

STOP 9

Dave Martin

Chemical and Physical Investigations of Thatch. Under certain conditions thatch can be a problem in bluegrass, red rescue, or bentgrass turfgrass areas. Accumulation of this tightly compacted layer of living and dead plant parts creates a favorable microenvironment for disease activity, increases susceptibility to drought, and inhibits adequate aeration and water movement into the soil.

A long term study of Merion cultural systems is designed to evaluate thatch accumulation under two clipping heights, clipping return vs. removal, mechanical thatch removal vs. none, and six nitrogen rates compared in all combinations.

Laboratory techniques involve a physical and chemical description of the thatch layer. Rates of thatch accumulation between species of grasses are being compared to the cellulose, hemicellulose and lignin contents of the leaves, stems and roots.

STOP 10

Dr. William F. Meggitt

Preemergence Herbicide Build-up. A turf tolerance study was established in 1964 to observe the effects of repeated applications of eight pre-emergence crabgrass herbicides on desirable turfgrass species. Eight herbicides have been applied, both annually and biannually, to established Merion, common Kentucky bluegrass and red fescue.

Red fescue was damaged from yearly applications of bandane, benefin, and DCPA. In addition, injury was apparent from DCPA applied every second year.

Common Kentucky bluegrass was seriously injured from yearly applications of bensulide and from all terbutol treatments.

Merion Kentucky bluegrass was injured from yearly applications of bandane and bensulide.

Research at other institutions has shown that damage to the root systems, of these grasses, often develops from pre-emergence herbicide applications. This type of damage is sometimes detected in the turf as a tendency towards wilting under environmental stress.