

THE BEST TURF TIPS OF 1990 — PART II

Winter Water Wagons Minimize Dakota Desiccation

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WINTERKILL is an annual specter that haunts golf course superintendents throughout the northern two-thirds of the continental United States. One form of winterkill is desiccation, something like the freeze-drying of plant tissue which accompanies the extremely cold, dry, windy weather common to the Great Plains and fringe areas. Elevated greens, tees, and mounds are especially hard hit since snow cover is often swept away by the wind.

Several methods of turf protection are used with varying degrees of success. Among them are putting brush or tree branches on exposed areas to hold snow, surrounding greens and tees with snow fences, topdressing heavily, covering with some type of fabric or plastic sheets, applying a layer of hydromulch fiber, or winter irrigation.

The latter method has been perfected to the nth degree by golf course superintendent Cal Polsean at Westward Ho Country Club, in Sioux Falls, South Dakota. Mr. Polsean is a second-generation Dakota superintendent who is all too familiar with the windy, almost snowless winters, with deep cold interspersed with periodic mild spells.

He considers a Winter Water Wagon an essential part of his equipment inventory. In fact, he has three. Two are old 1,000-gallon tankers, one of which is a gravity-flow rig used for irrigating new trees and shrubs. The other is fitted with pumps, hoses, and sprinklers.

The newest setup is a 1,250-gallon fiberglass tank carried in the bed of the club's dump truck. Water is applied to the turf by two five-horsepower pumps, one-inch diameter hoses, and roller-base sprinklers. The pump stands and hose racks were built from scrap metal by the staff and are fastened to the truck with only two pins. The pumps are bolted to the stands prior to installation. Using a three-inch hose, one of the irrigation pumps can fill the tank in only two minutes.

The sprinkling operation applies $\frac{1}{10}$ inch of water in the 20 minutes required to empty the tank. A rain gauge is used when greater accuracy is needed. It is obvious, too, that the truck cabs are fitted with effective heaters. These folks are as intelligent as they are hardy.

Watering begins soon after the irrigation system is drained in mid-October and continues until it is recharged in mid-April. Greens and tees receive

weekly waterings until snow covers the turf, provided the air temperature is above freezing. Thereafter, exposed turf areas are watered as needed, with the same temperature restriction. Experience has shown that these light applications of water adequately replace enough of the water lost by evaporation, sublimation of ice, and plant use to prevent desiccation. Long, open winters require lots of watering. A few years ago, the Westward Ho winter watering program required over 400 man-hours. Mr. Polsean figures that he gets no reduction in the effectiveness of snowmold prevention fungicides until about an inch of water is applied and, of course, the slow water application rate avoids runoff problems.

The success of winter watering is evident every spring. The elevated greens on this rather open golf course have not experienced any major desiccation loss in years. The same is true for the tees and other areas on the course which receive this "off-season" watering. With two pumpers and a gravity-flow tanker at work during the winter, one winterkill problem has been eliminated, and Westward Ho golfers find excellent, green greens every spring.

Photographs by CAL POLSEAN



(Left) Irrigation with two sprinklers empties the tank in about 20 minutes, applying about $\frac{1}{10}$ inch of water. Water wagons are the sole source of supplemental water after the irrigation system is drained in mid-October until the first snow cover (early December in 1990).

(Bottom left) A winter water wagon is used during cold, windy, South Dakota winters for irrigating exposed turf to prevent desiccation. Water is applied to greens, tees, and other critical areas whenever the air temperature is above the freezing point.