

James B. Beard  
1983 August



# A PATCH of GREEN

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# Turfgrass Clipping Uses

by **Dr. A Martin Petrovic**  
Dept. of Floricultural and  
Ornamental Horticulture  
Cornell University, Ithaca, NY 14853

## What are turfgrass clippings?

Basically, they are leaf blades which normally contain 75-85% water. What isn't water is 3-6% nitrogen, 0.5-1% phosphorus and 1-3% potassium (a 4-1-3 fertilizer) along with calcium and a few other nutrients. There is little or no lignin or cellulose in turfgrass clippings. Because they are mostly water, clippings do not lead to thatch accumulation. Thatch is composed mainly of stems, crown tissue, leaf sheaths, roots and rhizomes, but not leaf blades.

**Collecting clippings?** From putting greens and other specialty surfaces, clippings have to be removed. On other areas, one solution to the "what to do with clippings" problem is to leave them there. Collecting clippings is more than a waste of precious energy for you, it is also a waste of energy for the plant. As clippings break down, the "recycled" 4-1-3 fertilizer is returned to the turf. You have eliminated the dumping cost, and have also saved the time of emptying catchers of bags and hauling the clippings to the dump by returning clippings to the turf.

**More nitrogen needed.** research at Michigan State University has shown that turf requires up to 2 extra pounds of nitrogen per 1000 sqm ft. where clippings are removed. These studies showed that turf needs 20-30% more fertilizer if clippings are removed, to match the quality of turf plots where clippings are not removed. Thus fertilizer costs can be cut by returning clippings to the turf.

Research at the Connecticut Agricultural Experiment Station showed comparable result. Turf specialists there found that 1.8 pounds of nitrogen per 1000 sq. ft. were removed when grass clippings were collected. In some cases, they found that clippings could return over 50% of the nitrogen that was added as fertilizer. The turf was greener and growth was more vigorous where the clippings remained. Ten years ago, similar studies at Cornell University and at Eisenhower Park in Nassau County showed that turf was greener, more vigorous and more disease tolerant when clippings were left

CONTINUED PAGE 13

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Woodland Medical Group, P.C.  
41935 West 12 Mile Rd.  
(next to 12 Oaks Mall)  
Novi, MI 48050

Contact: Dr. Manuel Sklar, M.D.  
(348-8000)

Cost: Approximately \$25 for each of 2 tests. BC/BS will cover completely or in part depending on coverage.

Michigan Industrial Clinic  
1701 Baldwin, Pontiac, MI

Contact: Dr. Blau, M.D.  
(362-4616)

Test Intervals: Base test done in off-season followed by monthly or quarterly tests, depending on exposure.

B. The DNR has been monitoring ground water and surface water for polutants and determined that these waters have high levels in many area which border golf courses. There is a battery of tests recommended by the EPA which can be done by any number of local laboratories to determine whether your well-water or surface water is free of harmful contaminants. Be a step ahead of the DNR, relieve worry on your part or your members

part as to whether past chemical use or misuse has left high levels of heavy metals or pesticides in your water.

Analytic & Biological Laboratories, Inc.  
29079 Ford Rd.  
Garden City, MI 48135

contact: Francis B. McLaughlin, FAIC  
(422-7474)

Detroit Testing Laboratory Inc.  
8720 Northend, Oak Park, MI  
(398-2100)

Method of Analysis

Gas Chromatograph: "Methods for Organic pesticides in Water & Waste-water." U.S. Environmental Protection Agency, National Environmental Research Center.

Cost: Approximately \$425/sample for battery

C. Your local fire department may have a town ordinance which requires that you submit a diagram of your maintenance shop which identifies where your chemical room is and a listing of the chemicals which are stored there. This room should also be properly labeled on the door for the firemen and others safety. Toxic fumes from a fire could result in serious injury. Contact your local township or fire department to determine what's required.

D. Signs for pesticide storage and other safety signs can be obtained from many sources. To determine which

CONTINUED PAGE 14

# GRASS

Grass is one of the largest & most varied families in the plant kingdom. Some kind of grass can be found on almost all the land surfaces of the earth. Grasses grow in swamps & deserts; in subzero polar regions & hot tropical areas; on rocky land; and on cold, snowy mountains. Grasses range from short kinds found in lawns to woody, tall bamboos from which cane fishing poles and furniture are made. Cereal grasses such as wheat, oats, barley, and corn are used to make bread, pastes, plastics, and many other products. Most sugar we eat comes from a grass plant called sugar cane. Brewers and distillers (liquor makers) use corn & barley (for malt) in making alcoholic beverages. Paper can be made from the leaves & stems of some grasses.

Grass also beautifies the landscape & plays an important part in conservation. It forms an attractive surface of lawns, parks & playgrounds. It also helps to save fertile soil from erosion. Grass covers the surface of the soil, and its roots hold the soil particles together so that wind cannot easily blow the particles away & water cannot wash them away.

Grass, like other plants, is usually green because it contains a green-colored substance called chlorophyll. Through photosynthesis, this material helps change sunlight into energy that plants can use.

Grasses can be classified in six main groups: grazing & forage grasses, turf-grasses, ornamental grasses, cereals, sugar cane & woody grasses.

Grazing and forage grasses provide most of the feed that animals eat. It is the principal source of food for cattle, goats, horses & sheep. During the winter these animals eat grass in the form of hay & straw.

Turfgrasses are used to cover athletic fields, golf courses, lawns & playgrounds. Some turfgrasses such as colonial bent, creeping bent & Ken-

tucky Bluegrass, grow better in colder climates. Bahia grass, bermuda grass, carpet grass, centpede grass, St. Augustine grass and zoysia grass are grown in warmer climates. Buffalo & blue grama grasses can best withstand hot, dry weather. Putting greens are usually covered with bent or bermuda grass.

Ornamental grasses have beautiful, plumelike flower clusters, common varieties include Chinese Silver Grass, pampas & uva grasses.

Cereals are one of the world's most important food crops. They provide seeds of grain that are ground into flour. The cereal grasses or grains include - wheat, rice, corn, oats, sorghum & millet. Wheat is a major food source. It is used for grazing livestock, wheat germ, bran, malt & macaroni which in turn make bread, rolls, crackers, breakfast cereals, noodles, etc. Rice has been a basic food for millions of people throughout the world for hundreds of years. The two major types of rice are lowland, for flooded land, & upland, which depends on rain for moisture. Corn provides over half of the grain fed to livestock & poultry. It is eaten by people in the form of sweet corn, popcorn, meal, oil & flour. The spikelike tassel at the top of the stalk holds the male flowers, while female flowers are in the branch-like ears. Oats is grown mainly for feeding livestock. Only about four per cent of the U.S. oats crop is used for oatmeal. Other cereal grains include sorghums & millets. In the U.S., they are grown mainly for livestock feed. Sugar cane provides more than half of the world's supply of sugar. It also produces a fiber called bagasse that is used in making wallboard, plastics & fuel to heat homes, woody grasses include the bamboos. Bamboo is used for building homes, rafts, bridges & furniture.

Excerpted from World Book Encyclopedia, Vol. 8, Pgs. 314-316



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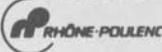


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## Turfgrass Clippings, cont.

(dollar spot in particular was reduced). **Nutrients recycled.** When clippings are short, they fall down between the blades and decompose quite quickly. tests at Michigan State and Connecticut showed that the clippings are recycled and the nutrient elements are utilized as soon as 7 to 14 days. This was determined by visual observation and at Connecticut by tracing the heavy isotopes of a form of nitrogen.

**Mulching mower useful.** if the clippings are very long, wet or heavy, they should be removed. an alternate to raking is to re-mow the area after the clippings are dry, or to use a mulching mower. A few things should be remembered when using a mulching mower: 1) the turf must be relatively dry before mowing to help prevent machine clogging and the formation of large clumps of clippings; 2) You will need to now more often in the spring and fall because of the faster growth rate. If more frequent mowing is not possible during these periods, you may need to switch to conventional mowers; 3) Mulching

mowers produce up to 30% finer clippings than conventional rotary mowers which means faster clippings breakdown, deeper and faster penetration of the clippings into the turfgrass canopy and clippings that are less noticeable. **Clippings as mulch.** Turfgrass clippings can be used as a mulch around ornamentals, reducing weed competition, conserving soil moisture, supplying nutrients as they break down and help to improve soil conditions especially in fine textured soils. Clip-

CONTINUED PAGE 18



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signs are needed refer to your pesticide certification manual or call the Department of Agriculture, Plant Industry 368-2230. Listed below are a number of sources for any sign which you might need:

Averill Equipment Co.  
1233 Combermere St.  
Troy, MI 48099  
961-0819

Associated Specialties Co.  
24555 W. 8 Mile Rd.  
Detroit, MI  
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E. You can obtain all your safety equipment needs from one local source. Products which are handled include: Approved boots, gloves, respirators, (replacement filters and cartridges), headgear, ear protection, first aid kits, eye protection, gas cans, safety eyewash basins and showers, signs, raingear, rope & climbing gear, etc. Listed below are a few of those sources:

Orsco Industrial & Safety Inc.  
31731 Sherman Dr.  
Madison Heights, MI 48071  
Contact: Dave Farris  
(588-4600)

Argus Supply  
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By following our standard instructions and using a little extra care, as outlined below, successful solvent cemented joints can be made in even the most extreme hot weather conditions.

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1. Store solvent cements and primers in a cool or shaded area prior to use.
2. If possible, store fitting and the pipe, or at least the ends to be solvent welded, in shady area before cementing.
3. Cool surfaces to be joined by wiping with a damp rag. Be sure that surface is dry prior to applying solvent cement.
4. Try to do the solvent cementing in cooler morning hours.
5. Make sure that both surfaces to be joined are still wet with cement when putting them together. With large size pipe, more people on the crew may be necessary.
6. Use one of our heavier, high viscosity cements since they will provide a little more working time.

As you know, during hot weather there can be a greater expansion-contraction factor. We suggest you follow the

CONTINUED NEXT PAGE

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## Night Lighting May be Harmful To Trees

The energy crunch may provide a hidden blessing for trees sensitive to night lighting. After the introduction of high-pressure sodium lighting in the 1960s, architects and designers rushed to include bright exterior lighting in new building designs. However, the rising cost of electricity is forcing a trend toward fewer lights or the use of more energy-efficient lighting systems.

USDA research horticulturist H. Marc Cathey surveyed 54 species of trees and shrubs for their response to all-night lighting. He found that continuous light forces sensitive trees into continuous growth, which causes stress and makes them more susceptible to air-pollution damage. It also delays dormancy in the fall, exposing new growth to a killing frost. These effects are dependent on several factors including light intensity, color and night temperature, Cathey reported.

Elms and sycamores are the most sensitive. A single foot-candle of incandescent or sodium light on the leaves of dogwoods, birches and some maples also interferes with the natural dark-light cycle of those trees. Oaks, evergreens and many fruit trees are sensitive to night lighting, and holly, rhododendron, linden and most maples are only moderately sensitive.

If your club uses less efficient light sources, such as metal halide or mercury vapor lighting, you may be doing your trees a favor. These lamps emit less of the red part of the spectrum, which triggers continuous growth.

### Joining PVC, cont.

advice of the pipe manufacturer regarding this condition.

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The population of this country is 200 million, 84 million over 60 years of age, which leaves 116 million to do the work. People under 20 years of age total 75 million, which leaves 41 million to do the work.

Then there are 22 million who are employed by the Government, and that leaves 19 million to do the work. Four million are in the Armed Forces, which leaves 15 million to do the work. Deduct 14,800,000, or the number in the state and city offices and that leaves 200,000 to do the work. There are 188,000 in hospitals, insane asylums etc., so that leaves 12,000 to do the work.

Now, it may interest you to know that there are 11,998 people in jail, so that leaves just two people to carry the load. That's you and me - and brother, I'm getting tired of doing everything by myself!

Source : Progress Reporter

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YOU DON'T buy life insurance - you buy security for others.

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#### **Turfgrass Clippings, cont.**

pins can be used as a straight mulch, but are better if they are allowed to air-dry first. They can be composted with or without leaves, but either way should be applied at last 1" thick and should be turned under in the fall to help supply nutrients for the next year. as with any mulching material, be on the lookout for slugs. Two things should be avoided when using clippings as mulch: avoid clippings from areas with stolons such as creeping bentgrass since clippings of this type can form into new plants and infest the ornamental beds; and do not use the first several batches of clippings after applying broadleaf herbicides to the turf to prevent injury to ornamental plants.

**Clippings as animal feed.** You must answer NO to this question before considering turfgrass clippings as an animal feed: "Have any pesticides been applied to the turf? If you answered YES, strongly consider other alternative for clipping utilization. dried pellatized clippings have been shown to be an excellent poultry feed; however, large acreages are needed to produce enough clippings for this process. sod farmers with limited pesticide usage, have been able to do this to a limited degree.

So, what are you going to with your clippings? You leave them, dump them or use them as animal feed. Remember that clippings DO NOT create or add to the thatch layer of the turf.

Reprinted from the Proceedings of the 34th Annual New York State Turfgrass Conference, Volume 4 - 1980

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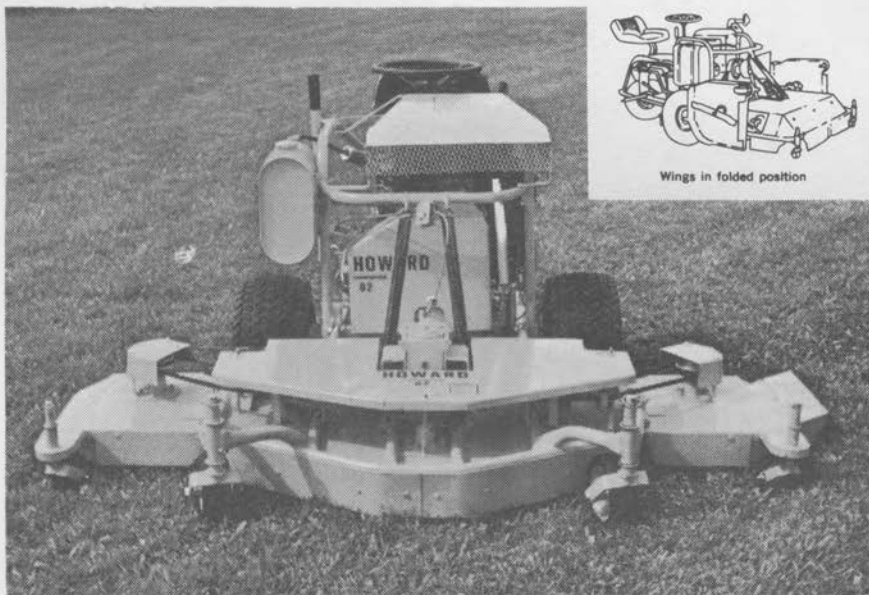
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Only as you know yourself can your brain serve you as a sharp and efficient tool. Know your own failings, passions, and prejudices so you can separate them from what you see.

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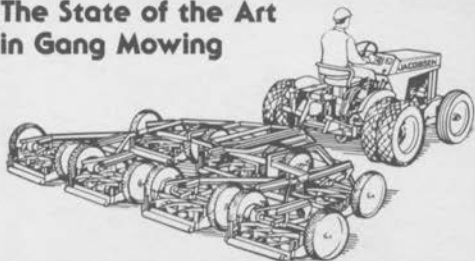
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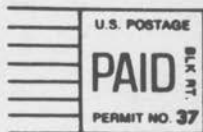
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