

PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION \$1.50

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'Jersey Grown' Program Applications Available

The New Jersey Department of Agriculture is now taking applications from those wishing to participate in the Jersey Grown promotion program.

The Jersey Grown promotion program is based on the Jersey Fresh program, using a quality grading standard, labeling and advertisement to make quality New Jersey grown plants more visible to consumers.

"Excitement is building for the Jersey Grown program, which will highlight the largest sector of state agriculture - the horticulture industry," said New Jersey Agriculture Secretary Charles M. Kuperus. "The goal is to assure consumers that when they purchase nursery stock, they are getting the finest quality, pest-free, Garden State-grown plants."

Nearly 900 nurserymen and growers of nursery stock in New Jersey could be eligible to use the Jersey Grown logo when marketing their plants, trees and shrubs.

To participate in the program, growers in New Jersey need to possess a current nursery certificate from the Division of Plant Industry; all plants must be maintained free of injurious insects and plant diseases; and, any nursery stock grown under the program must be propagated or grown in New Jersey for at least six months prior to sale. Plants must meet or exceed the plant standards developed by the American Nursery and Landscape Association to be marketed under the Jersey Grown designation.

There is a \$30 application fee that will be used to help pay for inspection costs and promotional materials.

The application is available on the department's website at: www.state.nj.us/agriculture/jerseygrownappl.pdf or by calling the Division of Marketing and Development at (609) 292-5577.

Submitted by Jerome L. Frecon, Gloucester County Agricultural Agent. □

Powdery Mildew in the Nursery and Landscape

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

Summer is the time for **powdery mildew**, one of the most common fungal diseases of ornamental plants in the nursery and landscape. Powdery mildew is caused by 300 different fungi and the disease occurs on over 7000 flowering plants worldwide. Some of the more common woody hosts of this disease are listed below. Note that gymnosperms are not affected by this disease.

Ornamental plants most susceptible to powdery mildew in the landscape include ash, basswood, beech, *Berberis*, birch, blueberry, buckeye, catalpa, Chinese photinia, chrysanthemum, cotoneaster, crape myrtle, dahlia, delphinium, elm, eucalyptus, euonymus, flowering dogwood, gardenia, hawthorn, holly, honeysuckle, horse chestnut, hydrangea, snowball, kalanchoe, *Kalmia*, leucothoe, ligustrum, lilac, *Lonicera*, lilac, magnolia, maple, monarda, oak, phlox, *Prunus* (peach, plum, cherry, apricot), pear, poplar, privet, pyracantha, Reiger begonia, roses, serviceberry, spirea, smoke-tree, snapdragon, sycamore, tulip tree, *Vaccinium*, viburnum, walnut, wintercreeper, willow, wisteria, and zinnia.

Symptoms

As the name suggests, powdery mildew appears as a white to tan superficial growth on the surface of affected leaves and other aerial tissues. Signs of the fungus can first appear in late spring to early fall as individual spots coalesce to cover the entire tissue surface. This fungal growth (called a mycelium) produces asexual spores (or conidia) on stalks that permit air currents to pick up the spores and distribute them to other susceptible plants. Young plants and tissues are often more susceptible to this disease.

Powdery mildew fungi do not directly kill plant tissues, but infection by these pathogens can reduce photosynthesis and increase water loss. As a result, the growth rate and aesthetic value of infected plants is reduced. Leaves may be stunted, curled, or twisted, and the new growth, flowers, and buds of highly susceptible plants can be destroyed.

Management

To manage powdery mildew in ornamental plantings, improve air movement around plants through proper spacing and weed control, and increase the amount of sunlight that reaches foliage. Rake old leaves and prune shoots infected the previous growing season to reduce inoculum. Practices that promote succulent growth, including pruning and nitrogen fertilizing, should be avoided on susceptible hosts. Cultivars of crabapple, dogwood, lilac, and crape myrtle resistant to this disease are available and should be planted whenever possible.

Since powdery mildew fungi are associated with the surface of leaves, they are easier to manage with fungicides than other foliar diseases. Compounds labeled for powdery mildew control include AQ10 (*Ampelomyces quisqualis*), azoxystrobin, copper (hydroxide, metallic, salts, sulfate), fenarimol (field and landscape only), hydrogen dioxide, Junction, kresoxim-methyl, Manhandle, myclobutanil, neem oil, paraffinic oil, piperalin (enclosed structures only), potassium bicarbonate, propiconazole (outdoor use only), Spectro, sulfur (dusting, elemental, flowable, wettable), SysStar, thiophanate-methyl, trifloxystrobin, triadimefon, triflumizole, ziram, and Zyban. Most of these compounds are applied at the first sign of disease; however, consult the label for timing, rates, and appropriate hosts. □

Editor's Note: Steve Rettke who writes the Landscape IPM Notes is currently working in the field and will resume the Notes shortly.

Diseases of Turfgrass

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

Anthracnose

This disease, caused by the fungus *Colletotrichum graminicola* is apparent on annual bluegrass, fine fescue, perennial ryegrass, and Kentucky bluegrass. The fungus typically attacks turf growing under low soil fertility and/or heat or drought stress. Low cutting height and traffic 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 frequent, light applications of nitrogen, maintain adequate irrigation, reduce thatch, and raise the cutting height (whenever possible). On a preventive basis, apply Banner, chlorothalonil, Compass, ConSyst, Eagle, Heritage, Insignia, Rubigan, Spectro or thiophanate-methyl per manufacturer's recommendations. Resistance has been reported at some locations for the Qul (strobilurin) and benzimidazole fungicides. Also, Prostar may enhance the severity of this disease, therefore, restrict the use of this product to sites that do not have active infections.

Brown Patch

This disease, caused by the fungus *Rhizoctonia solani*, continues to be reported on tees, greens, and home lawns due to the hot, humid weather. To reduce the incidence and severity of **brown patch**, avoid nitrogen applications during hot weather, irrigate between midnight and 8 a.m. to reduce the period of leaf wetness, and spray turf with Chipco 26GT, chlorothalonil, Compass, ConSyst, Curalan, Eagle, Insignia, Heritage, mancozeb, Medallion, Prostar, thiophanate-methyl, or Touche per manufacturer's recommendations.

Gray Leaf Spot

Gray leaf spot caused by the fungus *Pyricularia grisea*, should develop in the tri-state area soon. This disease has devastated perennial ryegrass and tall fescue plantings throughout the Mid-Atlantic States in the past. Symptoms start as tiny brown leaf and stem lesions within a 1 to 2 inch patch. In severe cases, the leaves curl and lesions may extend the entire width of the blade. As the disease progresses, patches coalesce into large (one to two feet diameter) areas of blighted turf. Extensive foliar blighting may occur during warm (75-85° F days and 60-75° F nights), and wet weather. Newly established seedings are more susceptible to infection than mature plantings. When conditions are conducive to disease development, the pathogen produces abundant one to two-celled, pear-shaped spores (conidia). For best results, avoid high rates of nitrogen during July and

August and extended periods of leaf wetness (i.e. water in the early morning hours). Fungicide studies conducted in New Jersey, Georgia, Maryland, and Kentucky have shown that Compass, ConSyst, Insignia, Heritage, Spectro, thiophanate-methyl, and Zyban were most effective when applied on a preventive basis every 14 to 28 days beginning in mid-July. Chlorothalonil (e.g., Daconil) and the DMI (sterol-inhibiting) fungicides, such as propiconazole (e.g., Banner), may provide effective control when disease pressure is moderate.

Pythium Blight

This disease has been reported on golf and landscape turf recently throughout the region. **Pythium** thrives in low or poorly drained areas, especially when the night temperatures are above 70° F. For best results, improve drainage, water in the early morning hours, avoid over-fertilization, and apply Banol, Chipco Signature, Heritage, Koban, Magellan, mancozeb, Prodigy, Quell, Subdue MAXX, or Terrazole, according to the manufacturer's recommendations.

Turf Field Days at Rutgers University

The **Rutgers Turfgrass Research Field Day – Lawn and Landscape section** has been set for July 28, 2004 at the Plant Science Research Farm in Adelphia, NJ. 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 Turf Research Field Day – Golf and Fine Turf section** will be held on July 29, 2004 at the Turf Research Farm (Ryders Lane) in North Brunswick, NJ. This event starts at 8:30 AM (registration); field tours will run from 9 AM to 2:30 PM, "rain or shine." The cost of registration for each day will be \$35 (lunch included). Pesticide recertification credits and GCSAA CEUs (July 29 only) will be available at the conclusion of each program. Call Marlene at (732) 932-9400 ext. 339 for further information or directions. □

Turf Management

Jim Murphy, Ph.D., Specialist in Turfgrass Management

There are two easily confused stresses occurring on Kentucky bluegrass and to some extent tall fescue turf. The lack of rain continues to bring on drought stress in turf; however, the damage from billbug, if present, is also expressing at the same time. Note: perennial ryegrass containing endophyte (most new varieties do) will be resistant to billbug, whereas - non-endophytic perennial ryegrass will be very susceptible.

Take home message - don't presume it is only drought stress and that rain or irrigation will quickly revive the turf. Check for billbug damage by the "tug" test on senescencing tillers, especially if a preventative insecticide control program has not been implemented on the site. The combination of drought stress and billbug feeding can destroy areas of the turf. This will allow weeds to quickly encroach, creating another pest issue; whereas turf subjected to only drought will recover quickly once soil water becomes adequate. □

Plant Diagnostic Laboratory Highlights

Richard J. Buckley, Laboratory Coordinator

Golf Turf

After a very busy spring and record setting June for sample submissions, the laboratory work load has slowed significantly around the Fourth of July holiday. It has been awful quiet this week, which has me wondering if this is just the calm before the storm! Night temperatures are increasing and the humidity is building, so we should begin to see summer diseases come on full bore. Expect **brown patch, summer patch, anthracnose**, and maybe **pythium blight** to flare up. At any rate, this week we had our requisite **anthracnose** samples. Turf samples diagnosed with **anthracnose** were submitted from several New Jersey counties, as well as on golf turf from Connecticut, Pennsylvania and New York. In our last newsletter, we reported that turf plugs containing **annual bluegrass weevil larvae** have dropped off and field observations had local **annual bluegrass weevil** populations in the adult stage. Yesterday, a plug from a golf green in Middlesex County was submitted with a couple **annual bluegrass weevil larvae**, so beware that the next generation is upon us. □

Weather Summary for the Week Ending 8 am Monday 7/ 5/ 4

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	.26	13.33	-2.62	93	46	70.	-1	1229	276	54
CANOE BROOK	.25	16.92	-.14	91	58	73.	1	1350	405	76
CHARLOTTEBURG	.71	16.21	-1.05	87	53	69.	1	1127	380	68
FLEMINGTON	.60	17.08	.73	89	54	71.	-1	1269	291	75
LONG VALLEY	.25	14.75	-2.74	84	54	68.	-1	1089	275	74
NEWTON	.63	15.09	-.53	87	53	69.	-1	1138	305	70
FREEHOLD	1.56	17.16	1.16	91	56	74.	1	1390	316	84
LONG BRANCH	.85	14.40	-1.61	84	60	72.	0	1198	196	58
NEW BRUNSWICK	1.13	16.48	.80	90	56	73.	-1	1339	195	93
TOMS RIVER	.16	16.08	.08	87	56	72.	-2	1408	404	36
TRENTON	.26	13.13	-1.57	92	56	74.	0	1389	196	40
CAPE MAY COURT HOUSE	.00	13.21	-.92	83	61	72.	-1	1318	234	15
DOWNSTOWN	.59	14.78	.28	87	57	72.	-2	1475	265	44
GLASSBORO	.25	20.14	4.51	90	61	75.	1	1568	379	34
HAMMONTON	.54	15.85	.54	89	60	74.	0	1527	345	47
POMONA	.04	12.68	-1.17	85	57	72.	-1	1422	335	24
SEABROOK	.25	17.58	3.61	90	62	75.	1	1658	441	46
SOUTH HARRISON	.06	18.78	3.10	90	61	74	NA	1565	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week 214 (Ending 6/28/04)										
This Week 227 (Ending 7/5/04)										

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