

# County Extension Agent Turf News - Summer 2006

Dr. James McAfee and Dr. David Chalmers

Texas Cooperative Extension - Department of Soil and Crop Science

## Weather Conditions For Summer 2006

While many areas of the state are still suffering from severe drought conditions and heat stress, there are some areas of the state that have received above normal rainfall for the summer of 2006. In drought areas of the state, some cities/counties have instituted water restrictions for outdoor watering in order to conserve water. While water restrictions have made it difficult to water lawns, especially large lawns, it is still possible in most cases to provide enough supplemental irrigation to maintain a healthy stand of turfgrass. It is important to stress the importance of irrigation auditing to insure homeowners are applying supplemental irrigation as efficiently as possible during these drought conditions. See the April 2006 newsletter for information on how to conduct an irrigation audit. In areas of excess rainfall, such as the Houston area of the state, this above normal rainfall has created disease problems such as brown patch which is not normally a problem in summer months.

In many lawns, areas of the lawn are turning brown even though adequate water is being applied. Most homeowners believe that this browning of the turfgrass plant, due to its irregular pattern, is due to some type of disease and/or insect problem. While disease/insect activity can be a possibility, in some cases the damage is caused by excessively high temperatures. During extended high temperature periods, transpiration in the plants can be reduced even if soil moisture is present. Once this happens, the temperature of the leaf blade will become hot enough to cause burning (browning) of the leaf tissue. This is referred to as leaf firing. In most cases, only the leaf tissue is damaged and the crown portion of the turfgrass plant is still alive. As long as moisture is maintained around the crown areas of the plant, they can survive for an extended period of time. Hopefully with fall rainfall and cooler temperatures, many of these areas will be able to recover.

## Summer Pest Problems

Outlined below are some the major pest problems that have been observed in lawns this summer. In many cases, these problems can be mistaken for drought conditions. It is always important to properly identify a turfgrass problem before making a pesticide application for control.

### Turfgrass diseases

Below is a list of some common turfgrass disease problems. Also, included are two tables of fungicides for disease control. Table I contains fungicides for use in home lawns.

**Take-All Root Rot (TARR)** - this still remains the number one phone call for lawn problems. While this disease is mostly associated with St. Augustinegrass, it has been found in other turfgrasses as well. According to the plant pathologists, the disease is active in the spring and fall when soil temperatures are around 65° F. What we are seeing now is the results of the disease destroying the turfgrass plant's root system. At this time of the year, it is very difficult to achieve any control of this disease problem. Note: refer to the April 2006 newsletter for more information on TARR. The TCE Bookstore link to the publication is:

<http://tcebookstore.org/pubinfo.cfm?pubid=750>

Take-All is a disease complex that appears the result of many factors contributing to turf decline. Take-All Patch needs to be understood in depth. We also want to provide you some more recent information from one of

our researchers at the Dallas Agricultural Research & Extension Center in Dallas. Dr. Phil Colbaugh has been working on Take-All Patch in St. Augustinegrass. His research evaluated the positive effects of Canadian sphagnum peat moss application in aiding turf recovery and improved health in areas where there is a history of Take-All Patch. Dr. Colbaugh has found that an annual program of sphagnum peat moss application benefits turf health and has reduced the need for applied fungicides in trying to control this disease. The annual program is as follows:

Apply Canadian sphagnum peat moss 1 to 2 times per year. It can be applied in Spring and Fall or begun at any time the disease appears during the growing season. His research has shown enhanced vigor of the St. Augustinegrass in the treated areas. If Take-All Patch is severe the applications could be applied for two years before backing off to not applying at all, as the disease activity diminishes, to only then applying to areas that again exhibit the symptoms.

The rate of application is 1 to 2 bales of Canadian sphagnum peat moss per 1000 square feet of lawn area.

Each bale size is based upon a 3.8 cubic feet bale.



The areas should be irrigated following application and continued on a reasonable schedule to encourage turf recovery and activate the peat moss (the low pH of the peat moss is thought to have a negative impact on the disease activity which favors St. Augustinegrass recovery.

One awkward item is how one might uniformly spread the peat moss. Attached find an image from Dr. Colbaugh that demonstrates an expanded metal mesh spreader designed for this purpose. It also has a few distributors identified in the photo.

**Brown patch** - This disease is normally a major problem in St. Augustinegrass and Centipedegrass in the fall months. It is rare to see it active in the summer months. However, in areas of the state where above rainfall has occurred this summer, brown patch has been active. The easy way to determine if the brown areas in the lawn are due to brown patch activity is to pull on leaf blades in the affected area. If it is brown patch, the leaf blades can easily be pulled away from the stolons. Also, the stolons will still be light green to white and the root system will still be white (active). Reference link: <http://plantpathology.tamu.edu/Texlab/Lawns/bp.html>

**Nigrospora stolon rot** – this has not been a major problem in St. Augustinegrass lawns for many years. However, according to Dr. Larry Barnes with the Texas Cooperative Extension Plant Diagnostic Lab, he is seeing a considerable number of plant samples coming to the lab that are infected with Nigrospora. This disease can easily be mistaken with TARR. To be certain, have the homeowner send a sample into the diagnostic lab for positive analysis. Symptoms of the disease include dark brown lesions on stolons. Eventually, these lesions girdle the stolon, thus stopping the movement of water and nutrients to the leaves. The leaves soon wilt, turn yellow, then brown and die. This problem is often mistaken for chinch bug activity or drought damage. Back in the early 80's when Nigrospora stolon rot was very active, high rates of Daconil were found

to be the only good control. Unfortunately, Daconil is no longer labeled for use in turfgrasses in home lawns. Nigrospora has not received much attention as a major disease problem since then and data is lacking on fungicide controls for this disease. Therefore, fungicide products do not have Nigrospora on the label. In areas being treated for Take-All Root Rot or other diseases the fungicides listed may provide some activity on Nigrospora.

**Gray Leaf Spot** - this turfgrass disease can be active in late summer to early fall, especially in areas where high humidity is present. This disease is primarily a problem in St. Augustinegrass lawns and can be identified by small gray lesions on the leaf blade with a dark brown to black border around the gray area. Note, new sod is often infected with gray leaf spot, especially if it has set on the pallet for several days before being planted. If gray leaf spot is observed in a lawn, it is very important to not fertilize the lawn until the disease is brought under control. Application of Nitrogen fertilizer can significantly enhance the activity of this particular disease problem. Reference link: <http://plantpathology.tamu.edu/Textlab/Lawns/gls.html>

**Table I. Fungicides for control of turfgrass diseases in home lawns.**

Diseases	Trade Name	Common Name
Brown Patch ( <i>Rhizoctonia solani</i> )	Turfcide 10 G	PCNB
	Ortho Lawn Disease Control	propiconazole
	Sprectracide Immunox	myclobutanil
	Ferti-lome Systemic Fungicide	propiconazole
	Hi-Yield Lawn Fungicide Granules	PCNB
	Green Light Fung-Away Systemic Granules	thiophanate-methyl
	Green Light Systemic Fungicide	triadimefon
	Dragon Systemic Fungicide 3336WP	thiophanate-methyl
Take-All Root Rot* ( <i>Gaeumannomyces graminis</i> var. <i>graminis</i> )	Ferti-lome Systemic Fungicide	propiconazole
	Spectracide Immunox	myclobutanil
	Ortho Lawn Disease Control	propiconazole
	Green Light Fung-Away Systemic Granules	myclobutanil
	Ferti-lome F Stop	myclobutanil

**Volume I, No. 2 - August 2006**

Diseases	Trade Name	Common Name
Gray Leaf Spot (Pyricularia grisea)	Ferti-lome Systemic Fungicide	propiconazole
	Ortho Lawn Disease Control	propiconazole
	Spectracide Immunox	myclobutanil
	Green Light Fung-Away Systemic Granules	myclobutanil
Dollar Spot (Sclerotinia homoeocarpa)	Spectracide Immunox	myclobutanil
	Ferti-lome Systemic Fungicide	propiconazole
	Ortho Lawn Disease Control	propiconazole
	Green Light Systemic Fungicide	thiophanate-methyl
	Green Light Fung-Away Fungicide	triademfon
	Hi-Yield Maneb Lawn & Garden Fungicide	mancozeb
	Dragon Systemic Fungicide 3336WP	thiophanate-methyl
Leaf Spots ( Helminthosporium spp.)	Ferti-lome Systemic Fungicide	propiconazole
	Ortho Lawn Disease Control	propiconazole
	Hi-Yield Maneb Lawn & Garden Fungicide	mancozeb
	Dragon Mancozeb Disease Control	mancozeb
	Green Light Systemic Fungicide	triadimefon
	Dragon Systemic Fungicide 3336WP	thiophanate methyl
St. Augustine Decline Virus (Panicum mosaic virus)	no chemical control	
Fairy Rings - Numerous species	Heritage**	azoxystrobin
	ProStar**	flutolanil

Diseases	Trade Name	Common Name
Rusts (Puccinia spp)	Green Light Fung-Away Fungicide	triademfon
	Hi-Yield Maneb Lawn & Garden Fungicide	mancozeb
	Hi-Yield Lawn Fungicide Granules	mancozeb
	Ortho Lawn Disease Control	propiconazole
	Ferti-lome Systemic Fungicide	propiconazole
	Spectracide Immunox	myclobutanil
	Dragon Systemic Fungicide 3336WP	thiophanate-methyl
	Green Light Fung-Away Systemic Granules	myclobutanil
Nigrospora****	Dragon systemic Fungicide 3336 WP	thiophanate-methyl
	Ortho Lawn Disease Control	proiconazole
	Spectracide Immunox	myclobutanil

**Notations that apply to the above table**

- \* Preventing stress to turfgrass and topdressing with peat moss has been shown to be one of the best methods for controlling this disease problem in home lawns.
- \*\* Both Heritage and ProStar are not available in garden stores at this time.
- \*\*\* Note, the fungicide Chlorothalonil which is sold under the trade names of Daconil 2787, Daconil Ultrex, Daconil WeatherStix, etc. is not registered for use on turfgrass in home landscapes.
- \*\*\*\* Nigrospora has not received much attention as a major disease problem and data is lacking on fungicide controls for this disease. Therefore, fungicide labels do not have Nigrospora on the label. In areas being treated for Take-All Root Rot or other diseases the fungicides listed may provide some activity on Nigrospora.

**Note: this is a partial list of fungicides for use in home lawns. It is always important to have the homeowner read the label carefully to make sure it is listed for the particular disease they are trying to control.**

**Turfgrass Insects**

**Chinch bugs** – In Texas, the Southern Chinch Bug is primarily responsible for turfgrass damage in lawns. While the Southern Chinch Bug feeds mostly on St. Augustinegrass, it has also been found in bermudagrass, bahiagrass, centipedegrass and zoysiagrass lawns. However, damage in these lawns is usually minimum. The Common Chinch Bug is mostly a problem on small grains, but in dry years it has been reported to move into

## Volume I, No. 2 - August 2006

neighboring turfgrass areas, especially bermudagrass lawns. Two other chinch bugs include the Hairy Chinch Bug and the Buffalograss Chinch Bug. The Hairy Chinch Bug feeds on cool season grasses such as bluegrass, ryegrass and fescues, but can also be found feeding in zoysiagrass lawns. The buffalograss Chinch Bug has been found in buffalograss lawns primarily in the Midwest. Note, at this time, chinch bug activity in a buffalograss lawn in Texas is hardly ever a problem.

The adult chinch bug is approximately 1/6 inch long and about 1mm wide and is gray to black in color. It has a pair of folded white wings on the back. The adult chinch bug does very little feeding. The nymph stage is bright reddish-orange in color with a white band across its abdomen. The young nymphs do most of the damage to the turfgrass plant. Initial damage appears as irregular patches of wilted, yellow-brown turfgrass plants in hot areas of the lawn such as next to a sidewalk, driveway, etc. As the damage increases, these irregular patches coalesce into large dead or dying areas of the lawn that are often mistaken for drought damage. It takes approximately 22 to 25 chinch bugs per square foot to kill turfgrass. Generally, if this many chinch bugs are present, you can easily see them down in the thatch layer.

Chinch bugs need thatch in a lawn to survive and do damage. Preventing thatch or removing thatch from a lawn will help in preventing chinch bug damage in lawns. Also, chinch bugs prefer a turfgrass plant with lush, actively growing leaf blades. Over fertilizing with nitrogen fertilizer will encourage chinch bug activity in the summer months. See Table 3 for a list of insecticides labeled for the control of chinch bugs in residential lawns. The TCE Bookstore link to the publication is: <http://tcebookstore.org/pubinfo.cfm?pubid=248>

**White grubs** – In Texas, the most common white grub found causing damage to turfgrass plants is the larvae stage of the May/June beetle. This insect will attack most turfgrasses found growing in home lawns in Texas. Generally, the damage will start showing up in lawns in late July to mid-August depending on which area of the state you live. Grubs damage the turfgrass plant by chewing off the root system of the plant, thus preventing the uptake of moisture and nutrients into the top portion of the turfgrass plant. Initial damage appears as wilted or drought stressed areas of the lawn. Turfgrass in these affected areas can easily be lifted (no roots) and you will usually see at least 4 to 5 white C shaped larvae in the soil.

The key to controlling the white grub larvae is to water the insecticide in thoroughly so it can move down into the soil where the grub is doing the damage. See Table 3 for a list of insecticides labeled for the control of white grub larvae in residential lawns. The TCE Bookstore link to the publication is: <http://tcebookstore.org/pubinfo.cfm?pubid=205>

**Mites** – mites are tiny arthropods that more closely resemble spiders than insects. Unlike insects, most adult mites have eight legs instead of six legs. However, in the family of mites that attack the warm season turfgrasses, Eriophyidae, the adults have only six legs. These soft, banana shaped mites live under the leaf sheath and will suck juices from the meristematic tissue in the plant, causing growth deformities in the turfgrass plants. The adult mites are only 1/100 of an inch long, which makes them invisible to the naked eye.

In the bermudagrass mite (also called bermudagrass stunt mite) and the buffalograss mite, feeding will initially produce shortened stem internodes, resulting in tufted or rosette growth which is sometimes referred to as “witches broom” effect. These tufted areas will eventually turn brown and die back to the stems, resulting in thinned turfgrass areas. These mites are most active in hot, dry areas.

In zoysiagrass, damage first appears as whitish to yellowish streaks on young leaves, followed by severe growth reduction. New leaf tips and occasionally panicles, are twisted and caught in partially unrolled older leaves. This results in distinctive terminal loops or arches that resemble “buggy whips.” Meyer zoysiagrass is highly

susceptible to this mite, while newer cultivars such as Emerald and Crown have shown good resistance to the zoysiagrass mite.

With the loss of Diazinon, we do not have a real good control for mites in turfgrasses. The mite's life cycle is very short in hot, dry weather, 7 to 10 days. When treating mites, it is important to make a repeat application in 7 to 10 days for any control to be effective. See Table 3 for a list of insecticides labeled for the control of mites in turfgrasses in home lawns.

**Bermudagrass scale** – while this problem has been observed for a long time, in the past it has not been a major issue. However, with the drought conditions, bermudagrass scale appears to be showing up in more and more lawns as well as other turfgrass areas. While this pest attacks mostly bermudagrass, it has also been reported in bahiagrass, centipedegrass, St. Augustinegrass and tall fescue. Bermudagrass scale is found in the crown (node) area of the bermudagrass plant. Crown and nodes become encrusted with whitish shells, giving them a moldy appearance. Bermudagrass scale quite small, about 0.1 inch in length.

Early symptoms can resemble drought stress. With severe infestations, large patches of bermudagrass may be thinned or killed. Infected areas of turfgrass coming out of winter dormancy may exhibit yellowing and may be stunted and thinned out. To look for bermudagrass scale activity, pull up stolons in affected areas and look for the whitish scale underneath the leaf sheaths in the node areas of the stolons.

There are not any chemicals recommended for bermudagrass scale at this time. Producing a strong, healthy turfgrass stand is about the only way to overcome this problem at this time. Scale tend to be more of a problem in taller mowed bermudagrass areas such as home lawns and golf course roughs.

**Table 2. Common and Trade names for some insecticides labeled for insect control in turfgrass in residential lawns.**

Common name	Trade names
Acephate	Ortho Fire Ant Killer, Ortho Systemic Insect Killer
Bifenthrin	Ortho Bug-B-Gon Max Insect Killer for Lawns, Ortho Fire Ant Killer Broadcast Bait
Carbaryl	GardenTech Sevin-5 Ready to Use Bug Killer Hi-Yield Lawn & Garden Insect Killer Granules Bonide Eight Insect Control Yard & Garden Granules
Cyfluthrin	Bayer Advanced Lawn Power Force Multi-Insect Killer Bayer Advanced Lawn Fire Ant Killer
Deltamethrin	Hi-Yield Turf Ranger Granules Hi-Yield Fire Ant Control Granules Bonide Delta Eight
Fipronil	GardenTech Over' n Out
Fenoxycarb	Award

**Table 2 - continued**

Halofenozide	Hi-Yield Kill-A-Grub Mach 2 Granules Spectracide Grub Stop
Hydromethylnon	Ambrand Amdro Fire Ant Bait
Imidacloprid	Scotts GrubEx Bayer Advanced Lawn Season Long Grub Control
Imidacloprid + B-cyfluthrin	Bayer Advanced Lawn Complete Insect Killer
Indoxacarb	Spectracide Once & Done
Lambda-cyhalothrin	Spectracide Fire Ant Mound Destroyer Spectracide Triazicide Once & Done Spectracide Insect Killer Granules
Methoprene	Extinguish
Permethrin	Basic Solutions Lawn & Garden Insect Killer Spectracide Ant Shield Home Barrier Ortho Ant-B-Gon Dust Green Light Conquest Insecticide Concentrate Hi-Yield Kill-A-Bug II Lawn Granules Terro Ant Killer Hi-Yield 38 Plus Bonide Bug Beater
Pyriproxyfen	Distance, Esteem
Spinosad	Green Light Fire Ant Control with Conserve Green Light Spinosad
Trichlorofon	Bayer 24 hr. Grub Control Hi-Yield Dylox 6.2 Granules

Note: This is only a partial list of available insecticides for insect control in home lawns. Homeowners should always read the label carefully before purchasing to make sure it is still labeled for the insect they are trying to control and that it is still labeled for use in turfgrasses in home lawns.

**Table 3. Insecticides for the control of different insects in residential lawns.**

<b>Insects</b>	<b>Insecticide (common name)</b>
White grub larvae	imidacloprid*, halofenozide*, carbaryl, trichlorofon, and Imidacloprid + bifenthrin

**Table 3 - continued**

Chinch bugs	carbaryl, bifenthrin, cyfluthrin, deltamethrin, permethrin, trichlorofon, lambda-cyhalothrin and imidacloprid + bifenthrin
Bermudagrass mites	carbaryl, lambda-cyhalothrin, deltamethrin, permethrin
Fall armyworms & Cutworms & Sod webworms	bifenthrin, carbaryl, deltamethrin, cyfluthrin, halofenozide, permethrin and imidacloprid + bifenthrin
Fire Ants	acephate, bifenthrin, cyfluthrin, deltamethrin, fipronil, Hydromethylnon, indoxacarb, lambda-cyhalothrin, Spinosad, fenoxycarb, methoprene and pyriproxyfen

**Note:** homeowner's should always read label before purchase to make sure the product is still labeled for desired insect control and that it is still labeled for use in residential lawns.

\* These two grub control insecticides need to be applied before the larvae are actively feeding. They are slow to kill the larger larvae. If grub damage is already present from actively feeding larvae, then use one of the other insecticides recommended for grub control.

**Turfgrass Weeds**

**In areas where drought conditions still exist**, most lawns and other turfgrass sites are under stress, even if they are being watered. Applications to St. Augustinegrass and centipedegrass lawns should be made with extreme caution. It would be best to spot treat only for weeds in these lawns during this stress period. Bermudagrass and zoysiagrass can tolerate herbicides better in this heat/dry conditions, but would still use caution.

**Summer grassy weed problems** include crabgrass, dallisgrass, sandburs, K.R. bluestem and barnyardgrass. Postemergent application for control of these weeds include MSMA (numerous brands) and Quinclorac (Drive). MSMA alone on mature sandburs is not very effective. Adding Image to the MSMA will improve postemergent control of sandburs. While the MSMA + Image combination will burn back the bluestem, it does not really kill the plants. At this time, there really isn't a very effective control for bluestem.

**Summer broadleaf weeds include:** spotted spurge, prostrate knotweed, Virginia buttonweed, Matt Chafflower (Khaki weed), common purslane and dichondra. For most of these weeds, one of the combination products containing 2,4-D, MCPP and Dicamba is probably going to be most effective. For weeds such as Virginia buttonweed and Matt Chafflower, it will probably take more than one treatment. At this time there is not a good dichondra control herbicide sold in garden stores for homeowner use.

**For the sedges**, use Sedgehammer (formerly Manage), Image, Monument or Certainty. Monument is not labeled for home lawn use at this time.

**It will soon be time to think about applying the fall application for control of winter annual weeds.** Table 4 contains a partial list of preemergent herbicides that can be used for control of

winter annuals. The preemergents should be applied in early September for the panhandle area, mid-September for central Texas and late September to early October for south Texas. Note, if the drought continues, you may be able to delay this application for a couple of weeks. Last year, in drought areas of the state, winter weeds were very late to start germinating. However, once rainfall starts occurring, the preemergent needs to be applied as soon as possible.

**Table 4. Partial list of preemergent herbicides for control of winter annuals in residential lawns.**

<b>Common Name</b>	<b>Trade Names (partial list)</b>
dithiopyr	Sta-Green Crab Ex; Green Light Crabgrass Preventor Vigoro Preemergent Crabgrass and Weed Preventor
pendimethalin	Scotts Halts Crabgrass Preventor
oryzalin	Southern Ag. Surflan A.S.
isoxaben	Portrait Broadleaf Weed Preventor
benefin + oryzalin	Green Light Amaze Grass and Weed Preventor; XL 2G;
benefin + trifluralin	Hi-Yield Crabgrass Preventor; Southern Ag. Team 2 G
corn gluten meal	Concern All Natural Weed Preventor Plus Nature's Guide Corn Gluten Meal

While this is probably not a complete list of herbicides for preemergence weed control in home lawns, it does contain the herbicides commonly found in garden and retail stores. Note, these products are labeled for the control of both summer and winter annual weeds. Labels can change on a regular basis. Therefore, always read the labels before purchasing and before using any of these herbicides to determine which grasses they can safely be used on and what weeds they will control.

### **Importance of Turfgrasses in the Environment:**

Some individuals and organizations continue to question the need for turfgrasses in our landscapes; believing that turfgrasses waste water and require too much pesticides and fertilizers that can be harmful to the environment. With the extended drought condition in many areas of the country, turfgrasses are coming under even more scrutiny. It is important to recognize that turfgrasses provide many benefits to the environment. Listed below are some of the major benefits of turfgrass.

1. Turfgrasses act as a great air filter. It is estimated that turfgrass areas trap some 12 million tons of dust and dirt in a year's time. Just one acre of grass can absorb hundreds of pounds of fossil fuel-created sulfur dioxide in a year.
2. Turfgrass growing in lawns can act as a sink for carbon dioxide. This process, referred to as "carbon sequestration". This ability of a plant to take up carbon into its leaves, roots and other plant parts: is seen as a way to reduce excess carbon in the air from the burning of fossil fuels which, it is theorized, causes

## Volume I, No. 2 - August 2006

global warming. Researchers at Colorado State and USDA-ARS estimated that golf course greens and fairways alone can sequester up to 1 ton of per hectare (2.47 acres) of carbon per year.

3. Turfgrasses act as nature's air conditioner. In a city block of eight homes, the front lawns have the cooling effect of 70 tons of air-conditioning. Without turfgrasses in the urban areas, temperatures would rise significantly.
4. Turfgrasses are a good source of oxygen. A 2,500 square foot lawn can produce enough oxygen for a family of four.
5. Grass contributes greatly to improving the underlying, existing soil. The lawn is continually improve topsoil by producing new plants with roots that have their own life cycle, adding organic matter as plant parts die off and decompose.
6. Grass/soil systems have the ability to trap large amounts of water. A healthy 10,000 sq.ft. lawn can absorb more than 6,000 gallons of rainwater without noticeable runoff. The water nourishes grass, trees, shrubs and flowers before soaking through the topsoil to replenish groundwater.

The turfgrass industry is a huge business in Texas as well as the United States. In the Unites States, the turfgrass and green industry generates approximately \$ 147.8 billion dollars in annual sales (over \$12 in Texas alone) and provide a livelihood to a substantial portion of the population in many far reaching areas of the country.