

USGA

Frost, Firewood, Spike Free Footprints and Winter Putting Conditions

By: Mike Huck - Agronomist, Western Region

Fall is upon us and while most northern courses are preparing to close down, southern courses are growing in their winter overseeding. In either case everyone will soon be hearing those famous fall and winter comments of "What do you mean we can't tee off until 9:30 a.m.?" "Can't you just turn the sprinklers on and melt the frost?" "But the thermometer at the bank down the street said 36 degrees — that's not freezing!" Yes, it's the frost season again.

It is sad but true that many golfers do not understand the importance of greens being allowed to thaw before play begins and, even worse, don't appreciate the long-term consequences caused by placing concentrated traffic on turf that is not actively growing. We often attempt to explain in technical terms how cell walls and tissue are destroyed by sharp ice crystals when the weight of a golfer or mower is placed on the frozen plant. We tell players how

cooler soil temperatures limit plant growth, hindering recovery from traffic damage and opening the door for *Poa annua* invasion, in even the warmest climates. We often feel these explanations all fall on deaf ears.

Knowing that turfgrass leaves are primarily composed of water, it should be easy to understand that the entire plant (internally and externally) can rapidly freeze when temperatures do drop. Maybe a simpler analogy that golfers could more easily understand would be to compare a grass plant's leaf to a paper straw filled with water. A frosted leaf would be similar to freezing the water in a straw, while a "thawed" version would contain melted water. Then, if you were to take the two side by side and bend them, the frozen straw would break in two damaging the tissue (the paper of the straw), while the unfrozen example would flex unharmed. It tells the same story without what many golfers often perceive as technical turf science babble.

The frost season is a great time to encourage cutting some firewood to warm your greens. When the sun is positioned low on the horizon, long shadows cast from trees shading eastern and southern exposures have a significant impact on how early greens thaw and become playable. Golfers and club officials are probably more likely to approve removing trees that delay starting times than any other reason imaginable. Reducing early morning shade not only melts frost and gets players on the course earlier, but helps maintain warmer soil temperatures improving winter and spring growth. Additionally, scientific evidence shows that early morning sunlight on greens is extremely important to grow healthy turf and deep roots. Compared with greens growing in cleared areas, those in shaded surroundings are much slower to respond in spring and often enter summer in a weakened state. ♦

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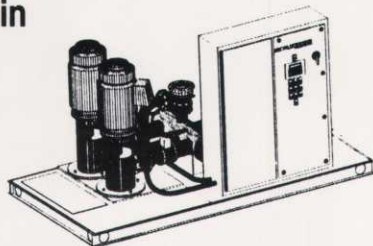


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