RUTGERS COOPERATIVE EXTENSION AT THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION $1.50 JULY 26, 2007

Slime mold on turf

INSIDE

Plant Diagnostic Laboratory Update

Richard J Buckley, Laboratory Coordinator

Turfgrass

Gray leaf spot is the big news coming out of the diagnostic laboratory this week. The disease was diagnosed a week ago on samples of perennial ryegrass from a Delaware golf course. Subsequent conversations with other area pathologists indicate disease outbreaks in southeastern Pennsylvania as well. This is early for the disease in our area. Historically outbreaks begin in the mid to- late August period and sample submissions in our laboratory peak in early September. The fungus that causes gray leaf spot, *Pyricularia grisea*, is an excellent seedling blight fungus. Be aware that ryegrass seeding and renovation projects over the next 8 weeks or so are very susceptible to attack. Be sure to use blends of the newer gray leaf spot resistant varieties to have the best chance of avoiding a major problem. Furthermore, it may also be prudent to protect the new plants with a fungicide during the grow-in.

Slime molds are also in vogue at this point. Our best example came from a golf course in Hudson County, but we have been seeing them here on the turf farm for several days and my friends at Cornell Cooperative Extension on Long Island are also finding them out and about. Slime molds are fungus-like organisms in the Kingdom Protoctista. The plasmodial or true slime molds from the class Myxomycetes are found invading turfgrass habitat. Few organisms can boast of the extravagant life of these critters. Are they plant, fungus, or animal? Put down your US Weekly and People magazines and take some time to read about slime mold life styles. You won't be disappointed! At any rate, our golf course sample consisted of small, red, paintball-like pustules (the plasmodia) that emerge like bubbles from the turf whenever it rains. The slimy bubbles dry down to release millions of powdery spores. Fortunately, plasmodial slime molds do not invade plant tissue. They are; however, a great nuisance. In home lawns they form a gray slime over large areas of turf, and on our golf course they formed a crusty mess that interfered with the playability of the green and smothered the existing grass. Our only recourse for slime molds is frequent mowing and/or mechanical removal with a hose or whip. There are no fungicides approved for slime mold control.

Also of interest is the typical summer cavalcade of golf turf samples with **summer patch** (Passaic, Monmouth, Essex, Pennsylvania, Connecticut, New York); **pythium root** dysfunction (Atlantic, Delaware, Montana, Virginia); **take-all** (Montana, Virginia); and **anthracnose** (Bergen, Ocean, Delaware). We also saw a couple samples (Ocean, Mercer) loaded with adult annual bluegrass weevils. These plugs were all from bentgrass and ryegrass tees. In home lawns we are seeing **dollar spot**, **brown patch**, **red thread**, and a sample of **chinch bug**. The chinch bugs were found in zoysia. Go figure, most people are happy when their zoysia dies! ❑

Deadly Borers: The True Landscape Assassins

Steven K. Rettke, Ornamental IPM Program Associate

The borers represent a group of insects that can cause extensive damage to plants and are very difficult to control. Generally, the adult stage of most borer species does not cause any significant feeding damage. The damaging stage is the immature larva that feed (tunnel) inside roots, trunks, branches or twigs of a tree or shrub. Of the hundreds of borer species known, there are only 4 major families of **beetles** (metallic wood borers, longhorned wood borers, bark beetles, and snout beetles) and 2 major families of **moths** (clearwing moths and pine tip/shoot moths) that are a threat in the urban landscape.

Beetles

Metallic Wood Borers

The larvae of **metallic wood borers** are often called *flatheaded beetles*. As the name implies, they have a narrow and flattened thorax and body. They commonly attack trees under stress. Examples include: 1) bronze birch borer, 2) two-lined chestnut borer, and 3) flatheaded appletree borer. Adults are distinctive because of their coppery-bronze, green-blue metallic sheen coloration and shape (with a little imagination, they resemble miniature locomotives). With close observation, adults can often be seen flying during the day, mating and laying eggs.

Longhorned Wood Borers

The larvae of **longhorned beetle borers** are typically called *roundheaded borers*, because of the round appearance of the thorax. Adults of this family get their names because their antennae are usually as long, or longer than their cylindrical bodies. Adults generally fly at night and are attracted to recently damaged or felled trees. Some examples of pest species within this family of borers include the 1) twig pruner, 2) twig girdler, 3) dogwood twig borer, 4) red oak borer, 5) rhododendron stem borer, 6) locust borer, and 7) the notorious Asian longhorned borer.

Bark Beetles

Borer species within the **bark beetle** family are quite small, ranging in size from 0.1 to 0.3 inches in length. These groups of borers are also called engravers, because they bore galleries that form grooves within the inner bark surface and sapwood. Each species form a characteristic pattern of grooves that can be helpful for identification. Common examples of bark beetle species include 1) smaller European elm bark beetle, 2) native elm bark beetle, 3) southern pine beetle, and 4) black turpentine beetle. Adult bark beetles are dark in coloration and usually only 1/3 inch in length or less. They also have a pair of antennae that are short, elbowed and clubbed in shape.

Many bark beetles species carry the blue-stain fungi and transmit the disease-causing organism to trees as they perform their tunneling activities. The fungus clogs the water transport vessels in the sapwood causing death to branches and even entire trees (conifers are especially susceptible to infection by these fungi). The classic example of this scenario is the transmission of Dutch elm disease by the European elm bark beetle. Pheromone traps are only available for monitoring the presence of the European elm bark beetle.

Snout Beetles – [Weevils]

The family of **snout beetles** is also called *weevils*, with the adults having a long proboscis. The common pest species feed on conifers and include 1) white pine weevil, 2) northern pine weevil, 3) Pales weevil, and 4) pine root collar weevil. The adults are compact, but thick bodied and are between ¼ to 3/8 inches in length. The antennae are elbowed and clubbed. During the fall and spring, adults feed on bark and may girdle branches. They have only one generation a year and overwinter as adults. Eggs are mostly laid during the spring months. The larvae usually cause the greatest damage during the late spring and summer. The larvae are C-shaped, *legless* and are white with conspicuous brown heads. They feed in large numbers in chambers they form under the bark.

Moths

Clearwing Moths

The **clearwing moth** family contains approximately a half dozen species of concern to the landscape or nursery manager. The adults of this family resemble wasps in both appearance and action. Since the clearwing moths are daytime flyers, they have evolved to mimic wasps in order to reduce being preyed upon. Adult females of most of the clearwing species are attracted to bark wounds and scars to lay eggs. A notable exception is the banded ash clearwing, which will lay eggs on apparently healthy ash trees.

The six species that the landscape manager should become familiar with include, 1) peach tree borer, 2) lesser peach tree borer, 3) lilac/ash borer, 4) banded ash clearwing, 5) rhododendron borer, and 6) dogwood borer. The peach tree borer is perhaps the most commonly encountered clearwing moth in the landscape, and is found attacking flowering cherry, peach and other *Prunus* species.

Pheromone traps are commonly used in the landscape to detect the presence of adult male moths, but are not used directly for controls. The traps are valuable tools to determine the right pesticide timing. Since the pheromone traps will attract and catch many different clearwing species, it is important to use the pictures provided by the trap manufacturer to identify specific species. Adults can vary in size from ¼ to ¾ inches depend-

See Borers on page 3

BORERS FROM PAGE 2

ing on the species. Their bodies are brown or black and typically have a metallic sheen. Yellow or orange bands are often present around the abdomen. The number of bands (usually two or more), their width and location are helpful aids with identification. The wings are at least partially transparent with numerous dark markings along and between the wing veins.

With the exception of a brown head and brown shield just behind the head region, the larvae of the moths are white in color. Perhaps the easiest way to distinguish between the larvae of clearwing moth and beetle borers is to inspect for short prolegs on the abdomen region. Beetle borers do not have prolegs, whereas clearwing moths may have as many as five.

Pine Tip / Shoot Moths

Although this family of moths rarely kills trees, the borer species containing **pine tip and shoot moths** can cause unacceptable aesthetic damage in the landscape. This large family contains moth pests that attack conifers (mostly pines), however, many species will also bore into fruit. The larvae of these moths damage trees and shrubs by feeding within and destroying numerous tips on a single plant. The new growth is often stunted with tissue death resulting. Noticeable deformation of even large conifers can occur with severe infestations. Depending on the species, most overwinter as pupae or larvae within plant tips and terminals. Species

SEE MOTHS ON PAGE 5

A Guide to Identifying Beetle Borer Families Using the Size & Shape of Exit Holes in Bark

1. Round to slightly oval holes greater than 3/8 inches in diameter are made by **longhorned wood borers** (larvae are called roundheaded borers).
2. Elongate oval holes greater than 3/8 inches in diameter are made by **metallic wood borers** (larvae are called flatheaded borers).
3. D-shaped holes approximately 1/4 inch in diameter are made by **metallic wood borers** (such as bronze birch borer & 2-lined chestnut borer).
4. Circular holes 1/8 inch or less in diameter on conifers/hardwoods are made by **bark beetles & snout beetles (weevils)**. In hardwoods are often called "shot hole borer" exit holes.

Classification of Landscape Borers

BEETLES — **Host Plants & Time of Egg-Laying**

Metallic Wood Borers

1-bronze birch borer …… Birch (late May-early July)
2-two-lined chestnut borer ….. Oaks, Elms & Stressed Trees
3-flatheaded appletree borer…. Apple, dogwood, & shade Trees (May-Aug)

Longhorned Wood Borers

1-twig pruner …… Oaks, Shade Trees (May-June)
2-twig girdler …… Shade Trees (Aug-Sept-Oct)
3-red oak borer …….. Oak (May-June-July)
4-rhododendron stem borer ….. Rhodo, Laurel, Azalea (May-June-July)
5-locust borer …… Locust (Sept-Oct)
6-dogwood borer …….. Dogwood, Elm, Azalea, Viburnum (May-July)

Bark Beetles

1-European elm bark beetle ….. Elm & Zelkova (Spring thru Summer)
2-native elm bark beetle …… Elm (Spring thru Summer)
3-southern pine beetle ……Conifers (Spring thru Summer)
4-black turpentine beetle ……Conifers (Spring thru Summer)

Snout Beetles (Weevils)

1-white pine weevil ……Pine, Spruce, Douglas Fir (March-April)
2-northern pine weevil …….. Pine, Spruce, Douglas Fir (April-June)
3-Pales weevil …….. Pines & Other Conifers (April-June)
4-pine root collar weevil ……Pines (April into July)

MOTHS

Clearwing Moths

1-peach tree borer …….. *Prunus* spp. (June thru Aug)
2-lesser peach tree borer …….. *Prunus* spp. (June-July & Aug-Sept)
3-lilac/ash borer …….. Lilac, Ash & Privet (May thru July)
4-banded ash borer …….. Ash (Sept into Oct)
5-rhododendron borer …… Rhodo, Azalea, Mt. Laurel (May-June)
6-dogwoodwood borer …….. Dogwoods & Many Trees (May-June)

Pine Tip / Shoot Moths

1-Nantucket pine tip moth …… Pines (small trees in full sun) (May & July)
2-pitch pine tip moth …….. Pines (Scots, Red, Loblolly) (May & July)
3-European pine shoot moth …. Pines (Many) (June & July)
4-white pine shoot moth …… Pines (Mugo, Scots, Red, white) (May & June)

(Reference: Syllabus of the 1997 Advanced Landscape IPM Short Course, Volume II; Michael J. Raupp, PhD., Dept. of Entomology, Univ. of Maryland)

Diseases of Rose

Ann B. Gould, Ph.D., Specialist in Plant Pathology

Roses are prone to diseases caused by all kinds of biotic and abiotic disease agents. Growing roses, especially those prone to disease, is no job for the squeamish. Visiting friends recently, I noticed several disease problems on roses in an otherwise lovely garden setting. We discussed one of these, **powdery mildew**, in last week's newsletter. Today we'll address two other common problems that affect this popular ornamental: **black spot of rose**, and **stem and branch canker**.

Black spot

Black spot, caused by the fungus *Marssonina rosae (Diplocarpon rosae*) is the most commonly recognized disease of roses. Black spot occurs worldwide and was first reported in the northeast about 1830. The disease can cause damage all season long in temperate climates where leaf tissue remains wet for extended periods. Plants chronically affected by black spot become unthrifty and are prone to winter injury.

Black spot is most troublesome early in the growing season. In the spring, fungal spores are produced and disseminated from lesions on canes and leaves infected the previous year. These spores infect young leaves (6- to 14-days old) when a 7-hour period of continuous leaf wetness occurs. Disease development is greatest at temperatures of 75 to 85 F with greater than 85% relative humidity. Symptoms appear as black leaf spots (0.1- to 0.5-inch) on the upper leaf surface within 3 to 16 days following infection. These spots have feathery edges and are accompanied by yellow "halos" of leaf tissue. Spores produced in these spots continue to infect newly expanding leaves and canes throughout the summer. Black spots may also form on the lower leaf surface about a month following infection. On first-year canes, irregular, raised, red-purple blotches appear that become blackened and blistered.

Marsonnina produces a toxin that causes affected leaves to turn yellow and defoliate prematurely. Indeed, heavily infected plants lose much of their carbohydrate reserves, and as mentioned above, grow poorly as a result and become more susceptible to winter injury and other stresses. Since the fungus overwinters on diseased leaves and canes, rake old leaves and prune diseased and damaged canes before spring. Avoid overhead watering and excessive shade, and when planting, space plants to avoid excessive humidity. Disease management before the growing season begins is critical; control is difficult once black spot is established in a planting. Resistance to black spot varies among the different types of roses. Floribunda, shrub, and climbing roses tend to be more tolerant to this disease, whereas hybrid tea, grandiflora, and miniature roses are more susceptible.

For best results, spray fungicides after budbreak (mid-May) and repeat at intervals specified on the label. Compounds labeled for black spot control include captan, chlorothalonil, Consyst, copper (hydroxide, metallic, salts, sulfate), ferbam, Junction, mancozeb, maneb, Manhandle, myclobutanil, neem oil, paraffinic oil, propiconazole (outdoor use only), Spectro, sulfur (elemental, flowable, wettable), SysStar, thiophanate-methyl, trifloxystrobin, ziram, and Zyban. Use a surfactant to enhance fungicide coverage if this practice is listed on the fungicide label, and rotate classes of chemicals to reduce the likelihood that fungal resistance to compounds will develop. Pay close attention to spray practices during wet periods, especially when caring for roses that are highly susceptible roses to this disease.

For best results, spray fungicides after budbreak (mid-May) and repeat at intervals specified on the label. *Bacillus subtilis*, calcium polysulfide (dormant), captan, chlorothalonil, ConSyst, copper (hydroxide, metallic, salts, sulfate), ferbam, Junction, mancozeb, maneb, Manhandle, myclobutanil, neem oil, paraffinic oil, propiconazole (outdoor use only), Spectro, sulfur (dusting, elemental, flowable, wettable), SysStar, thiophanate-methyl, trifloxystrobin, ziram, Zyban.

NOTE: DO NOT use neem oil (Triact) without prior testing for sensitivity. Zyban has caused some injury on the varieties Red Empress, Blossom Time, and Golden Showers. Check for phytotoxicity before large-scale use of copper fungicides, and DO NOT spray plants with compounds that contain copper or mancozeb just before the selling season to prevent residues on commercial plants. DO NOT use captan in combination with, immediately before, or after oil sprays. Lime, lime-sulfur, and Bordeaux will reduce the efficacy of captan. DO NOT apply phosphite to roses that are moisture heat stressed.

Stem and branch canker

This problem is more common than you'd think. In established rose plantings outdoors, **stem and branch cankers** begin on branch stubs or on wounded tissue. These cankers, with characteristic brown margins, progress from the stub or wound to the base of the plant. Severely compromised canes must be completely removed.

Pruning during wet weather with contaminated shears seems to predispose roses to this disease. Although not all of these cankers are caused by the same fungi, adequate control can usually be obtained by pruning diseased canes several inches below discolored wood, maintaining plant vigor, and removing large branch stubs. For best results, *always prune plants during dry weather*, and surface-sterilize shears with alcohol or 10% bleach (between cuts) to limit disease spread. Spray plants as for black spot. ❑

Diseases of Turfgrass

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

General

Gray leaf spot has just started to develop on perennial ryegrass fairways and roughs in Southern Jersey and Pennsylvania. **Anthracnose**, **brown patch**, **pythium blight dollar spot**, **summer patch**, **fairy ring**, and **slime mold** are also active. Refer to recent issues of this newsletter for complete disease control information.

Brown Patch

This disease, caused by the fungus *Rhizoctonia solani*, is very common on tees, greens, and home lawns due to the continuing hot, humid weather. To reduce the incidence and severity of **brown patch,** avoid excessive nitrogen applications (not more than 0.25lb N/1000 sq ft) during hot weather, irrigate between midnight and 8 a.m. (to reduce the period of leaf wetness), and spray turf with Armada, Banner, Chipco 26GT, chlorothalonil, Compass, Disarm, ConSyst, Curalan, Eagle, Endorse, Headway, Heritage, Insignia, mancozeb, Medallion, Prostar, Spectro, thiophanate-methyl, Tartan Trinity, or Touche per manufacturer's recommendations.

Pythium Blight

Recent outbreaks of **Pythium blight** has been reported on golf and landscape turf during the past two weeks. Since pythium thrives in low or poorly drained areas, especially when night temperatures are above 70^0F, we should see a lot more of this disease as the "hot muggy" weather continues this summer. For best results, improve drainage, water in the early morning hours, avoid overfertilization (not more than 0.25 lb N/1000 sq ft), and apply Alude, Banol, Chipco Signature, Disarm, Headway, Heritage, Insignia, Koban, Magellan, Prodigy, Quell, Subdue MAXX, or Terrazole, according to the manufacturer's recommendations. Apron may be applied as a seed treatment to prevent damping-off. Mancozeb can be used to control Pythium Blight but it is generally less effective than the products mentioned above. These products should be watered into the thatch on greens due the potential for foliar burn during hot weather. However, the use of Koban and Terrazole on fairways is prohibited.

Yellow Ring

This disease, caused by the fungus *Trechispora alnicola*, is evident on Kentucky bluegrass lawns and sod fields at this time. Patches are 1 to 2 feet in diameter and consist of green grass surrounded by 1 to 2 inch diameter yellow rings. Upon close inspection of the thatch, a dense mat of white mycelium is often apparent. Infected turf rarely dies and rings do not always reappear the following year. Symptoms are most apparent during cloudy weather between May and October. The fungus is primarily a saprophyte that colonizes organic matter in the thatch. Since damage is cosmetic and affected turf recovers during cool weather in the fall and spring, control is rarely warranted. In areas where symptom expression cannot be tolerated, turf managers should dethatch affected turf. No chemicals are currently labeled for the control of yellow ring.

Turf Field Days

This year's Rutgers Turfgrass Research Field Days will be held on Tuesday, July 31, 2007 (Golf and Fine Turf Research Field Day at Hort. Farm II, New Brunswick, NJ) and Wednesday, August 1, 2007 (Landscape Turf Research Field Day at the Adelphia Research Farm, Freehold, NJ). Pesticide credits will be provided on both days. Registration information and directions can be obtained via www.njturfgrass.org. ❑

MOTHS FROM PAGE 3

of tip moth/shoot moths that can be found on conifers include, 1) Nantucket pine tip moth (most important), 2) pitch pine tip moth, 3) European pine shoot moth, and 4) white pine shoot moth.

The **Nantucket pine tip moth** usually causes the most concern in the Northeast. The NPTM attacks many small pines and seems to be especially prevalent on Japanese black, mugo and Scotch pines. It has two generations a year, with damage occurring during May/June and again in July/August. Eggs are laid on needles and the hatched larvae bore into them for 1-2 weeks before entering terminal buds/twigs. Pheromone traps are available to detect emergence of male moths and to time necessary pesticide sprays before eggs are laid and damage occurs.

(Reference: Syllabus of the 1997 Advanced Landscape IPM Short Course, Volume II; Michael J. Raupp, PhD., Dept. of Entomology, Univ. of Maryland). ❑

Fall Nursery Weed Control Meeting

Thursday, August 7, 2007
5:00 – 7:00 pm
Overdevest Nursery
578 Bowentown Road
Bridgeton, NJ 08302

The 2007 Fall Weed Control Twilight Meeting will be hosted by Ed and Gail Overdevest. Our Nursery Weed Control Specialist, Dr. Steve Hart will be speaking. Steve has installed a number of nursery weed control plots that are being evaluated. During this meeting, he will be reviewing a general program but focusing on applications for fall and winter weed control.

5:00 "Weeds: How to identify them and when to expect them" by Dr. Steve Hart, Specialist in Weed Management, Rutgers University

5:30 "Getting ready for 2007: fall weed control" by Dr. Steve Hart

6:00 "Pesticide safety" by Dr. George Hamilton, Specialist in Pest Management, Rutgers University

Pesticide Recertification Credits: 1-Core; 2-PP2; 2-3A

For directions contact Overdevest Nursery at 856-451-3179 or Rutgers Cooperative Extension of Cumberland County at 856-451-2800. ❑

Cream Ridge Nursery Research & Extension Meeting

Thursday, August 16, 2007, 1:30 p.m. to 6:30 p.m.
Rutgers Fruit Research & Extension Center
283 Route 539, Cream Ridge, NJ

Agenda

1:00 Registration

1:30 "Variable Costs of Producing Nursery Crops" by Dr Robin Brumfield, Specialist Farm Management, Rutgers University

"Mycorrhizae and their Function" by Dr. John Dighton, Soil Ecologist, Director Rutgers Pinelands Field Station

"Intergration of Mycorrhizae in Nutrient Management Schemes for Nursery Crops by Dr. Gladis Zinati, Specialist, Nursery Management, Rutgers University

"Emerging Insect and Disease Pests of Concern to New Jersey Nurseries by Carl Schulze, Division of Plant Industry, NJDA

"Nursery IPM Scouting - The Fundamentals" by Steve Rettke, IPM Program Associate, Rutgers University

"Pesticide Record Keeping Update" by Dr. George Hamilton, Specialist, Pest Management, Rutgers University

4:00 Outside Field Tour - where you will see:

- Nursery Crop Research
- Plant Variety Trials
- Ornamental IR-4 Trials
- Field Pest Diagnostics and more

5:30 Pesticide Credits, Evaluation, SOCIAL TIME AND FOOD (sandwiches, salads & beverages)

COST: FREE!

Pesticide License Recertification Credits: (anticipated) CORE-1, PP2-4, 3A-4

**Pre-registration is required, deadline is August 14, 2007

** To register, call Monmouth County Extension Office 732-431-7260 or 7261 by Tuesday, August 14, 2007

This program is sponsored by Rutgers Cooperative Extension of Monmouth County in cooperation with the New Jersey Nursery and Landscape Association. ❑

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged near normal, averaging 73 degrees north 74 degrees central and 77 degrees south. Extremes were 92 degrees at Seabrook on the 17th, and 57 degrees at Charlotteburg and Flemington on 21st. Weekly rainfall averaged 0.83 inches north, 1.83 inches central, and 0.57 inches south. The heaviest 24 hour total reported was 2.98 inches at Toms River on the 18th to 19th. Estimated soil moisture, in percent of field capacity, this past week averaged 82 percent north, 75 percent central and 53 percent south. Four inch soil temperatures averaged 73 degrees north, 75 degrees central and 77 degrees south.

Weather Summary for the Week Ending 8 am Monday 7/23/ 7

	RAINFALL			TEMPERATURE				GDD BASE50		MON
WEATHER STATIONS	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
CANOE BROOK	.83	31.08	11.53	91	58	74.	0	1735	377	82
CHARLOTTEBURG	2.00	22.60	2.88	88	57	71.	-1	1490	382	90
FLEMINGTON	.15	25.24	6.36	89	57	74.	0	1629	229	67
NEWTON	.34	17.86	-.16	85	59	72.	-1	1468	254	72
FREEHOLD	3.17	25.14	6.79	87	59	74.	-1	1815	308	100
LONG BRANCH	1.83	23.03	4.77	88	63	74.	-1	1608	178	76
NEW BRUNSWICK	.32	27.19	8.96	89	61	75.	-1	1739	148	68
TOMS RIVER	3.41	19.78	1.08	87	60	74.	-1	1656	219	76
TRENTON	.44	23.21	5.84	90	59	75.	-2	1809	155	44
CAPE MAY COURT HOUSE	.16	11.75	-4.46	90	61	76.	0	1701	168	35
DOWNSTOWN	.73	17.07	.07	91	60	76.	0	1819	153	58
GLASSBORO	.16	20.54	2.52	91	65	78.	2	2022	377	36
HAMMONTON	.79	16.69	-1.28	91	61	77.	1	1878	238	55
POMONA	1.08	16.95	.76	91	60	76.	1	1818	293	58
SEABROOK	.51	17.28	.85	92	62	78.	2	2028	355	46
SOUTH HARRISON	.91	20.06	1.86	91	61	76	NA	1950	NA	NA

WES KLINE -- GDD BASE 40 PINEY HOLLOW
LAST WEEK 270 (Ending 7/16/07)
THIS WEEK 252 (Ending 7/23/07)

RUTGERS
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Rutgers School of Environmental
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Landscape, Nursery & Turf Edition Contributors

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