Each year, golf courses across Minnesota experience varying levels of damage due to Winter Kill. Winter 2011 was an especially challenging year for our golf courses and many lost grass due to Winter Kill. Couple winter injury with poor spring growing conditions and this is why some golf courses are struggling with playing conditions. After visiting many Minnesota golf courses, working with the golf course Superintendents and studying the weather conditions, we can draw some conclusions about what is happening.

(Continued on Page 9)
Winter Kill-
(Continued from Page 8)

So what happened?

1) Warm fall with extended drought periods reduced hardi-
ness, making plants more susceptible to winter stresses.

2) Length of time the turfgrass was under snow and ice
when the soil was not frozen caused toxic gasses to build up
and suffocated the grass. This is called anoxia. The hardest
grass can last 120 days under ice. Some golf courses held ice
cover for 126 days.

3) Damage occurred on putting greens with and without dif-
ferent types of winter covers.

4) The heavy snow that fell on March 22 melted and refroze
at night causing crown hydration. This damage tends to follow
drainage patterns on the putting surface and is not a uniform
kill.

It is summer, why hasn’t the turf recovered?

Golf course Superintendents across Minnesota have over-
seeded, punched holes, verticut, topdressed and fertilized.
Unfortunately, this has been an exceptionally cool and wet
spring. Soil temperatures have remained below average.
Grasses that have germinated are struggling to develop due to
the cool nights and excessive rainfall.

To put this into perspective, scientists look at growing
degree-days (defined as heat accumulation to predict plant develop-
ment rates).

Growing degree-days for April 1 – June 24 totaled 748; the
same period in 2010 totaled 1086. In other words, we are 30%
behind compared to last year.

No One to Blame!

Winter Kill is not something that could have been predicted.
No two golf courses had the same conditions nor do they have
the same grasses, soil types, surface drainage, number of trees,
or management programs. Remember, there is no “normal”
winter. Mother Nature always wins!