

# PROBLEM SOLVERS

Michigan State University Extension  
Oakland County

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## MULCHING TREE LEAVES INTO LAWNS

The state regulation that prohibits sending yard wastes to landfills has created a problem for grounds managers and homeowners who need to dispose of tree leaves each fall. One alternative is to compost the leaves, either on the premises or at a local composting center. The latter requires collection, bagging and a means of transport to a compost center. The former requires part of the landscape devoted to the composting. When there are many trees on the grounds, leaf clean-up and composting can be a time-consuming chore. Another means of disposal is simply mowing the turf/tree leaves with a rotary mower often enough to pulverize the leaves so they fall into the turf. A legitimate question is: *What effect does this have on the turf, both short-term and long-term?*

With these questions in mind, a study supported by the Michigan Turfgrass Foundation was initiated at the Hancock Turfgrass Research Center in October 1990 to evaluate the effects of mulching tree leaves into a Kentucky bluegrass turf. Leaves from a mixed stand of trees, but predominately maple, were collected. Three leaf rates in a one-time application each year were applied: none, light (about 3 inches of dry leaves) and heavy (about 6 inches of leaves). The leaves were mulched into the turf with a mulching rotary mower using two passes. With the heavy rate, much of the grass was covered with the mulched leaves. Two nitrogen rates were used as well: 2 or 4 pounds N per 1,000 square feet annually with one-quarter of the total applied at the time of leaf mulching. The leaf treatments have been applied each October.

A second study was initiated in October 1991 in which oak or maple leaves were applied to a Kentucky bluegrass turf. A single rate of leaves was applied. There were 4 replications of each treatment in each study. Both studies were conducted on turfs in the open sun.

As we have evaluated the turf throughout the growing seasons, there have been no meaningful differences observed in turf quality ratings, turf density, thickness of the "thatch" layer, amount of organic matter in the "thatch" layer or the number of dandelions in the plots.

The nitrogen applications provided some improvement in turf quality ratings, but there was no apparent effect on the rate at which the leaves decompose.

From the data collected to date it appears that returning the leaves to the turf is not harmful to the grass *if the mulching/mowing is done at appropriate times*. To date, there is no apparent short-term or long-term negative or positive effect. When oak leaves are predominant, it will be necessary to mulch them into the turf later into the fall because they are held on the trees longer than most other trees. For best results, leave the mower set at the same height as you have been mowing the turf. It is important to *use a rotary mower* that pulverizes the leaves well and that the *leaves are dry* when mowed. Sharpening the mower blades and a slow movement with the mower will help to grind the leaves finer. It may be necessary to make as many as 3 or 4 passes over the area to grind the leaves fine enough.

The finer the leaf particles, the more easily they fall into the turf, leaving grass leaves exposed to sunlight.



Our observation is that the pulverized leaves will settle into the turf within a day or two, particularly if followed by rain. Take care that the pulverized leaves do not cover the grass blades entirely. *It is best if the tree leaves are "mowed" regularly, not allowing them to lie on the turf more than 3 or 4 days*. Fall is a very important time for the turf to photosynthesize and store carbohydrates, particularly under trees where the turf receives limited sunlight during the summer. Although additional nitrogen has not shown any major benefit we still suggest ½ pound nitrogen per 1,000 square feet in addition to the normal fall nitrogen fertilization to enhance decomposition of the tree leaves.

Mulching the leaves into the turf is a reasonable means of disposing of the leaves. These studies prove that what many turf managers have been practicing is practical and does not harm the grass if done timely.

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