

Vertical Mowing of Fairways for Improvement or Renovation

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Vertical mowing is a cultivation procedure involving the use of vertically oriented knives mounted on a rapidly rotating horizontal shaft. Vertical mowing may be done alone or in combination with a slit seeding program.

Thatch populations can be greatly reduced through vertical mowing and should be a standard practice when thatch accumulations reach a depth of .6 inch or greater. Thatch removal should be accomplished when (1) the turfgrass growth is vigorous, (2) atmospheric stress is minimal, and (3) a sufficient period of growing conditions exists for recovery of the turf. Avoid periods when weed invasion is likely i.e. during **Poa annua** seedhead formation. Soil and thatch should be dry when vertical mowing is practiced. This minimizes the disruption of the turf and facilitates cultivation of the soil from vertical mowing.

Now that I have mentioned the physical aspects of vertical mowing, I feel it is important to look at the subject of thatch which is the main target for vertical mowing. Dr. Shearman of the U. of Nebraska listed the disadvantages of thatch when found in excessive amounts greater than 1/2 inch.

1. increased turfgrass environmental stress
2. reduced turfgrass tolerance to heat, cold, and drought
3. increased disease incidence
4. increased insect activity
5. increased puffiness, scalping, footprinting, and spiking
6. increased proneness to localized dry spots
7. increased susceptibility to iron chlorosis
8. reduced activity of certain pesticides
9. increased phytotoxicity of certain pesticides

This list shows us that if thatch is a problem on your fairways, vertical mowing should be a part of your cultural program. For a number of years, the Superintendents used converted agricultural equipment to slice grooves in their fairways. In recent years equipment has been manufactured that vertically cuts the turf and can be set at the desired depth. The most widely used piece of equipment is the Rogers Aero-Blade. Several mower manufacturers now have vertical cutting units that are interchangeable with their gang reels.

The greatest problem with vertical mowing of fairways is the large amount of debris you must contend with when the dead vegetative matter is removed. If the amount of debris is slight, it can be mowed off or blown into the rough. If the amount of debris is considerable then the normal procedure would be to blow the material to the center of the fairway for manual pickup. Several sweepers or vacuums are available to help make the job easier.

With a summer like 1983, many Supts. were busy this fall renovating their fairways. While some used a broadcast seeding after aerification, many used a drill seeder in combination with a vertical mower. The use of Glyphosate with a slit seeding program is commonplace today. The main principle with slit seeding is that seed is placed in a groove. Less seed is used than with broadcasting while results are often comparable or superior.



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