

STOP 7

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**Thatch Build-up, Management and Control** - A long term investigation of optimum management practices to minimize thatch build-up and subsequent disease problems. Factors under evaluation include cutting height (1" vs. 2"), clipping return vs. removal, mechanical thatch removal vs. none, and six nitrogen rates in all combinations of 144 treatments.

THATCH is defined as a tightly intermingled layer of living and dead stems, leaves, and roots of grasses which develop between the layer of green vegetation and the soil surface. The higher rates of nitrogen fertilization, development of more vigorous grass varieties, increase in watering, and Michigan's cooler climate for mid-summer growth have contributed to the current prominence of the thatch problem.

Thatch accumulating to a depth of more than 1/2 inch creates the following undesirable conditions which result in deterioration of the turf.

1. Greatly enhances the micro-environment for disease activity including leafspot, strip smut, powdery mildew and Fusarium rosium.
2. Elevates the grass crowns above the soil to the extent that drought resistance is reduced.
3. A tight thatch or mat can greatly inhibit aeration and water movement into the soil. Water movement is particularly impaired when the thatch is dry.

Thatch has only recently become a problem in lawns and is not widely known or recognized as yet. Rather, the lawn owner notes a disease or drought problem rather than the major role of thatch.

SAMPLING FOR THATCH - To determine the degree of thatching present cut a pie shaped wedge two inches deep, remove the plug, and make an examination of the vertical cross section. Superficial examinations from the surface are not effective in determining the amount of thatch which is present.

CAUSES - The specific causes of thatch formation are not well understood. Factors which are related to thatch formation include (a) acidic conditions, (b) return of clipping, (c) excessive nitrogen feeding rates, (d) a vigorous growing variety of grass, (e) heavy artificial watering, and (f) heavy soils.