

PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

MAY 29, 2003



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Plant Diagnostic Laboratory Highlights

Richard J. Buckley, Laboratory Coordinator

General Interest

Two reports of good news for this issue of the newsletter. First, sample submissions are finally starting to pick up. In the last week we have had as many submissions as we had the in all of April. Second, as hard on the soul as the dreary weather has been, we are starting to see the result in the form of fungal diseases on turfgrass and ornamentals. Cool!

Turf

This morning I walked into the laboratory to over a dozen cup cutter plugs of golf turf. Samples were sent to the laboratory from New Jersey, Nevada, New York, North Carolina, West Virginia, and Pennsylvania. All of the local plugs had one thing in common – **winter turf diseases**. Of particular note was the number of **pink snow mold** (aka: **Fusarium patch**) samples, which of course, were neither pink nor snow covered. Several samples of **pink snow mold** were from courses in South Jersey and Long Island. The disease was also identified on some of the research plots here on the turf farm. We also had several phone calls concerning a **Pythium-like disease** that was traveling with the mowers. The mystery disease will most likely turn out to be **pink snow mold** once we see the samples in the laboratory. The fungus that causes **pink snow mold**, *Microdochium nivale*, is a prolific spore producer and is easily spread by equipment. Mower tracking results in diffuse streaks of bronze turf instead of the normal small spots. In most years, the laboratory would have a rush on **pink snow mold** in late-March or early-April, but it is not uncommon to see the disease during periods of cool, rainy weather as late as June. If the weather pattern doesn't change, we most certainly will see the disease this June! **Yellow patch** (aka: **cool season brown patch**) is also quite active and was diagnosed on golf turf from Atlantic County, New York, and Pennsylvania. By the way, the North Carolina sample had **anthracnose**.

On landscape turf, **dollar spot** and **red thread** are active on low input lawn areas. We are also seeing lots of **leaf spot diseases** – **leaf spot and melting out**, caused by *Drechslera poa*, on Kentucky bluegrass, and **brown blight**, caused by the fungus *Drechslera siccans*, on perennial ryegrass were particularly common. These diseases are normally found on higher input turf.

SEE LAB HIGHLIGHTS ON PAGE 2

Ornamentals

Shade tree anthracnose was the disease most identified this period. Several samples of maple were diagnosed with the disease, which is caused by the fungus *Apiognomia*. Ash, oak, and sycamore should also show symptoms of the disease at this time. All of the samples were from Monmouth and Middlesex Counties. **Fire blight** was identified on Mountain Ash branches from Monmouth County. Samples with **winter injury** continue to be submitted to the laboratory from landscapes all over the state.

Nursery and Greenhouse

Botrytis blight was identified on Petunia from a Morris County greenhouse grower and zinnia submitted from a Mercer County grower. With all of the overcast skies it is very difficult to dry out in the greenhouse, which creates an excellent opportunity for the fungus *Botrytis*. Field grown iris were sent to the laboratory from a Gloucester County grower that were ultimately diagnosed with **potato virus y**. The plants were stunted and the inflorescence was twisted and hooked.

On the Christmas tree front, we have seen several samples of white pine, spruce, and Douglas-fir with injury from **pales weevil** feeding. Not so much **Rhabdocline needlecast** this spring, but you can bet that all of the recent rain is kicking things up for next spring. □

Diseases of Turfgrass

Bruce B. Clarke, Ph.D., Specialist in Turfgrass Pathology

Brown Patch

Begin preventive control measures soon to control this destructive summertime disease caused by the fungus *Rhizoctonia solani*. For best results, avoid heavy applications of nitrogen fertilizers during hot, humid weather, water in the early morning hours (12 midnight to 8 AM), and apply Banner, Chipco 26GT, chlorothalonil, Compass, ConSyst, Curalan, Eagle, Endorse, Heritage, mancozeb, Medallion, Prostar, Spectro, thiophanate-methyl, Touche, or Vorlan on a preventive basis in areas with a previous history of brown patch.

Dollar Spot

This disease, caused by the fungus *Sclerotinia homoeocarpa*, has been active on greens and tees for the past two weeks. To prevent **dollar spot** from causing severe damage on susceptible turf again this year, maintain adequate nitrogen fertility, water in the early morning hours, reduce thatch, avoid the sole use of any fungicide for prolonged periods of time (to reduce the possibility of fungicide resistance), and apply Banner, Bayleton, Chipco 26GT, chlorothalonil, ConSyst, Curalan, Eagle, mancozeb, Rubigan, Spectro, thiophanate-methyl, Touche, or Vorlan per manufacturer's recommendations. Repeat fungicide applications as needed through mid-October.

Powdery Mildew

This disease is present on landscape turf at this time. In most cases, **powdery mildew** occurs in shaded areas and on lawns with poor air circulation. Although chemical control is usually not required, present infections may be checked with Banner, Bayleton, Eagle, Manhandle, or Rubigan if desired.

Turf Field Day

Mark your calendars now for this year's field days. The **Rutgers Landscape Turf Research Field Day** has been set for July 30, 2003 at the Plant Science Research Farm in Adelphia, N.J. Registration will begin at 8:00 AM. Guided tours will commence at 9:00 AM and will conclude at 3:30 PM, "rain or shine." The **Rutgers Golf Turf Research Field Day** will be held on July 31, 2003 at the Turf Research Farm (Ryders Lane) in New Brunswick, N.J. This event starts at 8:30 AM (registration); field tours will run from 9:30 AM to 3:30 PM, "rain or shine." The cost of registration for each day will be \$35 (including lunch). Recertification credits will be available at the conclusion of each program. Call Marlene at (732) 932-9400 Ext. 339 for further information or directions.

New Jersey Turfgrass Expo 2003

The **New Jersey Turfgrass Expo 2003** will be held from December 9-11, 2003 at the Trump Taj Mahal Resort and Casino, Atlantic City, N.J. This three-day conference will feature over 50 educational presentations and is one of the top trade shows in the country. Call Bea Devine at (732) 281-7134 or Dick Caton (856) 853-5973 for further information or directions. □

Ornamental IPM Pest Notes

Steven K. Rettke, Ornamental IPM Program Associate

✓ **Spruce Spider Mites:** These tiny mites thrive in cool spring weather (although heavy rains can do them in!), and have been active all spring. Damage often does not become noticeable (bronzing, obvious stippling) until plants are stressed with hot weather and by then it's typically too late to do much. They will continue to feed on spruce, arborvitae and other conifers until temperatures settle regularly into the mid to upper 80's, after which they will lay eggs that won't hatch until the fall. Spraying is only recommended if damage exceeds 10% of foliage (especially at this late point in their life cycle) or if 10-15 active mites are tapped (on average) from branches onto a beating tray. Use your hand lens to look for the small round eggs. Control with 2% horticultural oil (not on blue spruce) or Hexygon, both of which will kill eggs. Floramite, Avid, Talstar, DeltaGard, insecticidal soap, and Scimitar are some other miticide options. Non-ovicidal miticides often require more than a single application. Keep in mind that Orthene only suppresses mites at best.

✓ **Bronze Birch Borer (440-800 GDD):** Adults of this metallic beetle will become active during the month of June. It prefers to lay eggs on birches (primarily European white, Asian white, paper, and gray birch) that are under stress (drought stress, heat stress, compacted soil, etc.). The bullet shaped, metallic black adult beetles (1/2") lays eggs on branches as well as the main trunk. Monitor for adult activity and last year's exit holes, which are shaped like the letter "D" (1/4"). Symptoms include dieback from the upper branch tips, working down the tree toward the base. Sometimes "ripples" are noticed beneath the bark.

Remember, a borer is present because the tree is already under stress. Relieve stress as much as possible by watering during drought conditions, mulching, fertilizing, controlling **birch leafminer**, and pruning out dead wood (but not just prior to adult emergence, since adults are attracted to wounds to lay eggs). Pesticide bark sprays are effective when timed to target newly hatched larvae as they chew through the bark into the tree. Astro (permethrin) insecticide treatments offer good control as long as the bark is wet thoroughly, since eggs are laid in many small cracks and crevices. BBB might be more severe this year, since we have just followed a drought year (last summer). Can you re-landscape the site with a resistant variety, the 'Heritage' birch?

✓ **Pine Bark Adelgids:** These common aphid-like insects form a white, cottony coating on the bark of white pine and Scots pine. Eggs laid in May will hatch next month and settle on the bark, branches and new pine candles. Damage is usually cosmetic (sometimes high populations can kill small branches), yet customers may react negatively to their presence. Reduce this first generation with a strong blast of water, horticultural oil, or insecticidal soap.

✓ **Pine Oystershell Scale:** This armored scale attacks Japanese black pine, causing death, distortion and stunting of new needles. Attack is often in combination with **pine thrips**. Mature trees die from the top down.

Crawlers emerge in mid-June and blow with the wind to cause new infestations on elongating candle growth. Control in late June with Tempo (cyfluthrin), Orthene (acephate), Astro (permethrin), horticultural oil or a mixture of Orthene and 1% oil.

SEE IPM NOTES ON PAGE 4

Turf Notes

James A. Murphy, Ph.D., Specialist
in Turf Management

Red thread disease has been very active during the last two weeks. This disease has been problematic in lawns dominated by perennial ryegrass and fine fescues (particularly strong in creeping red fescue). Tall fescue can also be diseased by red thread but the disease usually is not quite as aggressive on tall fescue. Culturally, a modest application of a nitrogen fertilizer (1/2 pound or less of N per 1000 sq. ft.) will grow the turf out of the damage. Interestingly, traffic also seems to reduce the disease. See Rutgers Cooperative Extension Factsheet FS798, An Integrated Approach to Red Thread and Pink Patch Disease Control on the web at <http://www.rce.rutgers.edu/pubs/pdfs/fs798.pdf> or available through your County Extension office.

Crabgrass has been emerging from infested sites for the last two weeks. Potential problem areas need scouting now, if not already performed. Cooler, slightly shaded sites are a week or so behind warmer more exposed sites. With the recent rain and the likelihood for warmer weather, these emerging plants will develop very quickly. Anyone considering postemergence herbicide control of these emerging plants needs to do so immediately, otherwise chemical control will not be possible once the plants become too mature. Control of emerging crabgrass with postemergence is highly dependent on age (size) of the plants. See Rutgers Cooperative Extension Bulletin E233, Crabgrass and Goosegrass Control in Cool Season Turfgrass on the web at <http://www.rce.rutgers.edu/pubs/pdfs/e233.pdf> or available through your County Extension office. □

IPM NOTES FROM PAGE 3

✓ **Pine Needle Scale (298-448 GDD):** This armored scale insect is a common pest of pines, especially Scotch pine, Mugho pine, Austrian pine, Red pine, White pine, as well as Norway and Colorado spruce. White oystershell shaped adult female covers are less than 1/4 inch and found only on needles. A long egg laying and crawler emergence period occurs from late May into mid-June. A second generation of pine needle scale occurs in July (1290-1917 GDD). When the pink crawlers settle, they turn in color to yellowish tan, then lose their legs and become still. This is the ideal time to control them with insecticidal soap or 2% oil, which will also minimize harm to beneficial insects present. Research in Ohio showed that oil provided better control than did Orthene or Sevin. Imidacloprid (Merit) does *not* give satisfactory control against armored scales.

✓ **Cooley Spruce Gall Adelgid:** This pest has a two-year life cycle on Colorado spruce (especially green forms), Sitka and Oriental spruce. If noticed, its alternate (Douglas fir) must be nearby. Over-wintering nymphs on spruce tip buds are migrating to new growth. The combined feeding and salivary secretions induce development of a bright green, oval "pineapple" gall on the terminals (as opposed to galls at the base of new growth on Norway spruce, which is the Eastern spruce gall adelgid). By midsummer, the gall will turn brown and crack open, as the adelgids within mature and emerge as adults. These winged adults migrate to Douglas fir (or another spruce) and spend the summer feeding on the needles, covered with cottony wax. Sometimes Douglas fir is so heavily attacked that needles are spotted, bent or distorted. Two or more generations can occur on Douglas fir through the following season (Christmas tree growers will actually treat Douglas fir when new growth is 3 to 4 inches). By the next fall, another winged generation flies back to spruce and lays eggs for the cycle to repeat itself.

Controls: prune out galls when seen (although galls act as natural pruning!). Place sticky traps out in late summer (Douglas fir) or fall (spruce) to determine timing to spray insecticidal soap + sticker. Dormant oil sprays on spruce in late April (not blue forms) can control over-wintering nymphs.

✓ **Bagworms (600-900 GDD):** This caterpillar is native to the United States and is easily identified by the spindle shaped sacks (or bags) that range in size from 1/4 to 2 inches in length depending on its maturity. The insects over-winter as eggs within the female bag. During early to mid-June the eggs hatch and the young caterpillars immediately spin a silken sack about themselves. As they feed, they attach bits of leaves to the bag, enlarging it as they grow. At this time, the bags are small enough to be carried on their backs in a pointed-up position.

Bagworms prefer evergreen conifers (Arborvitae in particular), but will also feed on many deciduous plants, leaving small "shot holes" in the foliage. During the early

instar stages, control with B.t. (*Bacillus thuringiensis*). By July, bags are large and caterpillar feeding causes defoliation. At this point treat with insecticides such as Conserve, Confirm, Orthene, Mavrik, or Tempo.

✓ **Honeylocust Plant Bug:** The 1/8 inch long pale green nymphs which resemble young leafhoppers, feed upon young emerging foliage in spring, causing stippling damage. In heavy populations the developing leaves are stunted and defoliation may also occur. Black fecal spots on the undersides of the leaves are very similar to lacebug damage, but may be more scattered over the surface. Both nymphs and adults are active in early June, but unless there is a large population, the plant usually will outgrow the damage and no action is necessary.

If controls are needed, using a 2% oil spray when adults are present will give good control. Use a threshold of one bug per compound leaf before spraying (to determine the number of bugs per leaf, tap a branch on a piece of white paper and count the number of bugs and the number of compound leaves).

✓ **Euonymus Scale (533-650 GDD):** The light yellow crawlers are active during the early weeks of June or when the *Kousa* Dogwood is in bloom. Variegated evergreen euonymus plants are especially vulnerable to this scale. If populations are allowed to build-up, then defoliation will result and the plant will be weakened. A horticultural oil plus Orthene combination has shown to provide good control management after crawlers settle (before they turn white/gray). The Orthene will suppress the white males feeding on the leaves, while the oil reduces the brown females present on the stems.

✓ **Taxus Mealybug:** Although yews are relatively insect-free, this pest is sometimes found in significant numbers. This time of year they are present in the branch forks and nodes. The adults are covered with white cottony wax. They produce honeydew, so look for the shiny sticky substance on the leaves and for the black sooty mold that will grow on the honeydew. The feeding will cause yellowing and dieback of branches. Monitor for the presence of beneficials. If large populations are present, control with horticultural oil or soap. Other labeled materials include Sevin (carbaryl), Orthene (acephate), Tempo (cyfluthrin), and Merit (imidacloprid). □

What's New at RCE

Two-Day Workshop/In-Service Training on Nutrient and Water Management for Nursery Operations in New Jersey

Rutgers Cooperative Extension, the New Jersey Agricultural Experiment Station and the New Jersey Nursery & Landscape Association cordially invite you to a joint Workshop/In-Service Training to be held on June 17 and 18, 2003 at the RCE of Cumberland County Extension Education Center in Millville, NJ. The program is intended to provide an overview and discussions on research/extension work done on nutrient water management for nursery operations. Speakers from Maryland, North Carolina, Florida and New Jersey will be participating in this workshop. The event includes: presentations, tours to nurseries, and discussions.

For information on this workshop/in-service training visit the RCE web page at: <http://www.rce.rutgers.edu/> under News and Features or under Calendar.

The registration fee is \$40 (includes for and beverages for breaks and luncheons for 2 days, transportation fee for nursery tours, binders, bulletins, factsheets, etc. This workshop requires a pre-registration. Please make sure to register before the deadline of June 12. Contact Helen Elwell at RCE of Cumberland County at 856-451-2800.

Sports Turf Field Days

Two field day opportunities are offered this season for those interested in sports turf management. These events are being conducted in cooperation with the Sports Field Managers Association of New Jersey. The field days will have practical demonstrations of sports turf management topics.

Sites and dates are:

- 1) August 5th, 2003 - Paramus Catholic High School, Paramus, NJ
- 2) October 2nd, 2003 – Rutgers Snyder Research Farm, Pittstown, NJ (Hunterdon County)

More details in upcoming issues. □

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much below normal. Extremes were 82 degrees at Canoe Brook, on the 21st and 35 degrees at Charlotteburg on the 20th. Weekly rainfall averaged 1.70 inches north, 1.48 inches central, and 1.14 inches south. The heaviest 24 hour total reported was 1.25 inches at Flemington on the 25th to 26th. Estimated soil moisture, in percent of field capacity, this past week averaged 83 percent north, 85 percent central and 73 percent south. Four inch soil temperatures averaged 55 degrees north, 54 degrees central and 55 degrees south.

Weather Summary for the Week Ending 8 am Monday 5/26/ 3

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	1.82	9.11	-1.69	81	41	58.	-4	295	28	100
CANOE BROOK	1.59	10.80	-1.13	82	40	57.	-5	303	61	99
CHARLOTTEBURG	1.40	11.03	-.72	80	35	53.	-7	145	-14	94
FLEMINGTON	2.15	10.85	-.46	80	36	56.	-7	285	28	100
LONG VALLEY	1.46	9.75	-2.42	74	38	53.	-7	151	-40	100
NEWTON	1.75	8.33	-2.13	80	39	55.	-6	239	44	100
FREEHOLD	1.85	10.19	-1.09	80	42	57.	-7	330	16	100
LONG BRANCH	1.92	10.77	-.87	71	43	54.	-9	239	-33	100
NEW BRUNSWICK	1.58	9.54	-1.54	79	40	57.	-7	293	-50	100
TOMS RIVER	1.21	8.73	-2.53	80	37	55.	-8	293	-2	96
TRENTON	.86	8.47	-1.73	78	37	56.	-9	298	-82	93
CAPE MAY COURT HOUSE	.85	9.24	-.65	71	39	55.	-9	256	-81	81
DOWNSTOWN	1.17	8.97	-1.18	78	37	56.	-9	348	-45	90
GLASSBORO	1.99	10.41	-.38	78	46	58.	-7	394	17	100
HAMMONTON	.81	8.09	-2.41	80	38	56.	-9	358	-11	70
POMONA	.68	8.29	-1.52	75	37	55.	-9	284	-29	83
SEABROOK	2.13	10.57	1.28	76	43	59.	-6	422	24	100
ATLANTIC CITY MARINA	.38	7.04	-2.23	69	50	56.	-7	256	-42	62
SOUTH HARRISON	.96	9.97	-.05	76	40	57	NA	402	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW	Last Week 98 (Ending 5/19/03) This Week 112 (Ending 5/26/03)									

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