

The placement of a black material on the surface of the ice will enhance surface thawing and more rapid breakup and drainage of water from the area.

TRAFFIC EFFECTS. Traffic is frequently a consideration on snow covered turfgrass areas that are utilized for recreational purposes as well as the areas immediately surrounding ice rinks.

Damage can be of two types. One involves traffic during moderate cold periods when a wet, slushy condition exists. The traffic forces the down into intimate contact with the turfgrass crowns which in turn increases the crown hydration level. If the effects of traffic on this wet slush are followed by a rapid freeze to below 20° F., there is a high probability of serious damage to the crowns, rhizomes, stolons, and roots (Figure 3).

The second type of injury may involve the use of motorized snow vehicles which, on thin snow covers, can mechanically disrupt or tear out pieces of turf by their abrasive action.

PREVENTING TRAFFIC INJURY.

The first consideration so far as traffic is concerned is to **restrict** these activities during periods when a wet slushy condition exists. *This is one of the most important preventive measures.*

Snowmobile traffic is a more recent concern in terms of turfgrass winter injury. Serious damage and thinning of turfs can occur if snowmobile traffic is not controlled or restricted under certain conditions. Damage to dormant turfs is most common (a) during periods of minimal snow accumulation, (b) during wet slushy periods of alternate freezing and thawing, and (c) on trails where the traffic is intense causing rutting and removal of a major portion of the protective snow cover.

Under most conditions it is preferable to have a minimum of four to six inches of snow cover present over the turfgrass area. The minimum protective snow depth is less for compacted snow than for loose snow. Placing traffic barriers such as snow fence on high value turfgrass areas where any degree of injury would be costly should also be considered.

Finally, the development of specific snowmobile trails should be considered on sites where intensive snowmobile activity is anticipated. This will encourage travel on locations that are less critical in terms of turfgrass damage.



Turfgrass Ice Rinks

In discussions associated with ice covers and winter injury, the question of proper utilization of ice rinks on turfgrass areas is frequently raised.

Ice rinks can be effectively used on turfgrass areas with minimum permanent damage providing certain key considerations are followed.

First of all, it is very desirable to have a site where the existing turf is composed of the more low temperature hardy turfgrass such as creeping bentgrass or Kentucky bluegrass.

Second, the surface contours of the site on which the ice rink is to be constructed should be such that the water will drain rapidly from the area during late winter or early spring thaws.

Third it is preferable to have at least a two to three inch layer of compacted snow established under the ice sheet to provide a protective insulating zone for the turf. On smaller ice rinks, the use of a polyethylene cover that protects against standing water in contact with the turf will

minimize direct low temperature kill.

The final consideration is to be sure that the appropriate preventive snow mold fungicide has been applied to the turf prior to establishment of the snow cover and ice sheet.

The ice should be formed by the application of water at very low rates over an extended period of time during the night when air temperatures are below 20°F. The flood application of water to a depth of one to two inches followed by slow freezing over a long period of time is not desirable due to the increased likelihood of direct low temperature kill to the turf.

The final consideration is during the thawing period in the spring. It is important to check the ice rink frequently at this time to ensure that no ice dams or other problems develop that result in water standing on the turf for an extended period of time. *All precautions should be taken to ensure rapid drainage of excess water from the area.*