Keep the golfers off soft greens or you may end up with a green looking like this!

PREVENTING WINTER DAMAGE TO TURFGRASS

by Ted Woehrle, Editor

A PATCH OF GREEN

There are basically two types of winter damage to turfgrass on golf courses:

1. Mechanical
2. Physiological

A good deal of the mechanical injury is caused by the golfer himself. This is the type of damage caused by **playing on frosted turf** in early spring and late fall.

When the turf is completely frozen and heavy traffic occurs — the actual wearing off of the grass becomes a problem — similar to drought conditions under heavy traffic.

Compaction of snow by snow equipment, snowmobiles, skis, sleds, or foot printing can also cause damage which is noticeable during most of the next spring.

Traffic on partially frozen or wet soils causes turf injury also. This is actual soil displacement — footprints or ruts from golf carts. The indirect results of this injury could be called soil compaction.

There may also be mechanical damage cause by heaving of the soil. Heaving tears roots loose in the soil. This is common in peat or humus.

Mechanical injury, except for heaving, can be avoided by eliminating **all** traffic during periods of adverse weather or when soil conditions are poor.

Many clubs have adopted the "Alternate" green method during these periods. This involves the use of an area adjacent to the permanent green which is marked in some manner and a larger than normal cup and flagstick is used in this temporary green. Most of the golfers are kept satisfied and the entire membership is happier next spring when the greens are healthier and a lot smoother.

The physiological damage is what is most frequently referred to as "winterkill". This injury is caused by disease, suffocation, (ice sheet damage) desiccation, flooding and low temperatures.

a. DISEASES — There are two basic winter diseases: Pink and gray snow molds. Both of these can be controlled to a great extent by chemicals applied before winter sets in and one more application during the winter, when the weather permits a second application.

b. SUFFOCATION — This is a condition which doesn't happen very often, but when it does it is disastrous! Turf that is covered for long periods of time, as was the case during the winter of '61 and '62 when they were covered about 100 days by a solid sheet of ice, will suffer extensive damage. Every possible effort should be made to remove the snow and ice from greens and tees if ice has covered these areas for 30 or more days. This can be accomplished in several ways — Physical chopping and removing, covering with a dark material such as lamp black or activated sewerage sludge to absorb heat with its dark color, and melting. Another material such as top-dressing would also work. If nothing else, punch air holes through the ice.

c. DESICCATION — This is the most prevalent winter damage here in the Southeastern corner of Michigan where we get very little snow coverage. Desiccation occurs when soil moisture is not available, because ground is frozen, and the winds dry out the turf and the plant dies.

Here again we can do something to slow down desiccation. It is recommended that greens be covered with something to cut down the wind damage. This could be top-dressing hay, straw, branches, plastic (punch holes in it first with a spiker to let out heat on bright sunny days). There are actually turf protection blankets manufactured for this purpose.

If you haven't covered your greens and you run into a period of dry windy weather it would be advisable to carry water to these greens — especially the elevated, exposed greens. Some Superintendents actually turned on their irrigation systems for a short period of time and then immediately redrained them after soaking down the greens.

d. FLOODING — This condition is caused by a heavy rain when ground is frozen, or when snow and ice melt faster than the soil can absorb it or surface drainage can remove it.

The turf becomes very susceptible to low temperature kill — the crowns actually rupture when encased in water and then re-freeze.

All water should be removed where possible. Dig drainage ditches through snow and ice, install surface tile drains, put in slit trenches; do anything you can to remove excess water.

Remove water from greens by cutting a ditch through ice.