

# Winter preparation: A chore for supers in all regions

By MARK LESLIE

By its sheer sound, "winter preparation" sends chilling signals of Sargent Preston-type footage through your thoughts. But, while Northern golf course superintendents insulate what can be insulated — from greens to irrigation heads — and pray for a winter-long covering of snow, transition zone and Southern superintendents have the toughest chore, experts say.

"Winter prep is a major issue in this part of the world," said Jim Moore, who directs the U.S. Golf Association Green Section's Mid-Centroid Region from Waco, Texas.

"I see a lot more winter kill in the southern portion of my region than I do the northern part. Oklahoma, Arkansas, Missouri, Kansas and north Texas, superintendents are all growing warm-season grasses on fairways and tees, but they are far enough north that they get frequent winter injury. I hardly ever see winter kill in places like Colorado or Nebraska, because they are all growing cool-season turf.

"You see snow mold and some ice damage, but, by far, short of the Northern courses losing their poa annua periodically, the most serious winter injury is in the transition zone."

## In South: Healthy turf, happy golfers don't mix

Basic in the struggle for Southern superintendents to prepare for the winter is keeping both healthy grass and happy customers. Those two goals are often at cross-purposes.

"Winter prep in Florida is preparing for the snowbirds who are coming down," said Jan Beljan, a landscape architect and agronomist who is a lead designer for course architect Tom Fazio in Jupiter, Fla.

"Keep in mind that the people who are coming down to play in the winter just got finished playing golf on a course that is probably in its best condition of the year," Beljan said. "It's through the major heat stress, you've had wonderful fall foliage and good crisp nights and warm days, and golf courses look gorgeous and feel good."

Therein lies the pressure.

Moore pointed out that Southern superintendents should raise the cutting heights on their turfgrass, regardless of any outcry from golfers.

"It's real important — and hard to do — to raise cutting heights in September," he said. "That's prime-time playing conditions and you're having to raise the cut at a time when the players don't want you to. But superintendents have to do it and take the grief. A lot of [club] memberships have learned the hard way."

Cal Roth, director of golf course maintenance operations for the PGA Tour's 14 Tournament Player Courses, agreed. Pointing to his facilities in Washington, D.C., Charlotte, N.C., and Memphis, Tenn., he said: "Charlotte and Memphis have warm-season Bermudagrass roughs. We start raising the height of the rough in late August, so it gets to 2-3/4 to 3 inches going into the winter. Normally we mow it at 2 inches. All three have zoysiagrass fairways. We raise the height on those fairways and tees from 3/8 to 3/4 inch. That's a big



Winter kill can be devastating.

jump but extremely beneficial to get through the wintertime."

The reason for higher cuts, Moore said, is "so the grass can produce and accumulate the carbohydrates necessary for spring regrowth."

## In North: The fear that reigns is lack of snowfall

Desiccation is the annual nemesis of golf courses across the Northern tier of the United States. "Front-range" properties in Colorado, New Mexico and Wyoming know this better than any.

"Shinnock winds come through and we have daytime temperatures in the 60s and 70s. In the evening it will be in the 20s," said Larry Rogers of Larry Rogers Design, an irrigation expert.

"Irrigationwise, we need to have our systems set up in such a way that we can water during the 60-degree days because, with the Shinnock winds, it's not unusual to get 120-mile-per-hour winds flying through Boulder Canyon and drying this place up quick. We have to react to that and get some water down for the turf plants. We do that in different ways. Some courses that have old equipment rent a water truck. Many of our newer courses put in deep-buried lines below frost level that allow them to get water to priority areas throughout the winter."

"Colorado guys live in fear of an open winter," Moore said. Adding to the difficulties in that region is that they have to drain the irrigation systems, or they will freeze, and "once they drain their systems they are stuck without water for three or four months," he said. "If you have an open winter you have to get water on the golf course. That's where the water trucks come in."

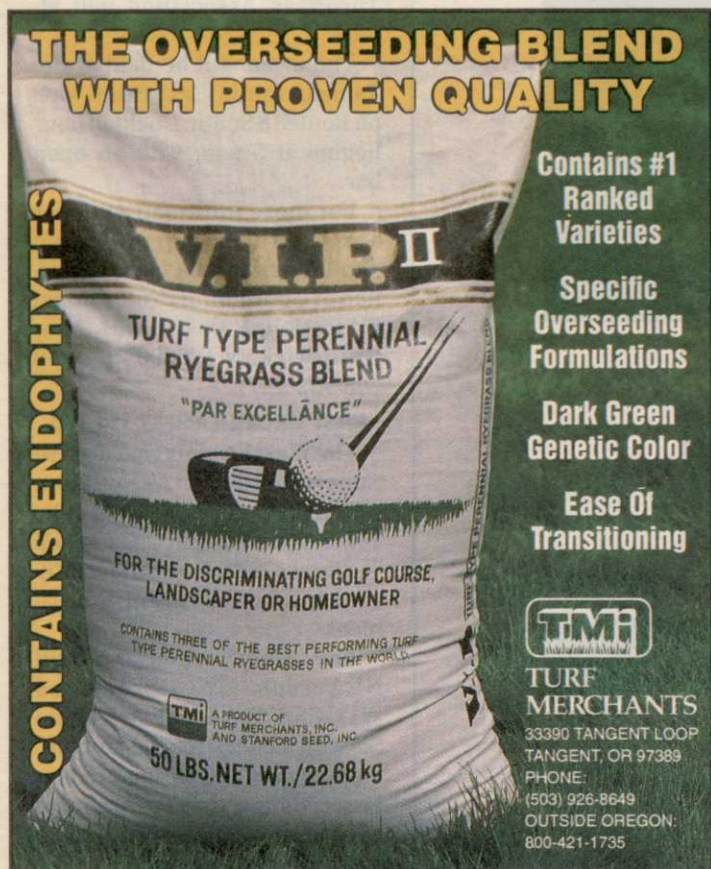
Since bentgrass is more prone to desiccation than bluegrass, Moore suggested that superintendents with bentgrass fairways in the cold dry climates like Wyoming or Colorado should install frost-free systems. They would then have a regular irrigation system, plus a separate system below the frost line that is not drained in the winter.

"Sometimes they are composed of metal instead of PVC pipe. They have long risers on them so they can plug in snap valves so they can water in the winter," he said.

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## Tips to supers in the fight to prevent winter kill

Experts share these ideas in the battle to prevent or control winter kill:

- Greens covers remain popular throughout the North to protect putting surfaces. PGA Tour's Cal Roth, director of golf course maintenance, said the Tournament Player Courses in Michigan and Connecticut use covers on "some specific greens that tend to give us problems in the winter — ones that are more exposed to winds and temperatures."

- "We apply extra pot ash on all our courses going into the winter, slow-release fertilizer that will be available when they start to green up in the spring," Roth said.

- "With our mountain courses," said Rogers, "it's not unusual that the guys have to get out there with snowthrowers. On certain dates they have to snowplow the greens so they can apply various snow-mold protection for the long term (from mid-November to mid-March)."

- A snow mold prevention program should begin in the early fall with a fungicide application against Fusarium patch.

Systemic fungicides must be applied before the turf goes dormant, so the plant can take it up.

Contact fungicides can be applied to dormant

turf and should be spread just before snowfall for best results.

Because certain fungicides are registered for one type or the other, superintendents should discover whether grey snow mold or pink snow mold occurs in their area.

- Northern superintendents can cut six or eight cup holes in each green before the ground freezes for the winter.

- "The school is still out as to whether you bring your irrigation clocks inside, or leave them out and have electricity running through the solid state controllers, keeping programs in them," Rogers said. "In the old electro-mechanical days we always brought them in so you could reset them and make the mechanical adjustments for better accuracy in your timing. With these solid-state units, it's a tossup."

"The pilot valve assemblies on all the valve-in-hand equipment are so close to the top of the ground that the 60-degree daytime temperatures and the 20-degree nighttime temperatures freeze up the pilot assembly — containing the brains of the sprinkler itself — so it can't operate," he added.

"That's why we have to use manual-type equipment."

# Supers in South, transition zone face many winter prep challenges

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Unfortunately, he said, instead of raising the cutting heights some superintendents "just quit mowing when it gets cold. But without that extra leaf surface, the plant can't produce enough excess carbohydrates."

"Raising the height is not the end of the world because as soon as it gets cold, all that extra leaf surface on top is worn off. Once it goes dormant you don't feel like you're cut real high any more," Moore said.

## DESICCATION DISASTER

Moore said desiccation and traffic control are major factors in surviving a win-

ter for transition zone and Southern superintendents.

"In my career I have not seen severe winter kill on Bermudagrass or zoysia without also having either way too much water, which equals ice, or way too little water, which equals desiccation," he said. "Most often it's desiccation. By far the most severe winter injury we've had in Texas and Oklahoma has been when we get the combination of a real cold and real dry winter."

The danger with warm-season turfgrasses is that they get brown in the winter and give no visual indication of drought stress. Yet, that plant is especially prone to winter injury when it is

also suffering from desiccation or dryness, he said.

"You must balance the soil moisture," Moore said. "Superintendents have to get out with soil probes and take plugs out of the fairways to see if there is good moisture. They have to constantly evaluate the soil moisture, and, if necessary, they are going to have to fire up the irrigation system and water dormant turf."

Yet irrigating can be a roll of the dice. "It's a fine line to cross, he said. "If it's a borderline freeze you can irrigate right beforehand... But if it's a real hard freeze and you water before, you're going to get ice damage. You have to be lucky, that's

what it boils down to.

## TRAFFIC TROUBLES

"Traffic control is every bit as important as desiccation," Moore said. "The Southern winter kill is tougher because we have play all winter and you're adding the compaction factor."

Crucial to keep in mind, especially with warm-season grasses, is that the crown is above the soil line, he said. "So if you don't have some organic matter around that plant, and if it is a compacted area, that whole crown will be right on top and exposed to winter injury."

"The reasons we see plants dying on compacted areas are, first, it tends to dry out more quickly because it's not in the soil; and second, it's far more exposed to the colder air temperatures."

Meanwhile, superintendents can use other tactics in dealing with the demanding wintertime clientele, Beljan said. "They come down here when we get cooler temperatures in January and February — cooler than Bermudagrass can handle — and the Bermuda goes dormant and changes to slight shades of tan. So some winter prep is either in fertilization, adding iron or potassium to promote green growth, or overseeding. If it's overseeding, that is the major work — seeding poa trivialis, ryegrass or bentgrass, depending on how far south they are."

Roth pointed toward "the number-one trend" in the Southeast — using a higher percentage of poa trivialis in overseeding.

While bentgrasses possess superior putting quality, a number of high-quality poa trivialis are now on the market, Roth said. "They require a little different management than bent to keep from getting grainy, but they're proving to be a better overseed because of their cold-hardiness."

In the past, mostly bentgrass was used in overseeding, then the trend turned to bent-poa trivialis mixtures, he said. "And now a lot of courses are going to straight poa trivialis. It germinates quickly and allows them to continue to overseed during the winter and withstand heavy play. It germinates quicker under cooler temperatures down here, where bent won't."

Another possible reason courses have gone to poa trivialis, Roth said, is that they have groomers and verticutters — equipment necessary to maintain poa trivialis, which tends to run and lay over on the green surface when it matures.

The downside of still using bentgrasses in overseeding in the South is that they sometimes stay alive into the summer when the main grass, Bermuda, should be dominant.

On the other hand, he said, a number of superintendents are including bentgrass in their overseed mixtures because bentgrass "comes on later in the season and helps combat the wear and tear as temperatures start to warm back up."

"I tell the clubs, Moore said, "the blessing is, you can grow just about any type of grass; and the curse is, there is not one of them that will make it through every year. In St. Louis you'll have a zoysiagrass, a bentgrass, a ryegrass and a Bermudagrass course all in the same town, and in any given year there will be at least one of them dead. There could be three that look pretty smart. And if you're there four years yours will be one of those that will die."

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