

## Minimizing Waste Disposal: Grass Clippings

*Peter F. Strom, Ph.D., Associate Professor of Environmental Science; James A. Murphy, Ph.D., Extension Specialist in Turfgrass Management; and Henry W. Indyk, Ph.D., Extension Specialist Emeritus in Turfgrass Management*

Since refuse disposal costs have dramatically increased, and some landfills no longer accept grass clippings, many individuals and governmental agencies are seeking alternatives for disposal of clippings. During the maximum grass growing period, the municipal refuse load in some New Jersey suburban communities may contain nearly one-third grass clippings. Collected clippings become anaerobic very quickly because of their high demand for oxygen. After becoming anaerobic they emit strongly unpleasant odors. Therefore, grass clippings (in quantity) are difficult to handle and to process.

From our own experience with the handling and disposal of grass clippings, and discussions with others such as lawn care professionals, we suggest considering the following methods to reduce landfilling:

1. **RETURN TO LAWN** — It is most desirable to leave grass clippings uncollected on the lawn so that they are recycled, contributing to soil organic matter and supplying part of the fertilizer needs of the lawn. Adopt a mowing schedule to keep clippings short enough to filter through growing grass and not remain as a mat on top of the lawn. Research and experience indicate that only 1/3 of the grass length should be removed during mowing. Never allow the lawn grass to double its height between mowings. This approach not only eliminates clipping collection and disposal problems, but also can contribute to improvement of the lawn.

Clippings are not a cause of thatch in lawns. Rather, thatch is formed primarily from a dense accumulation of grass roots and stemmy material. Returning clippings along with proper mowing frequency will not increase disease problems.

Use caution when removing collection bags from mowers. Some machines are not designed to operate safely without a bag or other attachment in place. If you are unsure, check with your equipment supplier.

2. **GARDEN MULCH** — Grass clippings can be used as a garden mulch. To minimize any tendency to protect slugs, clippings can be dried in the sun for a day prior to being used in this way. Clippings can be spread on garden soil to check weed growth, reduce soil spattering and crusting, moderate soil temperatures, etc. As a precaution, do not use grass clippings from herbicide-treated lawns until after two grass cuttings have been made.

3. **SOIL INCORPORATION** — Clippings can serve as a source of organic matter for soil improvement when incorporated into the garden.

4. **BACKYARD COMPOSTING** — Grass clippings can be composted, particularly when incorporated into a backyard leaf composting pile. However, grass has a high nitrogen content, a much higher demand for oxygen than leaves, and a tendency to mat, thereby greatly reducing the passage of oxygen. Composting piles containing



grass clippings thus readily become anaerobic. This, in turn, can produce strong, unpleasant odors. These odors are particularly noticeable when the pile is disturbed.

Because of these problems, grass clippings should not be composted alone, but rather mixed with composting leaves. The partially decayed leaves which now (6-9 months after leaf fall) have a low demand for oxygen, will serve as a bulking agent permitting more oxygen to reach the grass. Grass, which is high in nitrogen, will provide a more rapid decomposition of the remaining leaves as long as it remains under aerobic conditions. Grass clippings will also contribute to a better end product (higher nitrogen content) than that obtained from composting leaves alone. One must be aware, however, that an excess of damp grass in the pile will soon become anaerobic, produce very unpleasant odors, and reduce the rate of decomposition. The objective is to keep the material **aerobic**. Also, to ensure that excess nitrogen is not given off as ammonia, do not add more than 1 part fresh grass clippings to 3 parts partially composted leaves.

The resulting compost can be used as a soil amendment, as a mulch for gardens, flower or shrub beds, or as a potting medium.

5. MUNICIPAL COMPOSTING — Some grass clippings can be incorporated into a municipal leaf composting operation. However, problems that may be experienced with backyard grass composting could be greatly magnified at a municipal facility. Even grass stored for one day or less in plastic bags or the back of a lawn maintenance pick-up truck may emit very unpleasant odors when being unloaded at the site. For this

reason, grass clippings are banned at many leaf composting facilities, unless they are very isolated. Research is continuing in this area, but other problems include the high cost of collection and an inadequate supply of leaves for the amount of clippings.

Partially composted leaves should be mixed with the grass in a 3:1 ratio, or more. Because the leaves have already decomposed by the time the grass comes to the site, however, this means the ratio actually collected must be at least 6:1. For most towns this would be possible only if most of the grass clippings are handled directly by residents on their own property.

6. CLIPPING REDUCTION — Fertilizing and watering above the requirements of the grasses may be more detrimental than beneficial to the lawn. One of the effects is increased production of clippings. (Another is potential ground or surface water pollution.) Judicious and proper use of fertilizer and water can provide an attractive lawn with a reduction in the costs, effort, susceptibility to disease, and amount of clippings produced. A fertilization program should emphasize fertilizing the lawn in the fall season rather than in the spring. This can be effective not only in reducing the amount of clippings produced, but also in contributing to a better lawn.

Two related fact sheets: “Backyard Leaf Composting” (FS074) and “Using Leaf Compost” (FS117), and assistance with procedures covered above, may be obtained from the Rutgers Cooperative Extension office in your county. The telephone number appears under County Government in your local phone directory.

© 2004 by Rutgers Cooperative Research & Extension, NJAES, Rutgers, The State University of New Jersey.

Desktop publishing by Rutgers-Cook College Resource Center

Revised: April 1992

**RUTGERS COOPERATIVE RESEARCH & EXTENSION  
N.J. AGRICULTURAL EXPERIMENT STATION  
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY  
NEW BRUNSWICK**

Distributed in cooperation with U.S. Department of Agriculture in furtherance of the Acts of Congress on May 8 and June 30, 1914. Rutgers Cooperative Extension works in agriculture, family and community health sciences, and 4-H youth development. Dr. Karyn Malinowski, Director of Extension. Rutgers Cooperative Research & Extension provides information and educational services to all people without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Rutgers Cooperative Research & Extension is an Equal Opportunity Program Provider and Employer.