Horticulture News

Slugs in the Greenhouse, Nursery and Landscape

If you see ragged holes in leaves with no pest in site you may have slugs. Slugs thrive in moist area such as around dripping water spigots and irrigation heads. They also live under pots, greenhouse trays, rocks, and shady landscape nooks. The ragged leaf holes will usually be accompanied by iridescent slime trails. Management of slugs begins with making the habitat less suitable for them by reducing moisture, decaying vegetation, and debris or pots they can hide under. Of course reducing pots is not an option at nurseries so there are some baits that can be broadcast in slug prone areas.

These include products containing metaldehyde or methiocarb (Mesurol) which are carbamates toxic on contact or ingestion. These products are also toxic to pets and children so baits should be inconspicuous and sprinkled over the area rather than arranged in piles that pests and children will notice. Iron phosphate (Sluggo) also has good efficacy against snails and slugs. It also has less mammalian toxicity. In home gardens and even in small greenhouses it is possible to pick slugs from under pots and trays to reduce their abundance. I have gone out on my patio several nights in a row to pick slugs and found the abundance went way down. Go to this link for a great article on manages slugs. [http://www.ipm.ucdavis.edu/PDF/PESTNOTES/pnsnailsslugs.pdf](http://www.ipm.ucdavis.edu/PDF/PESTNOTES/pnsnailsslugs.pdf)

**Plants that are seriously damaged by slugs include:**
basil, beans, cabbage, dahlia, delphinium, hosta, lettuce, marigolds, strawberries and many other vegetable plants.

**Plants that resist snail and slug damage include:**
begonias, California poppy, fuchsias, geraniums, impatiens, lantana, nasturtiums, and purple robe cup flower as well as many plants with stiff leaves and highly scented foliage such as lavender, rosemary, and sage.

*The above information was taken from Dr. Steven Frank, NCSU Entomologist.*
This spring you may have noticed unusual growths and bumps on flowers and buds of rhododendrons and azaleas and on the leaves of maple and oak trees. These abnormal structures entitled galls may be caused by the fungus Exobasidum vaccinii or from insects such as midges and mites.

Over the past few weeks, homeowners have dropped off samples or emailed pictures of distorted leaves and flowers of rhododendrons and azaleas. In each of these cases, the culprit is the fungus *Exobasidum vaccinii*. Exobasidum is favored by cool wet weather and its spores travel via the wind or splashed to healthy leaves or flower buds. When spores of this disease land on new emerging tissue, the leaves become thickened, curled, fleshy and light green to white in color. Later as the disease progresses, the leaves become enlarged and covered with a white powdery substance.

Although unsightly, this disease seldom causes enough damage to justify spraying a fungicide, so if only a few plants have observable symptoms, prune or hand pick off and destroy any infected leaves as the swelling begins around April and May in Western North Carolina. As an option, try planting resistant varieties such as Amonena, Gloria, Coral Bells, Glacier, Formosa, and Aphrodite. Susceptible varieties of azalea include: White Gumpo, Rosebud, Mother’s Day, and China Seas.

Other predominate pests responsible in the appearance of galls include many types of insects. In fact there are over 2,000 kinds of gall-forming insects that occur throughout the United States. The top three gall formers are gall wasps, gall midges, and gall mites. Whenever midges or mites land on plant tissue, the plant is tricked into protecting the pest’s developing offspring as the insect injects enzymes that regulate plant growth. Galls from these insects may form on any part of the plant from the flowers, leaves and stems to the roots. Less common gall producers are aphids, psyllids, gall flies, along with the non-insects, bacteria and nematodes.

**Insect Galls on Oak, Maple & Rhododendron**

Leaf gall associated with oak leaves, is caused by the small wasp Neuroterus saltarius. In this scenario, the female’s ovipositor inserts an egg into the leaves followed by gall formation around the developing wasp on the underside of the leaf. Once the gall has developed, it drops to the ground, where the insect completes development.

Common galls observed on maple trees are the bladder leaf gall mite (*picture on the right*) and spindle gall mites. Each has its own distinct look. Although these mites cause galls that appear aesthetically displeasing, they’re not considered a serious threat to the host tree. Handpicking infested leaves found most often on lower limbs, may help reduce populations.

The rhododendron gall midge (or tip midge), *Clinodiplosis rhododendri* is a native pest of *Rhododendron catawbiense* and its many hybrids during the May to October window. Feeding damage from the larval stage can cause discoloration and distorted foliage. Leaf damage may appear twisted and rolled with a yellow discoloration. This can be seen on young leaves that have separated from the bud scale. Leaves impacted early in the bud stage may die if the injury is severe. Although unusual and sporadic, care must be taken to distinguish tip midge damage from injury caused by leafhoppers and feeding aphids. When observed remove and destroy newly infested foliage which may eliminate an infestation within a single year or two. Other options include treating with the insecticides imidacloprid or orthene as spray or soil drenches.
Preserve nutritional content, freshness and flavor of garden vegetables by harvesting and processing then appropriately. Harvest during the cool part of the morning, and process or store them as soon as possible. If processing must be delayed, cool the vegetables in ice water and store them in the refrigerator to preserve flavor and quality. Use the following for harvesting vegetable crops.

**Beans, snap** – Start harvesting before seeds develop in the pod (about the diameter of a pencil). Beans are ready to pick if they snap easily when bent in half.

**Corn sweet** – Silks begin to turn brown and dry out as the ears mature. Check a few ears for maturity by opening the top of the ear and pressing a few kernels with a thumbnail. If the liquid exuded is milky rather than clear, the ear is ready for harvest.

**Cucumbers** – Harvest when the fruits are deep green, before any yellow color appears. The length should be 6 to 8 inches for slicing and smaller for pickling. Pick often to encourage continuous production.

**Eggplant** - Harvest when the fruits are 3 to 5 inches in diameter and their color is a glossy purplish black. If the color starts to dull or become bronzed it is past prime. Cut to leave a short stem on the fruit. Do not pull the fruit from the plant.

**Cantaloupe** – Harvest when the stem slips easily from the fruit with a gentle tug. Another indicator of ripeness is when the netting on skin becomes rounded and the flesh between the netting turns from a green to a tan color.

**Okra** - Harvest young, tender pods when they are 2 to 3 inches long. Pick at least every other day during the peak growing season. Overly mature pods become woody and are too tough to eat.

**Onions** – Harvest when the tops fall over and begin to turn yellow. Dig and allow the onions to dry out. Remove dried soil. Cut the stem, leaving 2 to 3 inches attached, and store in a net-type bag in a cool, dry place.

**Peppers** – Harvest sweet peppers when fruits are firm, crisp, and full sized. Green peppers will turn red if left on the plant. Allow hot peppers to attain their bright red color and full flavor while attached to the plant; cut and hang them to dry.

**Radishes** – Harvest when the roots are ½ to 1½ inches in diameter. If left in the ground too long, they will become tough and woody.

**Squash, summer** – Harvest when the fruit is soft, tender and 6 to 8 inches long. The skin color often changes to a dark, glossy green or yellow, depending on variety. Pick every 2 to 3 days to encourage more production.

**Tomatoes** – Harvest tomatoes at the most appealing ripeness stage ¾ up to fully red or yellow ripe depending on the variety. Flavor is best at room temperature, but ripe fruit may be held in the refrigerator at 45 degrees F to 50 degrees F for 7 to 10 days.

*Taken from the NCSU Mountain Gardener July 2014 Newsletter*
By now weeds are making themselves known in all parts of the garden and lawn. Properly identifying them is key to controlling them. In lawns especially they can indicate various issues related to improper management practices such as too much nitrogen fertilizer, scalping or mowing too low and heavy compacted soils. Below is a table of “indicator weeds” that may be present under problematic growing conditions.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Indicator weeds</th>
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<tbody>
<tr>
<td>Dry Soil</td>
<td>Prostrate spurge, yellow wood sorrel, goosegrass, annual lespedeza, prostrate knotweed, plantain</td>
</tr>
<tr>
<td>Wet Soil</td>
<td>Annual bluegrass, moss, liverwort, rushes, sedges</td>
</tr>
<tr>
<td>Compacted Soil</td>
<td>Annual bluegrass, annual sedge, annual lespedeza, broadleaf plantain, corn speedwell, goose grass, prostrate knotweed, prostrate spurge</td>
</tr>
<tr>
<td>Low nitrogen</td>
<td>Broomsedge, clovers, common speedwell, hawkweed, moss, white clover, crabgrass</td>
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<tr>
<td>Excess nitrogen</td>
<td>Annual bluegrass, chickweed, moss, ryegrass</td>
</tr>
<tr>
<td>Infrequent mowing</td>
<td>Bull thistle, burdock, chicory, smooth bedstraw, sweet clover, wild carrot</td>
</tr>
<tr>
<td>Close/frequent mowing</td>
<td>Annual bluegrass, chickweed, moss, crabgrass</td>
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</tbody>
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Taken from the NCSU Mountain Gardener July 2014 Newsletter

Sincerely,
Christy Bredenkamp, Extension Agent
Agriculture-Horticulture