

WHAT HAPPENS TO TURF IN FROST CONDITIONS?

Frost on the grass plant tells us that the water inside the plant is frozen. The grass plant is made up of 80 + % of water, the primary component of the plant tissue. When this water is frozen, foot traffic on the turf causes the ice crystals in the cells to puncture through the plant cells walls, thus killing plant tissue.

When they are frozen the leaves of the turf get easily bruised by player's feet. After thawing, the affected turf turns black or brown and becomes sparse. The turf can often remain thin for long periods if damage occurs. The grass plant also becomes susceptible to disease and the putting surface becomes uneven.

More long term damage can be caused when play takes place as the turf is thawing after a prolonged freeze. Under these conditions the top surface of the turf may be soft, but the underlying soil can still be frozen. Root damage occurs easily from a shearing action as player's feet move the soft top surface against the frozen sub soil. This is also the case for when the top is frozen and the sub soil is soft.

The process of damage to the turf normally occurs in the following pattern

- Bruising and damage to the leaf.
- Loss of colour.
- Shearing of grass roots.
- Compaction of the soil.
- Thinning of the sward.

Each time you continue to play on frosty greens you continue to promote turf decline.

Low soil and air temperatures prevent grass recovery.

This is why we have been using the temporary greens when we have had frost.

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