

*Supts. and an agronomist look for causes,
cures at convention panel discussion*

Winter Damage Repair Should Be Made in April

The neglected phase of winter damage, springtime repair, was emphasized when a panel of turf experts appeared at a clinic for club officials and green chairman, held in conjunction with the GCSA convention in Philadelphia in February.

Repair of turf, which has been injured by the destructive effect of cold weather, was stressed at the clinic not only because it should be undertaken in April, but because the subject had never been previously discussed to any great extent. Studies and investigations of winter damage in the past have, for the most part, been concerned with causes and symptoms and preventive measures that can be taken in the fall to head it off.

Alex Radko, Northeastern director for the USGA green section, was moderator of the winter damage panel. Its speakers included Robert M. Williams, supt. of Bob O'Link GC, Highland Park, Ill., Sherwood Moore of Winged Foot in Mamaroneck, N.Y., and Marshall Farnham, retired Philadelphia area greenmaster.

A summary of the panel's conclusion along with findings that have been made

in the last three or four years relative to winter injury appear on the facing page.

As Radko told the club officials and green chairmen, and later delegates to the GCSA convention, opinions as to what actually causes winter damage aren't all in yet. Concentration of traffic from June through September, play beyond the end of October, the close mowing of turf from early spring through late fall, and even overmaintenance are suspected of being at least partly responsible for the deterioration of grasses that comes during the cold season. But since the full impact of winter damage isn't seen or felt until late January or even early spring, there is a very strong possibility that it is no more than a winter phenomena.

So, the question still remains whether the damage is cumulative or is the result of acute poor weather conditions.

The panel of supts. took the stand that since nobody is sure what causes winter damage, the so-called preventive measures taken in the fall may be far from foolproof. They did not advocate, by any means, the throwing out of fall controls

Factors in Repairing Winter Damaged Areas

1. Seed preferable to sod
 Lower cost — More readily available — Smooth surface — Seedbed preparation — Spiking — Cultivation
 Suggested for Quick Cover:
 Greens — Seaside and Redtop in 2-1 or 1-1 mixtures
 Fairways — Seaside, Redtop and Poa Trivialis 1-1-1 (Pennncross a possibility)
2. Liaison with Golfers
 Progress reports — Use of turf service, publications
3. Nurse the New Turf
 Fertilization — watering — mowing — fungicides — golf car traffic — cup settings — pre-germination — possible use of polyfilm for speed
4. Don't Wait — Study damaged areas — Set repair target date

Preventive Control of Winter Damage

1. Architectural Design
 No severe mounds — no pockets — Sensible car paths
2. Construction Features

Soil Mix —	Sand	Soil	Humus
	2	1	1
	1	1	1
	2	1	2

 Drainage
 Surface and subsoil
3. Adaptable, Resistant turf strains
4. Turf Management — fertilization — moisture — height of cut — root propagation — chemical treatment
5. Protective Covering — snow — branches — fencing — polyfilm — mulch
6. Ice and Snow Removal — soil — sludge — mechanical
7. Traffic Restriction — Authority to restrict play when turf conditions don't warrant it
8. Regular Inspection — during winter and early spring

Nature of Winter Damage and its Symptoms

1. Disease — Snowmold types
2. Desiccation — roots, plant, cracks
3. Ice Sheet — suffocation
4. Excessive Water — frost layers
5. Hothouse effect — snow cover, warm weather, subsequent freezing
6. Weak Turf — due to succulence
7. Winter Play — Bruising of turf and/or puddling
8. Kill Back — too close mowing
9. Chemical injury — Burn from overdosing, wrong applications
10. Heaving and Cracking — due to frost
11. Rodent Damage

that have been widely accepted as the only known methods of heading off the damage. What is needed in this respect, they agreed, is further investigation of prevention measures.

At the same time, as Sherwood Moore pointed out, the supt. should not be immediately concerned with what has been done in the past in trying to determine what causes winter damage or how it may be prevented. His most pressing need at the moment is to know what to do about it if he finds that it has attacked his course during the recent cold months. Two years ago supts. in the Midwest and in 1963, Northeastern supts. were faced with severe winter damage. Because so little was known about it in either of those years, they had to repair their courses with nothing more than the hope that they were proceeding in the right direction.

What Is Present Need?

Supts., Moore continued, have learned a good deal in a short time about restoring turf that has been injured by cold weather. There are some secrets that remain to be discovered because the restoration work still is in a trial and error stage. But those who have had to bring their courses back after being hit by winter damage will agree that the steps recommended in the chart at the top of page 31 are a very excellent guide in undertaking the repair work. It is, after all, a summary of the things they have tried and found to be successful.

Two-Step Program

Two years ago, for example, Midwest supts. who were hard hit by winter damage, employed a two-step program in bringing their courses back. First, they aerified extensively and then used a verticut machine to break up the plugs in the dead areas. Then, many of them overseeded at a rate of about five pounds per 1,000 square feet with some type of bent. The seed was worked into the soil and kept moist for a period of several days.

As a second step, they reversed the above procedure, overseeding and then aerifying. To prevent disease, caused by damping off, they liberally applied fungicides. But in many cases, it was early June before their greens came back to



Making sure he hit the first ball at the dedication ceremonies of Metropolitan Dade County's new Greynolds Park golf course, metro vice mayor, Lew Whitworth, used a king-sized club and ball. Giving golf tips are fellow commissioners, Tom O'Malley, Harold Green and Joseph A. Boyd, Jr. Whitworth is said to play par golf. — Miami-Metro News Bureau Photo

normal. These things were fine, the GCCSA panel agreed, but the recovery date may have been moved forward with perhaps more intensive fertilization and cultivation.

Term Is Re-Defined

The Philadelphia panelists agreed that the term, winterkill, is a misleading one. In nine cases out of ten, turf actually isn't killed by desiccation, near-suffocation due to ice sheet coverage, or by heaving and cracking due to frost. What happens is that its emergence in the spring is delayed. Thus, winter damage is a more accurate and acceptable term than winterkill.

The big failing in the winter damage picture, Bob Williams pointed out, is that supts. have been notoriously lax in informing their members and players why turf recovery, following a severe winter, is slow. As a result, the known preventive steps taken the previous fall may be wasted, so far as the player is concerned. He assumes that the supt. actually did nothing to try to head off the damage when he had a chance. The result is that many jobs are jeopardized as they were in the Midwest in the spring of 1962, and in the Northeast last year.