

CLIPPINGS, FERTILIZER AND MONEY

Landscapers must be more environmentally conscious about minimizing landscape waste. Picking the right fertilizer by studying the on-site effects of numerous N sources helped at Aurora University in Illinois.

By Michael A. Jinks and G. Allen Mayer

Lawn clippings have been an aggravation to most lawn maintenance companies. "To leave it lie or pick it up?" was the question most asked by their customers.

The State of Illinois is implementing a new law which prohibits dumping landscape waste in landfills. Some companies pay more to dump while others stack it in the back of their property, and still others illegally dump it along the road. As another season is about to open, more landfill sites are closing to the landscaper.

At Aurora University, a study was devised to help the university minimize grass clippings while producing a satisfactory lawn color at a reasonable cost. We listed our possibilities:

- The new varieties of dwarf turf-grasses would not realistically work here, because the old turf would have to be removed in favor of new grass.

- Growth regulators have been on the market for years promising many things, but not living up to what we hoped for or wanted.

- So we thought the easiest way to control growth was to control the amount and kind of fertilizer used.

Getting a start

Many fertilizer companies like to

EDITOR'S NOTE: The information on the ensuing pages can be used to plan a fertilizer study of your own, on your own turf. No specific product endorsement by either Aurora University or LANDSCAPE MANAGEMENT magazine is intended. The accompanying chart should not be used to judge the effectiveness of the products listed.

promote their lawn care products and tell how well it will green up your lawn. Most will not commit themselves to how long the grass will stay green. More importantly, in light of recent events, they will not commit themselves to the amount of grass clippings their product will produce.

Many fertilizers use a form of slow-release nitrogen. These products in theory produce a slowly-rising curve of nitrogen availability to generate consistent green color.

There are many different forms of slow-release nitrogen, and each has its own curve patterns. This leads many landscapers to use only the "tried-and-true" fertilizers. It is difficult for anyone to compare last year's

green with this year's green and take a chance on it.

The intention of this study was not to prove false claims, nor was it to promote any particular products. Rather, it was to provide a method of evaluating fertilizer performance in a given area.

The campus was divided into 15 areas bordered by sidewalks and streets. The areas were measured, then each area was assigned a different fertilizer. Athletic fields became a "control" for the study because in the past, athletic field maintenance has conformed to standards for most lawn maintenance programs.

Dry, granular fertilizers were used in this study. They were applied on May 5 of the year. A second dose was applied on August 28. An additional dose was applied to the athletic fields on July 13.

A 100-square-foot area was marked off from each treated area. Each area marked had as similar as possible sun-to-shade ratio. Every two weeks, the test sites were mowed with a hand mower with bagger. After each test site was mowed, the clippings were loosely poured into a five-gallon bucket marked in half-gallon increments. The number of gallons of clippings per 10 sq. ft. was then recorded. The area was then checked for overall lawn color and recorded. To keep it simple, we devised a four-grade color scale: dull green, light green, good green and very green.

Here at Aurora University, we have a very heterogeneous grass species mix with no dominating dark-pigmented varieties. The color grade "very green" is the color of lush grass high on fertilizer: beautiful, expensive, usually high clipping producers and high on disease. People love the color because it "looks" healthy.

"Good green" is a bright green, the color of healthy grass. "Light green" is a paler version of good green; the color can be an indication of low fertility. Dull green indicates stress.

The amount of rain received each day was also recorded. This helped



Dunham Hall, center for computer studies at Aurora University, where a 34-3-7 analysis granular fertilizer that cost \$1.21 per 1000 sq. ft. was used in this study last season.

AURORA UNIVERSITY FERTILIZER STUDY

Test Number	N-P-K Analysis	Product Cost Per 1000 sq. ft. ¹	Color Grade ²	Clippings Per cu. yd.
1	24-4-14	\$2.52	2.92	2.55
2	15-1-10	\$4.28	3.07	3.90
3	13-13-13	\$1.52	2.69	3.64
4	12-4-14	\$2.10	3.07	4.00
5	25-5-14	\$2.88	2.92	3.48
6	25-5-14 ^a	\$8.62	2.38	0.90
7	18-4-10	\$3.56	3.15	4.40
8	40-0-0	\$2.68	3.30	3.64
9	20-5-10	\$2.68	2.92	3.94
10	6-1-16	\$2.32	2.61	3.81
11	34-3-7	\$2.42	2.92	4.70
12	15-0-30	\$4.06	2.30	2.90
13	22-0-12	\$4.00	3.07	3.40
14	26-4-13	\$6.18	3.23	3.58
15	18-5-9	\$2.94	3.00	4.58
Control	28-6-12	\$3.12	3.07	4.49

¹ total for two yearly apps

² scale: 1-4, 4.0 highest

^a plant growth regulator added

evaluate the results; heavy rains explained sudden jumps in color and volume. Furthermore, the breakdown of product components was recorded.

The cost of fertilizer per treatment of 1000 sq. ft., the number of pounds of nitrogen per 1000 sq. ft., the unit cost and the square footage of treated area were calculated and recorded.

Readings were taken every two weeks.

The lawns on campus were maintained at two to four inches. The lawn was also sprayed with 2,4-D broadleaf weed killer.

All clippings were left on the lawns. (The piles of clippings did after a few days begin to detract from the campus's overall appearance.)

As the clippings dried up and grass grew up through the dry material, the campus started to look satisfactory. As the season wore on, fewer and fewer clippings were evident. It is possible that a bonus effect of the unremoved grass clippings was increased organic matter in the soil and thus increased fertility.

This was our study; the numbers that can be generated by your own study should be enough for any landscape company manager to make sensible decisions on environmental concerns, aesthetics and the bottom line.

Results

One would think that the most expensive fertilizer would yield the best turf, but that was not always the case.

Fertilizer numbers 6 and 12 both show the worst on color grade and nearly the least on the amount of clippings generated, this with nearly the most dollars per square foot. Number 12's 15-0-30 analysis may have a specific purpose, not as a general use lawn fertilizer.

Number 6 is the only site we use a plant growth regulator, mefluidide. When treatment was given in the spring and the lawn turned brown for a week and treatment was done in the fall, the lawn turned brown until snowfall. We were hoping for a full recovery by spring.

The next group of fertilizers are the high producers of clippings and rating high on the color grade. Numbers 2, 4, 7, 9, 11 and 15 also represent the main kinds of fertilizers found in the marketplace: they will give a fat green lawn at a wide variety of prices.

The next group of fertilizers is an oddball group. Number 3 (13-13-13 analysis) is an all-purpose fertilizer. This is one of the better lawn starter feeds. Number 8's claims to fame is that it consists of only 40 percent

nitrogen from only Nutralene. This fertilizer took a considerable amount of time and moisture to "kick in." Number 10 has the lowest nitrogen percent of six. This one also has the lowest non-PGR readings on the color grade scale.

The last group are outstanding in color grade and below average clipping amounts. They also vary in price from \$2.52 to \$6.18 per 1,000 sq. ft. per year. Numbers 13 and 14 were the most expensive of the high quality fertilizers. Numbers 1 and 5 rated low in cost, average in color grade and below average in amounts of clippings produced. These two fertilizers would be the choices I would make for the next year's fertilizer program.

We in the landscaping/lawn care professions must be environmentally-conscious about what we do here at work and at home. For 30 years the horticulture industry has been blamed for many environmental ills. We must be tougher on ourselves and others and take the lead to make the environment our real cause and not just an advertising gimmick **LM**

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