

Where Do The Fines Come From?

by Bob Dunning

The most overlooked factor on golf greens that causes our most serious problems, even in greens properly constructed, is the accumulation of fines at and near the immediate surface — this is something that is constantly happening.

Silt and clay, or the finest materials, are air-borne the majority of the days of the year and this is the major source of fines. If one would leave their car in a parking lot on the campus for two or three days then observe the dust that has accumulated on the surface within this period it can be readily understood how a putting green in a more precarious position 365 days a year can accumulate fines on a wet or dry surface.

I am sure all of us have walked down fairways or through roughs wearing freshly shined golf shoes only to have this disappear in a very short time. It is amazing to see the accumulation of dust that has gathered through and above our socks when we shower.

This, however, is not the entire problem. As the silt, clay and fine materials accumulate, so also does desired organic matter including humus. There are some factors that are not so desirable such as: in the process of what would be desirable in other forms of agriculture, bacterial slime, one of the cementing agents, that creates crumb structure and permanent soil structure in good agricultural soils becomes a sticky, slimy mess of goop at the immediate surface of the putting green that seals out oxygen, decreases absorption, infiltration and percolation of water or permeability, increases divots, wet surface increases disease instance, is a host for fungi and in particular facultative fungi that are sure to make their appearance when the climatic conditions are favorable and attacks of epidemic proportions can be expected. How important it would be if the Superintendent could apply minute rates of fungicides daily with his automatic sprinkling system. The above when accompanied with mat and thatch can create all types of trouble including difficulty in watering, desiccation during the winter and these fines by excluding air decreases decomposition and increases the possibility of putrefaction and loss of turf. This material at the immediate surface of the green is completely without structure and when rubbed between thumb and forefinger it will be found to be near a sticky glue in consistency.

The worst condition is when fines accumulate over coarser material then the attraction is upward or water is held in this material rather than downward causing a wet surface rather than a well drained soil.

Some of the other troubles caused are: foot long roots becoming less than an inch in length, accumulation of salts, increases the frequency of syringing, localized dry and hard spots and when soils become saturated turf may thin and surface become hard and crusty or the lower soil horizon remains overly wet causing putrefaction, thinning or loss of turf. In fact, it is difficult to name any green trouble that is not adversely affected by this condition. It would take different degrees of correction to overcome this problem in accordance to how long the material has been allowed to accumulate and how serious the condition has become.

A major source of fine and very fine sand is often encountered in construction when it is not recognized that these aggregate size materials are not desirable.

They are often used to take the place of properly graduated sand or cut down on the purchase of sand of proper gradation. These fine and very fine sandy materials will readily compact under putting green conditions and when combined with silt and clay and cementing agencies such as organic slime, permeability may become near nil as well as properly aeriated greens.

However, in new greens if it is recognized initially that the accumulation of fine materials will become a problem then the application of a light topdressing with materials of the same consistency that the green was constructed of, disc spiking and an occasional verti-cutting and aerification will take care of the problem. In older greens it may require more drastic treatment, long periods of aerification, completely filling the holes with a sandy mix topdressing and it is very important that they are completely filled, and could necessitate the removal of the sod or even rebuilding the green. This could be where severe mat and thatch layers are allowed to form. This problem starts even during construction and in some cases is man-made by workmen dragging fines onto the green, players often track fines onto the putting surface and in many instances water is the source of fines. Three or four improper topdressings can seal the surface of a well constructed green.

Never sod a green with turf that has been grown in finer material than the green is constructed of.

It is a relatively simple problem when recognized and proper steps are taken to correct it but one that is highly disastrous when not recognized. A difficult task will become much simpler when it is recognized that fines are a major source of trouble on putting greens. They must be diluted with properly graduated material and through manipulation all surface materials be incorporated into each other to form a surface of proper gradation and consistency. This is practicing putting green sanitation.



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