Dealing with Desiccation

Superintendent applies antitranspirant to protect turf from winter woes

BY LARRY AYLWARD, EDITOR

Problem
Winter desiccation, or drying out of turf, occurs when turfgrass is left unprotected from the cold, dry wind and develops poor soil moisture. It was a threat at Dakota Dunes CC.

Solution
Superintendent Doug Hausman implemented the use of an antitranspirant into his winter maintenance program. The product coats turfgrass with a glossy film that decreases the rate of transpiration.

In the midst of the heartland, where Doug Hausman's golf course is located, there's nothing as waiving as the weather. "Around here, it can go from 50 degrees to 40 below in 12 hours," says Hausman, certified superintendent of Dakota Dunes CC in Dakota Dunes, S.D.

Hausman is exaggerating — but only slightly. The bottom line is he's always battling the elements to keep his course in top shape. And because of Dakota Dunes' unique location — it's built on a sandy river delta — maintaining the course is especially difficult.

"Since we don't have any soil, we don't have any margin for error," Hausman says. "So I'm always fiddling around like a mad scientist to give us one."

The biggest challenge Hausman faces in the winter is dealing with desiccation, a common low-temperature turfgrass condition caused by high winds and low humidity. Winter desiccation, or drying out of turf, occurs when turfgrass is left unprotected from the cold, dry wind and develops poor soil moisture.

The winters can be harsh in Dakota Dunes, but they are also fickle, which frustrates Hausman and other area superintendents. The unpredictable winters make it hard for them know when it's a good time to blow out their irrigation systems and pack it in for the winter.

Take last winter, for instance. "We had snow cover, but it didn't last long," Hausman says. "The ground was basically uncovered all winter."

The weather was warm and dry in January and February, which sounds great if you're a golfer but not if you're a superintendent. While players were able to try out the new irons they received for Christmas, Hausman and his crew prepared for the weather to change on a dime. It did, and without proper planning, that can mean big trouble.

When an Alberta clipper swooped through from Canada, there was nothing on Hausman's course to protect it from the bitter cold. Because the clipper also brought dry air and hefty winds, the turfgrass could have suffered from transpiration — the movement of water vapor out of it through leaf openings. When the turf's water absorption rate of the roots can't match the transpiration rate, desiccation sets in.

"It's below zero, the wind howls, and we get whaled on," says Doug Hausman. "That kind of weather will kill a lot of turf."

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keep the turf more moist to combat the dry winter.

The problem
Hausman didn't invest in a snowmaking machine to help keep his course covered during the winter, but he did implement the use of an antitranspirant into his winter maintenance program.

Hausman covered the course with Transfilm, manufactured by Kansas City, Mo.-based PBI/Gordon Corp. Antitranspirants, such as Transfilm, coat turfgrass with a clear, glossy film that decreases the rate of transpiration. The film provides a water-impermeable layer to reduce the process.

Outcome
The turf survived the wacky maiden winter of the new millennium, and Hausman's betting it will survive more such winters if he keeps applying an antitranspirant to the turf in the fall.

The product has become one of the major weapons in his arsenal to combat desiccation and transpiration. In addition, Hausman and crew members haul water in spray tanks and apply it to dry areas on the course when the weather warms during the winter.

"I know the conditions were right to lose grass," Hausman says of last winter, "but we didn't. I know the antitranspirant helped protect the bentgrass."

It didn't turn out to be Hausman's winter of discontent.

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