

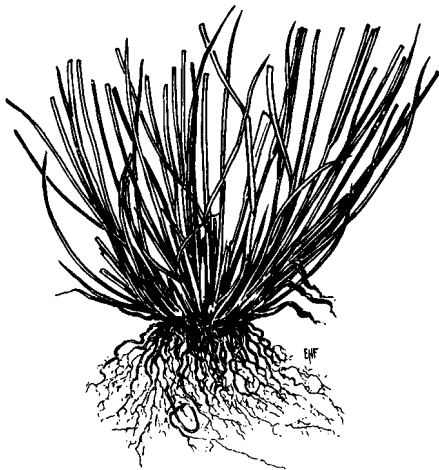
# PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION \$1.50

JULY 3, 1997

## Diseases of Turfgrass

Bruce B. Clarke, Ph.D., Turf Plant Pathology



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#### ◆ General

**Brown patch** has been quite severe on greens and tees during the past few weeks. This disease should continue to be troublesome as long as the weather remains hot and humid. **Anthracnose, dollar spot** and **red thread** are also quite prevalent on golf and landscape turf at this time. Since all three diseases are stimulated by environmental and cultural stress, maintain optimum turf vigor (i.e., provide adequate soil fertility and irrigate to avoid drought stress) to reduce disease severity. Refer to recent issues of this newsletter for complete disease control recommendations.

#### ◆ Anthracnose

This disease, caused by the fungus *Colletotrichum graminicola*, has been quite prevalent on annual bluegrass, fine fescue, perennial ryegrass, and Kentucky bluegrass recently. The fungus typically attacks turf growing under low soil fertility and/or heat and drought stress. Low cutting height can also enhance symptom development. To identify **anthracnose** in the field, look for small black fruiting bodies with protruding black spines. For best results, increase turf vigor with light applications of nitrogen, maintain adequate irrigation, reduce thatch, and raise the cutting height (whenever possible). On a preventive basis, apply Banner, Bayleton, Cleary 3336, Daconil, Heritage, Manicure, Rubigan, Sentinel, or Thalonil per manufacturer's recommendations. Once the disease develops, however, apply a tank mix of Bayleton 25DF (2 oz/1000 ft<sup>2</sup>) + Daconil 2787 4F (10 to 12 fl oz/1000 ft<sup>2</sup>) or a tank mix of Cleary 3336 50W (4 to 6 oz/1000 ft<sup>2</sup>) + Daconil 2787 4F (10 to 12 fl oz./1000 ft<sup>2</sup>) for best results.

#### ◆ Brown Patch

This disease, caused by the fungus *Rhizoctonia solani*, continues to be reported on tees, greens, and home lawns due to the warm, humid weather. To reduce the incidence and severity of **brown patch**, avoid nitrogen applications during hot weather, irrigate between midnight and 9 a.m. to reduce the period of leaf wetness, and spray turf with Banner, Chipco 26019, Cleary 3336, Curalan, Daconil, Eagle, Fungo, Heritage, mancozeb, Manicure, Prostar, Sentinel, Thalonil, or Touche per manufacturer's recommendations.

#### ◆ Pythium Blight

**Pythium blight** has been active on golf and landscape turf in several locations during the past two weeks. Since **pythium** thrives in

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low or poorly drained areas, especially when the night temperatures are above 70°F, 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 over fertilization, and apply Aliette, Banol, Heritage, Koban, Prodigy, Subdue, or Terrazole, according to the manufacturer's recommendations.

#### ◆ **Phytoxicity**

A few cases of tip burn were reported on *Poa annua* with the application of Heritage + insecticides during the recent heat wave (June 22 - 27, 1997). In all cases, a defoamer was applied with the pesticides and is suspected of being the primary problem. Until this problem is sorted out, the manufacturer is advising applicants not to apply Heritage with defoamers during hot weather.

#### ◆ **Summer Patch**

Now is the time to apply a second preventive fungicide application for the control of **summer patch** in areas where this disease has been troublesome in the past. For optimum results, apply Banner 1.1E (4 fl oz product/1000 ft<sup>2</sup>), Rubigan 1AS (4 fl oz product/1000 ft<sup>2</sup>), Bayleton 25DF (4.0 oz product/1000 ft<sup>2</sup>), or Heritage 50WG (0.4 oz product/1000 ft<sup>2</sup>) in 4 to 5 gal of water/1000 ft<sup>2</sup>. If fungicides can not be applied with this much water, irrigate them into the thatch immediately with 1/16 to 1/8 inch of water. Aeration and improved drainage will also aid in disease suppression. Soil pH should be maintained at or slightly below 6.0 for best results.

#### ◆ **Turf Field Day**

The date for this year's **Rutgers Turfgrass Research Field Day for "Golf and Fine Turf"** has been set for August 13, 1997 at Hort Farm II, Ryders Lane, in North Brunswick, NJ. Registration will begin at 12:30 p.m., "rain or shine." Guided field tours will commence at 1:30 p.m. Field Day will conclude with a barbecue dinner at 5 p.m. The cost of registration is \$20.00 without dinner and \$30.00 with dinner. Recertification credits will be awarded at the conclusion of the program so mark your calendars now for this worthwhile event. Call (732) 932-9400 for further information or directions. □

## Diseases of Ornamentals

*Ann B. Gould, Ph.D., Ornamentals Plant Pathology*

### ◆ **Landscape Ornamentals**

A number of diseases that get their start in the spring-time are evident now. High incidence of foliar diseases such as **crabapple scab**, **cedar-apple rust**, **leaf spots**, and **shade tree anthracnose** have been reported from locations throughout the state. In addition, **juniper tip blight** and **Sphaeropsis (Diplodia) shoot blight and canker** on scotch pine is particularly prevalent. Once the symptoms of these diseases develop, it's too late for chemical control. For disease management *next year*, however, improve plant vigor, prune dead branches during dry weather, and remove leaf litter in the fall to reduce disease spread. For further information, refer to the March 27th and April 10th editions of this newsletter.

To prevent fungal **leaf spots** on chrysanthemum, spray plants *now* with chlorothalonil or mancozeb and continue at 10-day intervals through mid-August.

Be on the lookout this month for one of the most common diseases of woody shrubs and shade trees - **powdery mildew**. Hosts particularly affected by this disease include ash, azalea and rhododendron, catalpa, flowering cherry, crabapple, crape myrtle, elm, euonymus, hydrangea, lilac, and rose. The fungi that cause **powdery mildew** grow superficially in light-colored "powdery" mats on upper leaf surfaces. In most cases, this disease does not result in serious harm to the plant.

To manage **powdery mildew**, reduce humidity through proper spacing and weed control. There are a number of fungicides labeled for control of this disease on one or more hosts. These compounds, including chlorothalonil, copper (Champ, Kocide), dinocap, fenarimol, myclobutanil, horticultural oil (neem, JMS Stylet-Oil, or SunSpray Ultra-Fine Oil), thiophanate-methyl, triadimefon, triforine, Ziram, or combination products that contain thiophanate-methyl (Benefit, Zyban, or Duosan), are best applied at the first sign of disease and repeated according to label recommendations.

June, July, and August are the best months to look for symptoms of **Dutch elm disease** on American elms in New Jersey. Affected branches throughout the crown will rapidly turn yellow and wilt (or flag). Black streaking may be evident in the vascular tissue just beneath the bark. The most effective means of saving infected trees includes prompt removal of diseased limbs up to 10 feet behind yellowed foliage. For best results in the future, control bark beetles with dormant applications of methoxychlor, remove dead or dying elms as soon as they are noticed, and debark or burn dead wood prior to beetle emergence next spring. To prevent root graft transmission of this disease, dig a trench (3 ft deep) midway between diseased and healthy elms, or apply Vapam per manufacturer's recommendations. In addition, valuable trees may be injected on a preventive basis with Alamo, Arbotect, or Phytan 27 as per manufacturer's recommendations. When trees exhibit more than 5% crown symptoms, fungicide injection may be ineffective.

### ◆ **Transplant Shock in Ornamental Plantings**

*[Adapted from Kentucky Pest News, by John Hartman and William Fountain (University of Kentucky Extension Plant Pathologist and Horticulturist, respectively)]*

Symptoms of decline and dieback of recently planted trees and

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shrubs are of major concern to commercial landscapers and residential clientele. Despite adequate moisture this spring, recent hot weather has placed additional stress on already inadequate root systems of newly transplanted trees and shrubs, resulting in symptoms often described as transplant shock.

Trees and shrubs transplanted as balled and burlapped (B&B) specimens generally lose 90 percent of their absorptive roots at the time of digging. The goal for the first 1- 2 years should be re-establishment of a good root system rather than production of a lot of new growth.

**Symptoms:** In extreme cases, trees fail to leaf out. Buds, twigs, and branches are dead and dried out. Young, dead twigs may have changed from green to brown and may have bark that is cracked and irregular rather than smooth. Sometimes the tree may try to sprout from the base. In most cases, trees leaf out, but the growth is not vigorous. Leaves may be undersized and chlorotic, sometimes with dead margins. Shoots will be shortened, and some twigs and branches will die back. Because of the loss of roots, some stunting is always expected and the effects of transplanting may be seen on some trees for several years.

**Causes of transplant shock:** The root ball may have been too small for the size of the tree. After digging it may have been allowed to dry out. Once a soil ball dries out, it can be very difficult to re-wet. Roots are killed when the soil balls become cracked from careless handling, or are allowed to freeze (roots are generally two plant hardiness zones less hardy than tops). Roots may have been crushed rather than cut cleanly at digging, thus reducing branching.

Most woody plants can be moved at any time of the year with mid-summer being the least favorable time and fall/early winter being the best. A plant may fail to leaf out if it was dug at the wrong time. Trees such as birch, black gum, dogwood, fir, hickory, magnolia, pecan, red oak, and walnut are best dug and planted in early spring. Trees should be dug and planted while there are no leaves on them. Trees with transplant shock may have been planted too deeply, too shallow, or without removal of burlap and ties, or were not watered after transplanting. Mechanical injuries to trunk and branches can also affect survival of the transplant.

**Remedies?** Trees cannot be brought back from the dead. For live trees showing transplant shock symptoms, provide good growing conditions, including judicious application of mulch to reduce competition from turf and weeds. Protect trees from mowers and string trimmers, and provide water to get through dry periods. Prune out dead twigs and branches. Avoid fertilizing newly planted trees and shrubs and especially those showing stress from transplant shock. Review digging and transplanting procedures to determine where the problem might have occurred, so that transplant shock can be avoided in the future. □

## What are Those White, Cottony-like Spots on my Douglas Fir?

Paula M. Shrewsbury, Ph.D., Ornamental and Turf Entomology

Many of you may have noticed over the past few weeks small (approx. 1/4"), white, cottony-like "spots" on the needles of your Douglas Firs. These white, cottony "spots" are actually one of the life stages of the **Cooley Spruce Gall Adelgid (CSGA)**. This is the adelgid that also causes the pineapple-like galls on the tips of Spruces. If you examine these "spots" on your Douglas Firs with a hand lens you will find that under the white wax are hundreds of small, brownish colored eggs or crawlers of the CSGA. If they are still eggs, this is not the time to control the CSGA on your Douglas firs. Wait until most of the eggs have hatched and you see active crawlers on the needles and stem of your firs. The crawlers usually become active sometime in July, so you should be *monitoring very closely now*.

The life cycle of CSGA is somewhat complicated. CSGA alternates (lives part of its life on different plant species) between Spruce (usually Colorado blue, Engelmann, Sitka, and Oriental) and Douglas fir, although this is not an obligate relationship. The CSGA can survive and reproduce on only one of its hosts. There are multiple generations a year. The CSGA overwinter as nymphs just below the buds on both spruce and Douglas fir. In the spring on susceptible spruce, the overwintering female nymphs mature to adults and lay hundreds of eggs on the lateral terminals. After egg hatch, the adelgids begin to feed and the tree forms elongate, green, pineapple-like galls on the new growth at the end of twigs. The adelgid develops within the galls which turn brown and open in July - August. Mature winged adelgids emerge which then migrate to another spruce or Douglas fir. In addition, the overwintering nymphs on Douglas fir become adults in the early spring and lay eggs on the needles. They cover the eggs with white wax which is what you are seeing now. There can be several generations of the CSGA on Douglas fir. On Douglas fir needle damage occurs, but not galls. If populations are high, Douglas fir needles become distorted and develop yellow blotches. If populations are low the damage is usually not noticeable, especially in Christmas tree farms where the plants are sheared.

The best management strategy on Spruce at this time of year is to look for galls on the tips of the new twigs and prune them out and destroy them before the galls open and a new generation of adelgids emerge. If you miss this "window of opportunity" you should then

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target the new generation of adelgids. If population of adelgids are high and damage is occurring on your spruces you may need to apply a control. Recommended controls are carbaryl (Sevin), chorpriifos (Dursban), horticultural oil, or insecticidal soap. Remember, oil will remove the "blue" glaucous bloom from your trees and Sevin is sometimes associated with spider mite outbreaks. At this time of year on Douglas fir, monitor for the presence of crawlers. Remember, there can be several generations so crawlers can be active any time for the remainder of the season. This is why monitoring for crawler activity is important. If crawlers are present and populations and damage are high then you should treat your Douglas firs. Recommended controls include carbaryl (Sevin), chorpriifos (Dursban), horticultural oil, insecticidal soap or imidacloprid (Marathon for nursery use, Merit for landscape use). Remember, oil will remove the "blue" glaucous bloom from your trees, Douglas firs have been reported to have a tendency to be sensitive to oils, and Sevin is sometimes associated with spider mite outbreaks. Although too late for this season, imidacloprid is a systemic insecticide which takes from 30 to 60 days to become active in the tree. You may want to consider this as a control measure for next year where you have chronic CSGA problems.

The best overall management strategy for CSGA is to reduce overwintering nymph populations with a dormant oil spray on both spruces and Douglas firs. Look at the base of needles below buds in late winter for wax covered overwintering nymphs. If populations appear high then apply a dormant oil treatment in late March (except on "blue" trees). Where dormant oils cannot be used, adults can be targeted for control in early spring. Yellow sticky cards can be placed at the end of terminals to help monitor adult activity.

Studies at the University of Maryland have demonstrated that green forms of Douglas fir are less susceptible than blue forms to CSGA and green forms of Colorado blue spruce are more susceptible to galling than blue forms. This information will help when monitoring for the presence of CSGA. □

## Minimize Drought Stress in Landscapes

*Jim Willmott, Camden County Agricultural Agent*

Many parts of the state have experienced high temperatures and below average precipitation over the past month. Although rain is in the forecast, ornamental plants and turf are stressed.

Limited soil moisture results in reduced photosynthesis, carbohydrate production and plant vigor. This predisposes plants to damage from infectious pathogens and some arthropod pests (insects and mites).

Plant health practitioners should not overlook soil moisture conditions as they monitor for pest problems. Keep in mind variables that affect soil moisture such as soil texture, organic matter, drainage and slope. Sandy coastal and pineland soils and highly urbanized sites are most vulnerable to drought damage. Soils vary significantly - even within the same landscape. Monitoring soil moisture is the best way to know if it is adequate in plant rootzones. Soil sampling probes or small spades are useful monitoring tools.

Irrigation is more technical than many realize. Water must reach and infiltrate plant rootzones. Too often quantities provided are either too low or high. Often irrigation is your customer's responsibility. Take time to explain proper technique. Don't just say "water" - explain proper timing, application quantities and equipment. Also, don't assume automatic irrigation systems are effective. Poor system design results in missed areas and water waste.

Here are some tips for reducing water stress in drought prone sites:

- Plan ahead before planting. Select low water use plants. Several are suggested in Rutgers Cooperative Extension Fact Sheet number 598. Request a copy from any county extension office.
- Group plants with similar water requirements together. Apply only the amount of water required by species present.
- Limit turf species to those that tolerate low soil moisture such as hard and tall fescues. When possible, select cultivars that perform best in New Jersey trials.
- Avoid misapplication of fertilizers. Applications should be based on soil testing. Excessive rates of fertilizers, particularly those with high salt indexes, increase water stress on sensitive species - especially under drought conditions.
- Control pests that increase moisture loss from plants, including spider mites and sucking insects like aphids, scales and adelgids.
- Increase soil organic matter to enhance water infiltration and retention. Incorporate composts, leaf waste or peat moss into planting beds. Composts can also be applied to turf - where practical, return clippings which increase soil organic matter. Keep in mind that organic sources can alter soil pH. Sphagnum peat, for example, can reduce pH in poorly buffered soils.
- Apply mulch to landscape beds. Mulch reduces water evaporation rates by cooling the soil surface and suppressing weed growth.

Although summer showers may relieve drought problems, water use in the landscape remains a concern. While water is needed to maintain the health of landscape plantings, much can be done to minimize plant losses from summer dry spells. □

# Improving Physical Properties of Landscape Soils with Amendments

Raul I. Cabrera, Ph.D., Nursery Crops Management

Soil provides plants with water, nutrients, and root anchorage. Poor performance of landscape plants is due to soil more often than any other single factor. Despite this, soils are often given little consideration when a site is selected for planting. Further, the development of a site and the construction of facilities typically compact the soil so the surface is practically impenetrable to air and water. Since soil compaction has been considered the largest single killer of trees, any practice that minimizes it or improves the physical properties of the soil should be carefully considered by landscapers and developers.

Although soil amendments can affect the physical, chemical, and biological properties of a soil, they are primarily added with the objective of improving its physical condition. When done correctly, amendments improve the aeration and tilth of fine-textured or compacted soils, increase the moisture and nutrient capacities of sandy soils, and decrease bulk density (weight per unit volume) when excessive weight is a problem. While mineral amendments (pumice, perlite, vermiculite) work fine and are fairly permanent in the soil, organic matter (peat moss, bark, sawdust, manure, compost) is more commonly used, but decomposes with time.

To have impact, an amendment must constitute *at least 40-50%* of soil volume. Hence, amending an entire soil area for tree and shrub planting is seldom justified. It is as effective and less expensive to break up the compacted surface, bring it to rough grade, irrigate to settle the soil, and then, when the soil is dry enough, bring it to final grade, plant, and mulch. The first two steps should be performed when the soil is fairly dry. Nevertheless, if a soil is to be amended, use a slowly decomposing organic material, and preferably one that has been nitrogen-treated and aged or composted. It may include sphagnum peat, redwood sawdust, untreated fir bark, or certain wood products treated and fired so they are high in lignin and slow to break down in soil. Spread the organic matter at a rate of 3-6 cu. yd. per 1000 sq. ft., and rototill it into the 4" surface of the soil (note: the damaging effects of pedestrian and vehicular traffic are usually confined to the 4" surface of soil, and it is also the zone where a large portion of roots are found).

Although peat moss and treated wood products decompose slowly and typically do not deplete the nitrogen level in the soil, it is recommended to spread nitrogen on the soil surface (1-2 lb. per 1000 sq. ft.) after these amendments have been incorporated. Avoid the use of untreated sawdust and other "fresh" organic materials to amend soils due to their rapid breakdown which ties up soil nitrogen.

Sometimes sand is still suggested as an amendment. As sand is added, however, finer particles occupy the voids between the sand grains, producing a denser, less porous mixture. Not until sand constitutes 45% or more of the volume will the mixture begin to have some of the properties attributed to sandy soils. Taking into account transportation and handling (i.e. weight), sand is to be considered an unsatisfactory amendment.

In upcoming issues I'll cover some facts, myths and recommendations on the use of amendments when preparing and backfilling planting holes during the transplant of trees and shrubs into the landscape. □

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# Plant Diagnostic Laboratory Highlights

Richard J. Buckley, Coordinator, Plant Diagnostic Laboratory

## ◆ Turf

**Anthracnose**, caused by the fungus *Colletotrichum graminicola*, is rapidly becoming the most prevalent problem on annual bluegrass and bentgrass golf greens this summer. The disease is usually associated with turf that has other problems. At this time, it appears that **drought, isolated dry spots**, and **insect feeding** are causing most of the stress that leads to **anthracnose** infection. **Anthracnose** was found on samples from Bergen, Camden, Middlesex, Monmouth, Morris, Sussex, and Passaic counties. The first sample of annual bluegrass with **summer patch** was submitted to the laboratory this week. **Summer patch** was diagnosed on turf from Bergen and Morris Counties. High populations of **annual bluegrass weevils** were identified in golf turf from Bergen, Middlesex, and Morris counties. These second generation weevils are just beginning to reach the adult stage. **Black turfgrass ataenius** larvae were also found in the sample from Middlesex County. **Pythium blight** was confirmed on samples from Maryland and New York. **Dollar spot** was diagnosed on turf from a Monmouth County Golf course, and **brown patch** was diagnosed on turf from courses in Sussex County and Maryland. **Take-all**, caused by the fungus *Gaeumannomyces graminis*, was confirmed in samples of bentgrass from Virginia and Monmouth County.

In landscape turf, **leaf spot and melting out** was identified on Kentucky bluegrass from a Monmouth County lawn. An unusual sample of perennial ryegrass from inside a conservatory at Longwood Gardens was diagnosed with **brown patch**. The conditions for infection were perfect. The turf was heavily fertilized and overwatered. **Red thread** is also very active at this time.

## ◆ Landscape

**Phytophthora root and crown rots** were the most common submission from landscape plantings this period. The disease was confirmed in yew and cypress from Atlantic County landscapes, as well as in rhododendron from a Middlesex County landscape. **Cankers** were also common submissions this period. **Botryosphaeria canker** was identified on elm branches from a Mercer County stand. **Cytophora canker** was found on willow branches sent to the laboratory by a Gloucester County landscaper. In each case, the trees were predisposed to fungal attack by **environmental and cultural stress** factors.

**Pear blister mite** was identified on leaves of an ornamental pear from a Morris County landscape. High

**aphid** populations were found on leaves of copper beech submitted by an Essex County landscaper. Samples of elm with **European elm scale** and **European peach scale** were submitted from a Mercer County arborist.

## ◆ Nursery and Greenhouse

A Cumberland County nursery grower submitted *Fothergilla* with **black root rot**, caused by the fungus *Thielaviopsis basicola*. **Nectria canker** and **Phomopsis canker** caused branch dieback on an American holly submitted by a Mercer County nursery. Each of these samples also had other **cultural and environmental stress** problems. □

## Ornamental Insect/ Disease Clinic

July 24, 1997

9:30 a.m. to 11:30 a.m.

Drew University

Madison, NJ

Morris County

### Featuring:

- ❖ A hands-on 2 hour walking tour featuring key ornamental insects and diseases
- ❖ Learn to identify and monitor pests in the field, up-close and personal with Rutgers Cooperative Extension faculty
- ❖ IPM control measures and monitoring will be discussed

Rain or shine

Cost: \$5.00

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Call for reservations and directions: Rutgers Cooperative Extension of Ocean County (732) 349-1246

# Weekly Weather Summary

Keith Arnesen, Agricultural Meteorologist

Temperatures averaged much above normal. Extremes were 99 degrees at Toms River on the 29th and 50 degrees at Newton on the 28th. Weekly rainfall averaged 0.10 inches North, 0.01 inches Central, and 0.28 inches South. The heaviest 24 hour total was 1.34 inches at Cape May Courthouse on the 26th to 27th. Estimated soil moisture, in percent of field capacity, this past week averaged 69 percent North, 51 percent Central and 37 percent South. Four inch soil temperatures averaged 72 degrees North, 75 degrees Central and 76 degrees South.

Weather Summary for the Week Ending 8 a.m. Monday 6/30/97										
WEATHER STATIONS	RAINFALL		TEMPERATURE		GDD BASE50		MON			
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	.16	11.50	-3.75	92	55	72.	2	747	-123	58
CANOE BROOK	.02	12.25	-4.12	96	55	75.	4	923	84	61
CHARLOTTEBURG	.06	14.81	-1.77	91	53	72.	4	691	34	58
FLEMINGTON	.05	13.30	-2.35	93	53	73.	2	749	-121	62
LONG VALLEY	.11	14.25	-2.49	90	52	70.	2	671	-48	63
NEWTON	.20	12.31	-2.64	90	50	70.	1	576	-161	70
FREEHOLD	MISSING									
LONG BRANCH	.00	14.12	-1.26	96	58	75.	4	862	-30	25
NEW BRUNSWICK	.04	16.09	1.12	94	55	74.	0	886	-138	67
PEMBERTON	.00	13.76	-1.10	97	55	77.	5	1062	65	34
TOMS RIVER	.00	13.05	-2.20	99	55	76.	4	885	-4	32
TRENTON	.00	15.95	1.99	94	55	75.	1	900	-173	46
CAPE MAY COURT HOUSE	1.34	13.83	.28	94	60	76.	4	927	-43	57
DOWNSTOWN	.05	12.48	-1.33	95	56	76.	3	946	-145	25
GLASSBORO	.00	15.14	.17	97	60	79.	6	1038	-32	29
HAMMONTON	.04	13.32	-1.25	98	55	77.	4	930	-133	17
POMONA	.13	14.39	1.19	96	56	76.	4	934	-41	36
SEABROOK	.30	13.64	.35	97	59	78.	5	1025	-73	32
ATLANTIC CITY MARINA	.13	10.42	-2.20	96	65	78.	7	927	21	33
WOODSTOWN	.00	13.46	-1.52	98	55	77	NA	1049	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week	236 (Ending 06/23/97)									
This Week	257 (Ending 06/30/97)									