



What's UP?

Triton 2-08

News from the Bayer Environmental Science Development Team

Managing Large Patch in the Fall

The stresses of cold temperatures, excessive thatch, insects and traffic increase the potential for disease in zoysiagrass. Large patch, which occurs while zoysiagrass is entering or coming out of dormancy in the fall or spring, respectively, has been occurring more frequently in recent years. It is also known to occasionally infect centipedegrass, St. Augustinegrass and bermudagrass.

In the fall, large patch appears as generally circular areas with orange borders, varying from six inches to more than 20 feet in diameter. The leaves and stems are not usually infected, but will die as the infected sheaths and crowns deprive them of nutrients and water. However, the infected areas will come back since stolons and roots within the patch will survive.

In the spring, symptoms appear as light brown sunken patches that are slow to come out of dormancy. The same areas may be infected in both the spring and fall, or may occur only intermittently in either season.



Large patches on golf course turf may vary from six inches to 20 feet. (Photo by Rick Latin)

can be present through May but declines as temperatures increase into the 80s.

Preventing major outbreaks

Follow these practices to prevent a major outbreak:

- Keep mowing heights above 1 inch and mow only after turf has dried to reduce spreading of wet, infected leaves.
- Avoid overwatering and facilitate drainage with tiling or slit trenches if possible. Water in the morning to reduce periods of leaf wetness.
- Since heavy thatch favors the disease, core aerate or verticut in June or July to reduce thatch. But remember that such disturbance while symptoms are present can weaken the turf and spread the disease.
- Do not fertilize zoysiagrass with nitrogen in early spring to accelerate the turfgrass out of winter dormancy. Fertilization during rapid development



Large patch infection of zoysiagrass usually starts in mid-to late September and continues into December. (Photo by Rick Latin)

Causal agent

Large patch is caused by the soil-borne fungus, *Rhizoctonia solani*, which has a lower temperature range (50°F to 86°F) than the *Rhizoctonia* that infects cool-season turfgrasses.

Large patch infection of zoysiagrass starts in mid- to late September and may continue into December if thatch temperatures are above 50° F and moisture is adequate. Spring infection

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of the large patch will only exacerbate the disease. Begin fertilization only after large patch activity has ceased.

- Increase air circulation by removing or trimming trees and shrubs.
- Avoid using more than 2 lb./1000 sq. ft. of active nitrogen during the growing season or using fast release nitrogen in late summer. If large patch was severe in the spring, use a fast-release form of nitrogen after the disease has subsided to help speed turfgrass recovery. Slow-release fertilizer during the summer has been shown to reduce the severity of fall large patch

Control of the biotic stress

In areas with a history of large patch infection in zoysiagrass, turf managers should make one or two preventive fungicide applications in late September to early October. A preventive fungicide will not only prevent fall infection, but will also delay or reduce the spring recurrence of the disease.

For effective results, make two applications of Chipco® Triton™ 70 WDG at 0.3 oz./1,000 sq. ft., or Prostar® 70 WDG at 2.2 oz./1,000 sq.ft., or a rotation of the two fungicide products. When applying Chipco Triton as the first application, follow with the second application of one of the following fungicides at 14 to 21 days (see table below). When applying ProStar as the first application, follow with the second application of fungicide at 21 to 28 days.

Product	Rates
Prostar 70 WDG	2.2 oz/ 1,000 sq. ft.
Tartan	2.0 oz/ 1,000 sq. ft.
Triton 70 WDG	0.3 oz/ 1,000 sq. ft



*Large patch symptoms are most severe on low mowed turf.
(Photo by Rick Latin)*

Be sure to consult your local Bayer Environmental Science sales representative for advice on which combination suits your situation best.

Bayer fungicides are effective in reducing the incidence and severity of large patch when applied in a timely manner. Repeating the application 28 days later is effective for controlling large patch during the fall months. Repeat applications may not be required in the spring. If you can see the damage you are too late.

Curative treatments are less effective in controlling large patch but treatments of ProStar or 26 GT® fungicide may prevent patches from progressing further. Please read and follow label recommendations.

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