) dated Aug 1992
Fruit DN 6 Peach Scab (FDIN 006) no date
Fruit DN 7 Fig Diseases (FDIN 007) no date
Fruit DN 9 Blueberry Stem Blight (FDIN 009) revised 10/2000
Fruit DN 10 Blueberry Twig Blight (FDIN 010) revised 10/2000
Fruit DN 12 Grapes — Diseases of Muscadines (FDIN 012) revised 4/2000

Pecan Diseases — see Orn DN 3 revised 1/1999
<table>
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<th>ORNAMENTALS, TREES &amp; SHRUBS FILE</th>
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### Growing Ornamentals

**Landscape Topics**

<table>
<thead>
<tr>
<th>Orn 400</th>
<th>Residential Landscaping</th>
<th>(AG-248) no revised</th>
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<tbody>
<tr>
<td>Orn 432</td>
<td>A Small Backyard Greenhouse</td>
<td>(AG-426) revised 2/1996</td>
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<tr>
<td>Orn 442</td>
<td>Xeriscape North Carolina</td>
<td>(by NC Urban Water Consortium) no date</td>
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<tr>
<td>Orn 442-A</td>
<td>Wise Water Use in Landscaping</td>
<td>(AG-508-1) no date</td>
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<td>Orn 443</td>
<td>Drought-Tolerant Plants for NC Landscapes</td>
<td>(AG-508-3) no date—several parts</td>
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<tr>
<td>Orn 445</td>
<td>Water Gardening in Texas</td>
<td>(from Univ of Texas, B-6001) no date</td>
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<tr>
<td>Orn 446</td>
<td>Water Gardens and Weeds</td>
<td>(un-numbered publication from NCSU) no date</td>
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### Flowers

<table>
<thead>
<tr>
<th>Orn 500</th>
<th>Dahlias in the Home Landscape</th>
<th>(HIL 8500) revised 07/98</th>
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<tbody>
<tr>
<td>Orn 501</td>
<td>Peonies in the Home Landscape</td>
<td>(HIL 8501) revised 02/98</td>
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<tr>
<td>Orn 504</td>
<td>Geraniums</td>
<td>(HIL 8504) revised 12/97</td>
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<tr>
<td>Orn 506</td>
<td>Bearded Iris for the Home Landscape</td>
<td>(HIL 8506) revised 07/98</td>
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<td>Orn 507</td>
<td>Home Forcing of Hyacinths</td>
<td>(HIL 8507) revised 06/99</td>
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<tr>
<td>Orn 508</td>
<td>Consumer Care of Poinsettias</td>
<td>(HIL 8508) revised 07/99</td>
</tr>
<tr>
<td>Orn 517</td>
<td>Caladiums</td>
<td>(HIL 8517) revised 07/98</td>
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<tr>
<td>Orn 529</td>
<td>Forcing Potted Amaryllis</td>
<td>(HIL 8529) revised 06/98</td>
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<tr>
<td>Orn 530</td>
<td>Forcing Potted Paperwhite Narcissus</td>
<td>(HIL 8530) revised 06/98</td>
</tr>
<tr>
<td>Orn 531</td>
<td>Forcing Potted Narcissus (Daffodils)</td>
<td>(HIL 8531) revised 06/98</td>
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<tr>
<td>Orn 551</td>
<td>Bedding Plants: Soil Preparation &amp; Fertilization</td>
<td>(HIL 8551) revised 08/99</td>
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<tr>
<td>Orn 552</td>
<td>Bedding Plants: Stress-Tolerant Plant Species</td>
<td>(HIL 8552) revised 08/99</td>
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<tr>
<td>Orn 554</td>
<td>Indoor Plant Selection &amp; Care</td>
<td>(HIL 8554) revised 08/99</td>
</tr>
<tr>
<td>Orn 555</td>
<td>Installation &amp; Maintenance of Bedding Plants</td>
<td>(HIL 8555) revised 08/99</td>
</tr>
<tr>
<td>Orn 556</td>
<td>Under-Utilized Bedding Plants for NC Landscapes</td>
<td>(HIL 8556) revised 08/99</td>
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### Landscape Plantings

<table>
<thead>
<tr>
<th>Orn 600</th>
<th>Flowering Dogwood</th>
<th>(HIL 600) Revised 6/97</th>
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<tr>
<td>Orn 601</td>
<td>Planting Techniques for Trees &amp; Shrubs</td>
<td>(HIL 601) Revised 6/94</td>
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<tr>
<td>Orn 602</td>
<td>Pruning Trees</td>
<td>(HIL 602) Revised 10/92</td>
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<tr>
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<td>Pruning Shrubs</td>
<td>(AG-071) revised 3/98</td>
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<tr>
<td>Orn 602-B</td>
<td>Trees: Homeowner Guide (pamphlet from Forest Service)</td>
<td>NE-INF-58-84 no date</td>
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<td>Orn 602-C</td>
<td>Recognizing Hazardous Defects in Trees</td>
<td>(Forest Service NA-FR-01-96) no date</td>
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<td>Orn 603</td>
<td>Using Pines in the Landscape</td>
<td>(HIL 603) revised 9/93</td>
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<tr>
<td>Orn 604</td>
<td>Cold Damage: Protecting Plants</td>
<td>(HIL 604) revised 9/93</td>
</tr>
<tr>
<td>Orn 605</td>
<td>Ornamental Grasses</td>
<td>(HIL 8605) revised 6/97</td>
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<tr>
<td>Orn 606</td>
<td>Plants for Seashore Conditions</td>
<td>(HIL 8606) revised 9/93</td>
</tr>
<tr>
<td>Orn 608</td>
<td>Mulches</td>
<td>(HIL 8608) revised 6/94</td>
</tr>
<tr>
<td>Orn 611</td>
<td>Spring-Flowering Bulbs</td>
<td>(HIL 8611) revised 5/91</td>
</tr>
<tr>
<td>Orn 613</td>
<td>Crabapple Trees for Landscape</td>
<td>(HIL 8613) revised 12/98</td>
</tr>
<tr>
<td>Orn 616</td>
<td>Trees for Use Under Utility Lines</td>
<td>(HIL 8616) revised 11/93</td>
</tr>
<tr>
<td>Orn 617</td>
<td>Recommended Trees for Urban Landscapes</td>
<td>(HIL 8617) revised 8/97</td>
</tr>
<tr>
<td>Orn 618</td>
<td>Shade Tree Fertilizing</td>
<td>(HIL 8618) revised 6/97</td>
</tr>
<tr>
<td>Orn 619</td>
<td>Espalier</td>
<td>(HIL 8619) revised 6/94</td>
</tr>
<tr>
<td>Orn 625</td>
<td>Smooth &amp; Oakleaf Hydrangea</td>
<td>(HIL 8625) revised 7/98</td>
</tr>
<tr>
<td>Orn 627</td>
<td>Natural Areas in the Landscape</td>
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<td>(HIL 8628) revised 2/99</td>
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<td>Orn 629</td>
<td>Azalea Varieties for NC</td>
<td>(HIL 8629) revised 6/92</td>
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<td>Orn 630</td>
<td>Azalea Culture for NC</td>
<td>(HIL 8630) revised 9/93</td>
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<td>Conserving Energy with Plants</td>
<td>(HIL 8631) revised 9/93</td>
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<td>Summer- &amp; Fall-flowering Bulbs</td>
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<td>Vines for NC</td>
<td>(HIL 8633) revised 6/94</td>
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<td>(HIL 8634) revised 7/00</td>
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<td>Orn 635</td>
<td>Shrubs for NC: 4-8 ft</td>
<td>(HIL 8635) revised 7/00</td>
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<td>Orn 636</td>
<td>Shrubs for NC: 8 ft +</td>
<td>(HIL 8636) revised 7/00</td>
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<td>Trees for NC: Small &amp; Intermediate Sizes</td>
<td>(HIL 8637) revised 9/94</td>
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Orn 638  Trees for NC: Large  (HIL 638) revised 6/94
Orn 63  Hollies for NC  (HIL 639) revised 9/94
Orn 640  Junipers for NC  (HIL 640) revised 9/94
Orn 641  Roses for NC  (HIL 641) revised 9/94
Orn 642  Crape Myrtles  (HIL 642) revised 9/94
Orn 644  Weed Control in Flower Beds  (HIL 644) revised 6/07
Orn 645  Weed Management for Wildflowers  (HIL 645) revised 7/93
Orn 646  Plants for Wet Sites  (HIL 8646) revised 02/94
Orn 647  Controlling Nutsedge in Beds  (HIL 647) revised 12/98
Orn 648  Post-Emergence, Nonselective Herbicides in Beds  (HIL 648) revised 10/98

**Propagation**

Orn 700  Plant Propagation by Leaf, Cane, & Root Cuttings  (HIL 8700) revised 01/99
Orn 701  Plant Propagation by Layering  (HIL 8701) revised 01/99
Orn 702  Plant Propagation by Stem Cuttings  (HIL 8702) revised 01/99
Orn 703  Starting Plants From Seed  (HIL 8703) revised 01/99
Orn 704  Overcoming Seed Dormancy: Trees & Shrubs  (HIL 8704) revised 01/99

**Insects of Ornamentals**

See Ornamental & Turf Insects Notes File

**Diseases of Ornamentals**

Orn DN 2  Roses: Disease Control  ODIN 002 revised 01/99
Orn DN 3  Some Common Pecan Diseases and their Control in NC  ODIN 003 revised 01/99
Orn DN 4  Powdery Mildew in Ornamentals & Trees  ODIN 004 revised 01/99
Orn DN 5  Nematodes in Woody Ornamentals  ODIN 005 revised 01/99
Orn DN 6  Pine Wood Nematode  ODIN 006 revised 01/96
Orn DN 7  Holly Disease Control  ODIN 007 revised 12/00
Orn DN 8  Slime Flux / Wet Wood  ODIN 008 revised 06/07
Orn DN 9  Southern Bacterial Wilt on Marigolds  ODIN 009 revised 06/97
Orn DN 10  Scorch Diseases on Shade Trees  ODIN 010 revised 12/97
Orn DN 11  Entomosporium Leaf Spot of Photinia  ODIN 011 revised 12/00
Orn DN 12  Rhododendron Diseases  ODIN 012 revised 12/00
Orn DN 13  Phytophthora Root Rot  ODIN 013 revised 11/00
Orn DN 14  Damping Off of Seedlings  ODIN 014 revised 12/00
Orn DN 15  Juniper Disease Control  ODIN 015 revised 2/01
Orn DN 16  Azalea Disease Control  ODIN 016 revised 3/01
Orn DN 17  Leyland Cypress Diseases  ODIN 017 revised 3/01
Orn DN 26  Snapdragons: Diseases of Snapdragons in NC  link1, link2
Orn DN 30  Root and Butt Rot of Oaks  ODIN 030 revised 11/01
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<th>Orn IN</th>
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<td>5/2000</td>
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<td>Fall Webworm</td>
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<td>9/2006</td>
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<td>Alternatives to Synthetic Chemicals for Insects &amp; Mites</td>
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<td>Quick Reference: Brand Names of Insecticides, Molluscicides, and Fungicides</td>
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<td>Twig Girdler</td>
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<td>Two-Lined Spittlebug</td>
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<td>Biological Control: Purchasing Natural Enemies</td>
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<td>Chinch Bugs</td>
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**Additional Insect Notes at rear of Ornamental Insects drawer:**

- Ticks & Tick-Borne Diseases in NC (AG-428)
- Fire Ant Control (AG-486)
- Carpenter Bees - Insect Note - ENT/rsc-4
- Spiders - Insect Note - ENT/rsc-1
- Residential, Structural, and Community Pests - link for general pest information
| WILD 1  | Endangered Species               | Wildlife Note 1 |
| WILD 2  | Eastern Gray Squirrel           | Wildlife Note 2 |
| WILD 3  | White Tailed Deer               | Wildlife Note 3 |
| WILD 3-A| Deer-Tolerant Ornamental Plants (from University of Georgia) | Wildlife Note 3-A |
| WILD 3-B| Resistance of Ornamentals to Deer Damage (from West Virginia University) | Wildlife Note 3-B |
| WILD 3-C| Deer Control and Management (Binders from University of Nebraska) | Wildlife Note 3-C |
| WILD 4  | Songbirds                       | Wildlife Note 4 |
| WILD 5  | Wild Turkey                     | Wildlife Note 5 |
| WILD 6  | Wood Duck                       | Wildlife Note 6 |
| WILD 7  | Cottontail Rabbit               | Wildlife Note 7 |
| WILD 8  | Bobwhite Quail                  | Wildlife Note 8 |
| WILD 9  | Ruffed Grouse                   | Wildlife Note 9 |
| WILD 10 | Black Bear                      | Wildlife Note 10 |
| WILD 11 | Raccoon                         | Wildlife Note 11 |
| WILD 12 | Mourning Dove                   | Wildlife Note 12 |
| WILD 13 | Wildlife Terms (glossary)       | Wildlife Note 13 |
| WILD 14 | Snags & Downed Logs             | Wildlife Note 14 |
| WILD 15 | Managing Edges for Wildlife     | Wildlife Note 15 |
| WILD 16 | Songbird Boxes, Building of     | Wildlife Note 16 |
| WILD 17 | Nest Boxes for Woodland Wildlife| Wildlife Note 17 |
| WILD 18 | Habitat Improvements at Low Cost| Wildlife Note 18 |
| WILD 19 | Pools for Amphibians            | Wildlife Note 19 |
| WILD 20 | Hummingbirds and Butterflies    | Wildlife Note 20 |
| WILD 21 | Bats                            | Wildlife Note 21 |
| WILD 22 | Owls                            | Wildlife Note 22 |
| WILD 23 | Beaver Pond Management          | Wildlife Note 23 |
| WILD 24 | Herbaceous Plants for Wildlife  | Wildlife Note 24 |
| WILD 25 | Stewardship Incentive Program Wildlife Opportunities (not on the internet) | Wildlife Note 25 |
| WILD 25a| Wildlife Damage Control Agent Program | Wildlife Note 25a |

See also Prevention and Control of Wildlife Damage Binders from University of Nebraska. This publication contains excellent descriptions of animals, habits & habitats, and control measures. This is now listed on the internet as

http://icwdm.org/handbook/index.asp

Also another source on the Web:  http://www.ces.ncsu.edu/nreos/wild/wildlife/wdc/index.html
Tips for searching this document on-line

This document was created in Microsoft Word 2000.
It is set up using STYLES and BOOKMARKS.
It also contains HYPERLINKS, or places where a mouse-click will take you to a related topic.
This copy of the Index is Read-Only. You can search, but you cannot save changes.

To search:
Press CTRL-F and type in the word or phrase you wish to find — OR — use the menu: Edit – Find (look for the binoculars!)

To find your target fast:
Press the MORE button in the Find dialog box, for ways to narrow your search.
Search for “Vegetable Garden” and you’ll pick up every publication with those words in its title!
Search for words in a particular style.
Want to search only the boldface entries at the far left edge? Press Format – Style – select “index bold” – press OK
Search All, Up, or Down through the document
Choose match case.
Looking for “Vegetable” but not “vegetable”? Click the checkbox for “Match Case.”
Type in the exact search string: “Vegetable”.

Can’t find something you know is there?
Try the singular form of the word instead of the plural form.
Try using only part of the word.
Delete any trailing spaces in your search string.
Look to see if it’s still searching for a particular style.
Look to see if the “Match Case” is checked or unchecked as you desire.
Check for misspellings or unwanted capital letters in your search string.

Going to a particular page?
Press CTRL-G to bring up the “Go To” dialog box — incidentally, it’s just a tab away in the “Find” dialog box!
Enter a page number...
Or, select “Bookmark” from the list on the left, and choose a bookmark from the list on the right!

The following styles are used in this document:

Index Entry Styles
Index entry for the top level (with index bold, a character style, used for the boldface words at the left margin)
  Index entry 2 for the second level (5 spaces)
  Index entry 3 for the third level (10 spaces)

Resource is a special second-level style for non-file information. It is italicized and has an indented right margin.

Removed is a paragraph style with strikeouts, used to indicate obsolete files removed from our library.

File Contents Styles
File is a paragraph style used for the File Contents lists.
Heading 1 and Heading 2 and Heading 3 are used to separate sections of these lists.
The heading at the top of this page (“Tips for Searching...”) is in Heading 1.
The heading at the top of this section (“The following styles...”) is in Heading 2.
The heading at the top of this paragraph (“File Contents Styles”) is in Heading 3.
To Do

In the files

Consider placing some of the Wildlife Binder articles in our files: Deer (3-C)... Moles... Voles...
And maybe: Bats (12p)? Beavers (20p)? Rabbits? Raccoons?

Consider filing all Moles & Voles info in the Wildlife Notes file (including that AG publication), and cross-ref our UHN.
The Nebraska chapters are labeled “Wildlife Note XX” under both Moles and Voles.

Check this:

AG-348  Turfgrass Pest Management Manual [insects, weeds, disease, etc] (AG-348) ............................ Book in our Library

AG-408  Pest Control for Turfgrass Managers (AG-348) ................................................................. Turf File 152

See if we can get more copies of Xeriscape NC — call Vicki Westbrook at City of Durham
Ask Consumer Horticulture Agent for the Holland Bulbs publications for our reference library  ??????

Index Reprints

Check page breaks and put in continuation notes (format “continuation” for easy culling)
Renumber table of contents if needed
Search for “?”, “CHECK”, “need”... and for highlighted stuff
Different colors for File List Pages — Cover page/Table of Contents
Set it up for online searching, read-only... consider trying hypertext?

Future Work

List AG publications in our library and add them to index
List book titles in our library and add them to index  e.g. propagation, plant species, etc.
Update / cull binders
Sift through archives

Need Entries / more info on...

Tulips in NC?
Herbicide damage to Azalea, etc.? > don’t have an info on these topics
Transplanting
Soil Fumigation and Solarization
Symptoms of Pesticide / Herbicide damage on plants
Symptoms of fungus infection
Symptoms of virus infection
Leyland Cypress recommended?
Couldn’t find the reference on pressure-treated lumber (for UHN 14 on raised beds)

Write

UHN Pruning Calendar? Fertilizing Calendar?
UHN on deer damage
UHN on hostas
UHN on invasive plants
UHN on seed/plant sources (native wildflowers)
UHN on organic pest control (IN 91 should be retired)

TO DO continued on next page...
TO DO, continued

**Newsletter blurbs:**
Ignore the “8” on publications numbered 8000 and higher. File by the last 3 numbers. (and why)

*Note the Nebraska binders*
List new publications?

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**ADDITIONAL INFO ON PUBLICATIONS**

Watch for updates on

Official printed opinions on Leyland Cypress *(still recommended, but with caution)*

- **HIL 606** (seashore) — Annuals section has no botanical names
- **HIL 638** (large trees) and **HIL 8617** (urban trees) both recommend Leyland Cypress

**Book**

**AG-295 Insect and Related Pests of Vegetables: Some Important, Common, and Potential Pests in the Southeastern US**

(link to table of contents) for the book very useful to find what insect are on what vegetables.
Index
of
Master Gardener
Office Files

This document is for us to USE!
Please mark any corrections or additions you’d like to see.

Questions?
call Phil Richards at 919-401-6441 or email prichards@nc.rr.com

Table of Contents
Index Entries .................................................................................................................................................................. 1-83
Publications Cross-Reference (AG publications and others) ......................................................................................... 84-85
File Drawer Contents
   Urban Hort Notes...................................................................................................................................................... 86
   Turf .......................................................................................................................................................................... 87
   Vegetables ................................................................................................................................................................ 88-89
   Fruits........................................................................................................................................................................ 90
   Ornamentals, Trees & Shrubs ............................................................................................................................ 91-92
   Insect Notes: Ornamentals & Turf...................................................................................................................... 93-94
   Wildlife Notes....................................................................................................................................................... 95
Tips for Searching This Document On-Line (now available on our office computer!) ................................................. 96