

## **Leaf Mulching Effects on Turf Performance**

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### **Objective**

The objective was to determine the effects of multiple years of annual leaf mulching on turf performance.

### **Rationale**

Disposing of fallen tree leaves is problematic for professional turf managers and homeowners each fall. Raking, blowing, and/or vacuuming tree leaves is labor intensive and therefore expensive. This problem is further complicated by a landfill lawn waste ban that went into effect in September 1994 which bans lawn wastes from most landfills. The easiest method of disposing leaves is to simply mulch them into the turf. Though this practice has been recommended for many years, there is little data on the long term effects of tree leaf mulching into turf.

### **How It Was Done**

Every October since 1994, maple tree leaves were collected, run through a garden shredder to facilitate handling, and applied to a perennial ryegrass stand at the Agronomy Research Center. Leaves were applied at 0, 2000, or 4000 lbs/A in a single application and immediately mowed with a mulching mower (a woodlot will drop approximately 3000 lbs/A/yr of tree litter). Since we felt that the high C:N ratio in the tree leaves would eventually limit nitrogen in the stand, we used three annual nitrogen rates. Beginning spring 1995, N rates used were 0, 1.3, and 2.6 lbs N/1000 ft<sup>2</sup>/yr. However, by summer 1996, the ryegrass receiving 0 lbs N/1000 ft<sup>2</sup>/yr declined dramatically and so the annual N rates were adjusted to 1.3, 2.6, and 3.9 lbs N/1000 ft<sup>2</sup>/yr. The area receives regular irrigation to prevent drought stress, and herbicide applications to limit broadleaf and annual weeds. Data collected includes monthly clipping weights, visual quality and color ratings, and annual evaluations of thatch, soil pH and soil nutrient concentrations.

### **Results to Date (after 4 annual leaf applications)**

Following are the results to date from this study:

- Leaves have no effect on turf visual quality or color
- Leaves have no effect on turf growth measure by clipping weights
- Leaves have no effect on mat or thatch depth
- Leaves have no effect on soil pH or nutrient availability
- Leaves have no effect on incidence of red thread, pink patch or dollar spot
- Leaves have no effect on weed infestation

So far, the results are very positive and suggest that mulching tree leaves is an economical method of disposal with little risk of decreased turf performance. This study will continue with leaf mulching in fall of 1998 and data recorded throughout 1999.