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New CHIPCO® MOCAP® insecticide gives you the kind of grub control you need...control that's fast and effective.

CHIPCO MOCAP starts killing grubs as soon as you water it in. Other products take hours or days to work.

And all that time, grubs continue to feed, destroying your turf.

For best results, apply CHIPCO MOCAP before grubs start to feed—usually in August or early September. But if grubs get the jump on you, you can still take control quickly and effectively with fast-acting CHIPCO MOCAP.

And fast action is just part of the story. CHIPCO MOCAP gives effective control of a broad spectrum of grubs.

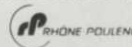
CHIPCO MOCAP KILLS OTHER TURF INSECTS, TOO.

CHIPCO MOCAP knocks out a broad range of surface insects, including chinchbug and sod webworm. And if nematodes or mole crickets are destroying your turf, you can destroy them, too, with CHIPCO MOCAP.

For the fastest, most effective control of grubs and other turf pests, include CHIPCO MOCAP in your turfgrass management program. CHIPCO

MOCAP from Rhône-Poulenc Inc., makers of CHIPCO® 26019 and CHIPCO® Ronstar®, is a new addition to the CHIPCO line of fine products for turfgrass protection.

For more information write to Rhône-Poulenc, CHIPCO Department, P.O. Box 125, Monmouth Junction, NJ 08852



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Rubs out grubs.

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TURF DISEASE GUIDE



red thread has been split into two diseases: red thread and pink patch.

Red thread is an especially serious problem on slow-growing turf, whether growing slowly from lack of adequate nutrition, irrigation, or the cold weather.

New perennial ryegrasses are highly susceptible to red thread and with more of these varieties being used in home lawn turfs, this disease is becoming more and more important.

Red thread can be recognized by the red to coral pink stroma present on the foliage. The stroma appear fleshy and gelatinous when the turf is moist, later drying to become thin and thread-like. The lawn may appear as though it is infected with *Helminthosporium* or dollar spot, when viewed from a distance.

Adequate nitrogen and irrigation will manage the disease on Kentucky bluegrass and fine-leaf fescues and help reduce the severity of this disease on perennial ryegrass.

However, perennial ryegrasses are so

susceptible to red thread that fungicides will be necessary to manage the disease when severe outbreaks occur.

Pink patch

This disease was formerly grouped under red thread, which was believed to be caused by *Corticium fuciforme*. Pink patch is now considered a separate disease caused by *Limonomyces roseipellis*.

Like red thread, it is primarily a cool weather disease which is more severe under conditions of low fertility. It primarily attacks the above ground portions of the grass plant.

The disease is first evident along the margins of the leaf blades, as small, irregularly-shaped blotches of pink. Eventually, the entire width of the blade may take on a pinkish cast. The pink mycelium never becomes as pronounced as the stroma of the red thread fungus.

Pink patch has been known to be a problem on perennial ryegrass and fine-leaf fescue for some time. It has recently

been found to be a problem on creeping bentgrass, in particular, Penneagle. This is probably due to the fact that Penneagle is more susceptible than the other creeping bentgrasses and to the trend toward lower rates of nitrogen on golf course greens.

When pink patch occurs on closely mowed turf, the patches are anywhere from a few inches to two feet in diameter.

If you don't have a dissecting scope or microscope handy to distinguish the two diseases, place a sample of the diseased turf in a plastic bag with a moist paper towel and seal it. In a few days, if the patches are caused by pink patch, pink tufts resembling cotton candy will appear on the infected grass blades.

Increasing the amount of nitrogen will help reduce the severity of pink patch. No fungicide data exists for the management of this disease. If it becomes a problem, you may wish to try one of the fungicides recommended for red thread.

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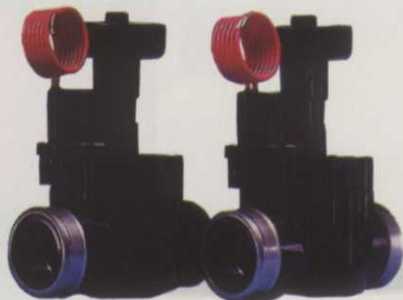
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Ford commercial mowers

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Top of the line is a 16-horsepower, 5-forward speed workhorse that cuts a 48-inch swath, with turn-on-a-dime maneuverability for mowing around trees, shrubs and other obstacles. The optional sulky provides sit-down comfort for mowing large lawn and turf areas. A twin-cylinder Briggs & Stratton Industrial/Commercial engine delivers plenty of power to take heavy growth in stride.

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Ford mid-range tractors

Ford Series 10 tractors are engineered for excellent performance, ease of operation and all-around versatility.

Choose from ten diesel models from 34.3 to 86 maximum net engine horsepower. Standard equipment includes 3-point hitch, independent PTO, and power-assist steering on most models.

Options include front-wheel drive, synchromesh transmission, turf tires, and more.

Ford also offers 40.5 and 60 maximum net horsepower low-center-of-gravity Series 10 tractors (shown below) designed to work on hilly and rolling terrain.



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Ford tractor-loaders

There's a Ford loader available to extend the versatility and year-around capabilities of every Ford tractor power size. Each offers a wide choice of buckets.

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Ford also offers many other attachments for grounds maintenance work: rotary cutters, flail mowers, front and rear blades, landscape rakes, scoops, posthole diggers and more. See your Ford Tractor dealer for complete information.

Ford compact loaders

Ford Load Handlers pack a lot of muscle into a very compact, highly maneuverable package.

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FORD TRACTORS



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DISEASES OF WARM SEASON TURF

by Don Blasingame, extension plant pathologist, Mississippi State University

Managers of southern turf not only fight diseases of six different warm season turf species, but also diseases of overseeded cool season turf species.

Although most southern turf diseases are caused by fungi, agents such as bacteria, viruses, and nematodes, can cause serious problems to certain grasses.

Southern turf managers can't depend solely on fungicides for disease control. Good variety selection, proper fertilization, and appropriate cultural practices are very important in disease control.

No amount of fungicide will compensate for poor fertility and

cultural practices.

Brown patch

Brown patch is the most common turf diseases occurring in the Southeast. Although St. Augustine and zoysiagrass are the most susceptible species, even the more tolerant centipedegrass, bermudagrass and ryegrass are frequently damaged by this fungus.

Brown patch is favored by warm, moist weather combined with cool nighttime temperatures. Therefore, in certain areas of the South, brown patch can and does occur any month of the year.

In the upper regions of the South,

the most favorable conditions for brown patch development occur from late April through mid-October.

Symptoms of brown patch on warm season grasses are different than the symptoms of the disease on cool season turf. Even though the grass is usually killed in a circular pattern, many times the smoke ring is not seen on southern turf.

Under certain conditions the fungus may cause a gradual thinning of the turf over a rather large area instead of killing in a circular pattern.

There are several factors that tend to make the grass more susceptible to brown patch. One is the excessive ap-

continued on page 70



A developed case of fairy ring on centipede grass.



Rust on zoysiagrass.

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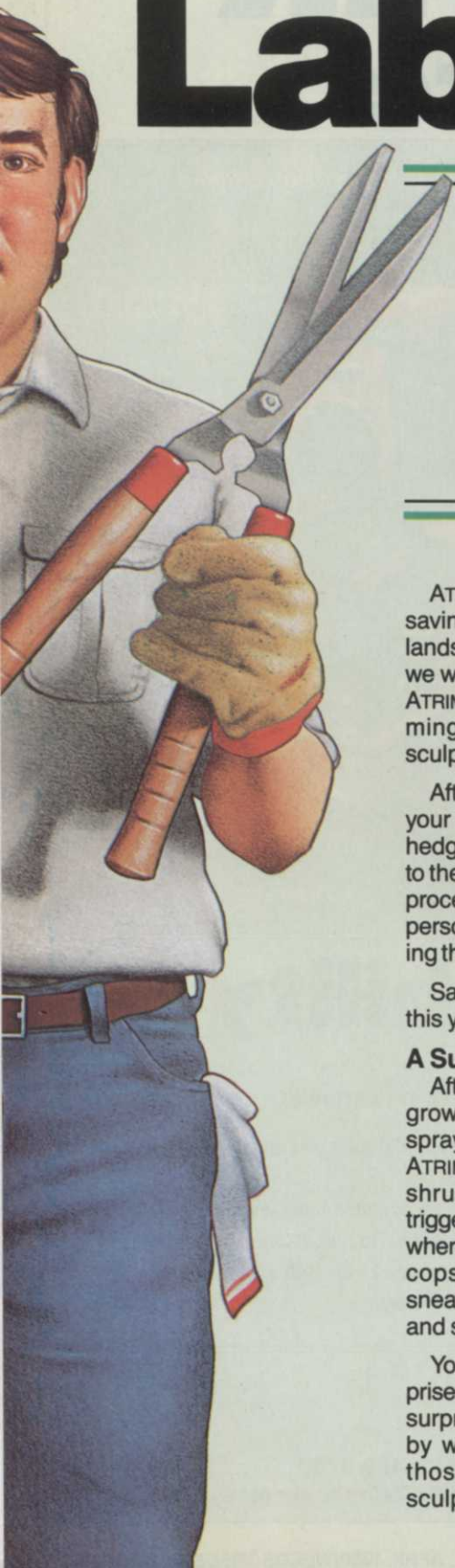
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Savor it well, because it will be the last time this year you'll get to use your clippers.

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by your clippers will be "frozen in time." Wild, unruly apical growth will be stopped. Instead, the plants will thicken up, becoming even more beautiful than the sculptured look you gave them with your skillful shears.

Also Use ATRIMMEC in Nursery and Greenhouse

ATRIMMEC is extremely efficient in promoting lateral branching and suppressing long shoots on container or field grown woody ornamentals.

It is also efficient for chemically pinching azaleas, fuchsias, kalanchoe, crepe myrtle, shrimp plant, English ivy and other potted or hanging plants. (See chart on opposite page.)

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How ATRIMMEC Works on Trees, Shrubs, Hedges and Potted or Hanging Plants.

ATRIMMEC is a growth regulator that blocks the plant hormones which stimulate apical growth. With ATRIMMEC, the plants grow out instead of up, and become fuller and more attractive. They keep their shape much longer, so labor cost is reduced. It can also be used to suppress unwanted flowering and fruit set on many ornamentals and to control groundcover.

ATRIMMEC, by injection, retards the growth of larger trees and thus reduces the need for manual pruning under utility lines. In some instances, ATRIMMEC can eliminate trimming for up to four years.

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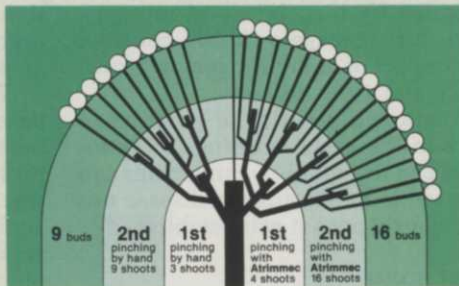
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Spray on ornamentals and hedges to prolong a sculptured look.



Inject in larger trees to retard apical growth.



Spray on potted plants to eliminate hand pinching and increase branching and buds.



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Melting out on common bermudagrass.

plication of nitrogen fertilizer. The resulting lush growth is readily attacked.

Another is watering late in the afternoon and allowing the grass to remain wet for long periods of time. Excessive accumulation of thatch also creates a favorable environment for development of brown patch and many other diseases.

Fungicides are best used on a preventative schedule. Once symptoms develop, control can be difficult.

Dollar spot

Dollar spot is common on many species of grasses, including bermudagrass, zoysiagrass, and annual and perennial bluegrasses.

Symptoms of dollar spot are different on certain warm season grasses than those noted on cool season grasses.

On finer textured grasses, such as bermudagrass and zoysiagrass, the disease kills grass in small patches two to three inches in diameter. Under severe conditions, these patches may coalesce so that the turf has a mottled appearance. Blades of grass at the outer edges of the infected area develop tan spots with reddish brown margins.

On coarser warm season grasses, turf is killed in larger patches ranging up to a foot in diameter.

Dollar spot is prevalent during periods of mild weather during the spring and fall.

Unlike brown patch, dollar spot is retarded by high levels of nitrogen. Still, turf managers should consider the impact of high nitrogen on brown patch and other diseases.

Watering should be performed only in the early morning so the foliage can dry quickly. Fungicides can be used to help bring the disease under control once it gets established.

Leaf spots

A number of fungi cause leaf spots on many southern grasses. Regardless of the causal agent, leaf spots and their control on southern grasses are similar.

Helminthosporium leaf spots (*Bipolaris* spp.)—Bermudagrass and ryegrass are most severely affected by helminthosporium infections, although the fungus can survive on centipedegrass and St. Augustine.

Infection can occur over a wide range of temperature, but usually is more severe at 70 to 95 degrees F. Milder temperatures in the spring and fall are more favorable for infection.

Helminthosporium causes small, dark-colored spots or flecks on the leaves and sheaths. Leaf spots are usually more numerous near the collar of the leaf blades. Severely affected leaves wither and die and the turf frequently becomes brown and thin.

Symptoms on overseeded ryegrass are altogether different. Although leaf spots may occur, this same helminthosporium can cause severe

crown rot. This causes a yellowing and discoloration of the grass and a general thinning of the turf.

Fertilize with adequate levels of nitrogen and potassium if helminthosporium diseases become a problem. With careful management, apply fungicides recommended for helminthosporium blight control.

Gray leaf spots—St. Augustine is the primary host for gray leaf spot. The disease occurs throughout the lower South during warm, humid weather.

Spots on the leaf blades are the most visible, but sheath and stem lesions also occur. Leaf spots begin as olive green to brown, water-soaked spots as small as a pinhead. These enlarge rapidly and form a circular to elongate lesion that is brown to ash colored with purple margins.

The disease occurs during moderate to warm weather accompanied by high relative humidity. Severity of the disease is enhanced by applications of nitrogen fertilizer. It is more a problem in shaded areas where the grass remains wet from dew.

Treatment with a fungicide may become necessary if the disease outbreak is severe and accompanied by prolonged periods of wet favorable weather.

The fungicides chlorothalonil, mancozeb, and cycloheximide plus thiram have been found to be effective in controlling gray leaf spot.

Rust

Rust or *Puccinia* species infect a number of grasses grown in the South, including ryegrass, zoysiagrass, bluegrass, fescue, bermudagrass, and St. Augustine.

Zoysiagrass and bluegrass are the most often infected grasses.

Susceptibility depends on the variety. Fungus infection is favored by minimum and maximum temperatures of 50 to 70 degrees F. respectively. For this reason, the disease does not usually cause severe damage over an extended period. It is likely to be more severe in shaded areas during rainy, humid weather. Affected turf will appear unthrifty and begin to thin.

The disease is characterized by the presence of pustules on the leaf blades. These pustules range from bright orange to cinnamon-brown in color depending upon the species of fungus present.

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