

Turf Management Under Excessive Rainfall Conditions

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PROBLEMS occurring from excessive rainfall may be the result of frequent rains of low or medium intensity which keep the soil continually saturated, or may be associated with floods caused by prolonged periods of rainfall or heavy intense rains of relatively short duration. The problems arising under these conditions may be discussed from the standpoint of their effect on (1) soil, and (2) growth.

Effect on Soil

Surface drainage is the most rapid and effective means of removing excess water. When soil becomes saturated from excessive rainfall or irrigation and the surface drainage is such that water does not move off rapidly, then excess water will accumulate in low areas. If the water remains ponded for relatively long periods, turf-grasses may be injured or killed. The length of time water may remain ponded without killing the grass is dependent on the species of grass, depth of water and the temperature. High temperatures will cause severe damage in very short periods of time, whereas turf may survive considerable lengths of time if the temperatures are cool. *Poa annua* appears to be much more susceptible to damage from ponded water than many of our bentgrasses.

Internal drainage also is important during periods of excessive rainfall. Heavy soils, low in permeability, will become saturated and may remain in this condition for extended periods. Under such conditions, both the large and small pores are filled with water, air is driven out of the soil and an oxygen deficiency occurs. In such a situation a build-up of reduced compounds which are toxic to the grass may occur.

Wilting Due to Saturation

Wilting of the turf may actually take place when the soil is saturated. Physiologically the grass roots must have a supply of oxygen in order to take up moisture, but the saturated condition of the soil which has driven out the oxygen supply makes it impossible for the plant roots to absorb moisture. Wilting may occur very



Here are new officers and committee members of the Ladies Auxiliary of the PGA Seniors: (Front row, l to r) Mrs. Kenneth Milne, honorary pres.; Mrs. Al Hubbard, pres.; Mrs. J. R. (Bob) Williams, 1st vp. (Standing) Mrs. Marc Sandow, publicity chmn.; Mrs. Marty Cromb, treas.; Mrs. William Graham, corresponding secy. Other officers not in the picture: Mrs. Carroll McMasters, 2nd vp and Mrs. Fred Moore, secy.

rapidly if air temperatures or wind movement is high. In some instances it may be necessary to lightly syringe the grass to cut down the rate of transpiration.

Severe Erosion

During periods of high intensity, rain surface runoff may cause washouts and severe erosion, especially on newly seeded areas or steep slopes with thin turfgrass cover. Traps may be severely damaged by runoff. Runoff often results in flooding conditions, especially along rivers and streams, which may leave heavy deposits of silt, clay and other debris on the turf. Heavy accumulations of silt and clay may smother the grass, while even light deposits may form layers which create future problems. Heavy silt deposits often must be removed in order to restore the flooded area to play.

Learning from Teachers

There's a lot the teaching pro can learn from teachers and coaches in other lines.

GOLFDOM ran a brief note from a professional telling about being tipped off by his young son's school teacher that he (the pro) didn't know as much as he should about the art and science of instruction.

Letters from professionals who read that comment and began asking questions of other teachers say that to them the item was one of the most valuable GOLFDOM has run in years.