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NEWSLETTER OF THE

GOLF COURSE SUPERINTENDENTS' ASSOCIATION

OF

MANITOBA

July /88

Those summertime blues: Localized dry spots

Don't let localized dry spots get you down this summer. Start a management program now, before the heat hits, to curtail this problem.

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Localized dry spots appear in the summer on cool season turfgrass. Symptoms include circular- to irregular-shaped patterns of brownish to tan turf. If left untreated, localized dry spots can result in turfgrass death.

Initially, the turf wilts or appears bluish in color. Rewetting through irrigation is often difficult because of the hydrophobic condition that exists within these spots. (A *hydrophobic* condition is defined as one in which water is repelled and not absorbed; water runs off the turf, leaving the underlying soil dry and powdery.)

What causes them

Circumstantial evidence points to fungi as causal agents of localized dry spots on sand. In addition to fungal hyphae, a non-wettable organic coating of the particles is present.

In the past, localized dry spots have not been recognized as a major problem. Past management practices, such as maintaining adequate soil moisture levels to a point of oversaturation, minimized the severity of localized dry spots. More recent management practices that limit water use—such as infrequent or reduced watering of golf course greens and fairways to encourage creeping bentgrass over annual bluegrass—have only increased the problem. Once soil moisture levels begin to decrease in hydrophobic soils, rewetting the soil becomes difficult.

Thatch is sometimes blamed as the culprit. Once thatch dries out, it is often difficult to rewet. However, thatch is not necessarily a prerequisite for localized dry spots. Preliminary investigations show that localized dry spots are associated with one of the following situations:

- Hydrophobic thatch and hydrophilic (high affinity for water) soil,
- Hydrophilic thatch and hydrophobic soil, or
- Hydrophobic thatch and soil.

How to reduce them

Localized dry spots are difficult to control once they are apparent. Preventive management practices are the best means for keeping localized dry spots in check; however, this is sometimes difficult because dry spots can be elusive. Listed here are some short- and long-term management practices to minimize the severity of localized dry spots.

☐ *Syringing* is the practice of making a light application of water in an attempt to reduce canopy temperatures. An experiment at Ohio State University to determine what effect syringing has on a creeping bentgrass turf with noticeable localized dry spots studied the following groups: •green, non-affected turf; •blue turf with localized dry spots in the initial wilting stages; and •brown turf in the advanced stage characterized by turf death. Canopy temperatures were taken from the turf using an Everest infra-red thermometer immediately prior to a 10-minute syringing treatment and periodically thereafter.

In this experiment, for example, turf showing initial symptoms of localized dry spots (bluish turf) had a canopy temperature of 105°F prior to the 10-minute syringing. One minute after the 10-minute syringing, canopy temperature for the same turf was 90°F, a drop of 15 degrees. One hour after syringing, the canopy temperature had risen to 96°F.

No visual changes in the turf occurred after syringing. Although the application of water had temporarily reduced the canopy temperature, syringing is only a stopgap procedure that will not eliminate localized dry spots.

☐ *Coring* hydrophobic soils encourages water movement into the soil. Core in the spring or fall as a preventive practice to alleviate localized dry spots.

Once localized dry spots form, soil penetration with coring tines can be difficult. Repeatedly coring localized dry spots on sand greens resulted in a reduction of the severity of isolated dry spots in the studies.

In the experiment, the area treated only with wetting agent initially had the least visible damage when compared to the control, the area treated by coring only and the area treated by coring and a wetting agent application. However, 11 days later, the area treated by coring and a wetting agent application had the least visible damage due to localized dry spots.

☐ *Wetting Agents* are an effective means of reducing the severity of localized dry spots. Preventive applications give the best results, but curative applications can also be effective. Thoroughly water wetting agents into the turf to prevent these

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compounds from drying on the leaf and possibly causing leaf burn.

How to manage them

Localized dry spots are not fully understood, and management programs for them will vary. However, certain management practices should help alleviate the problem:

☐Make coring a standard practice where localized dry spots occur. Core as a preventive practice to open the soil up for water movement.

☐Practice thatch management on a preventive basis. Thatch is found in close association with localized dry spots, but it is not always needed for them to occur.

☐Use wetting agents as needed, especially if localized dry spots are a severe problem. Water wetting agents in thoroughly to reduce any foliar burn potential.

☐Employ proper irrigation and syringing practices to maintain adequate soil moisture levels during hot, dry periods. ☐

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