



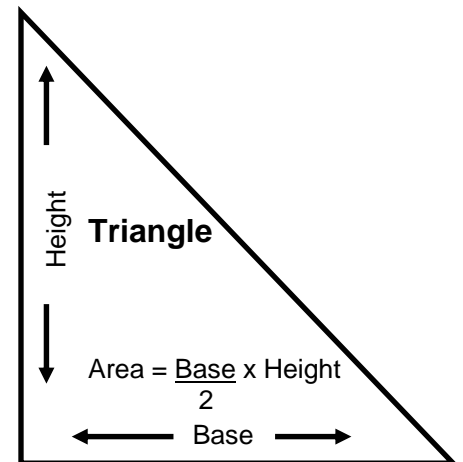
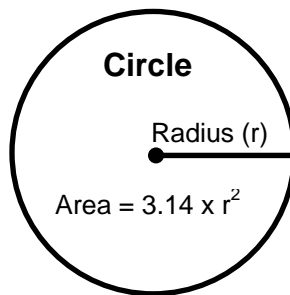
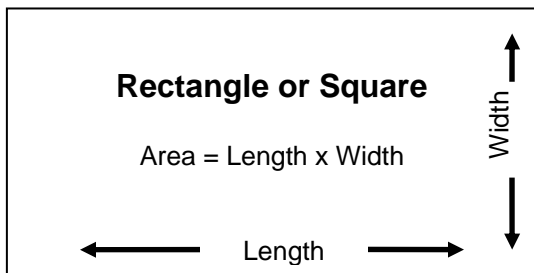
Does Your Lawn Measure Up?

Proper Application of Lawn Fertilizers

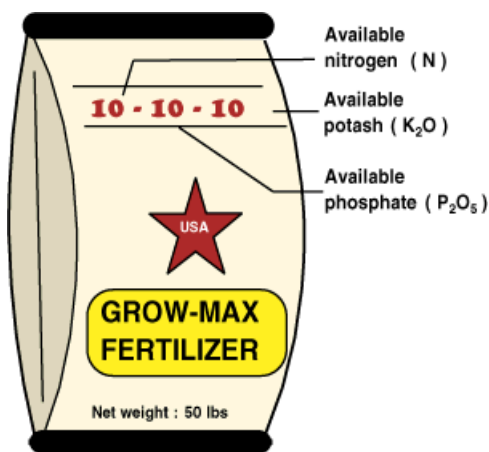
Your soil test results from UNH's Analytical Services Lab tell you to apply a certain amount of fertilizer per 1,000 square feet and you're confused about what to do next. How large is 1,000 square feet? How much fertilizer do you need to buy? How do you figure out if your spreader is putting on the correct amount?

STEP 1 – Measure the area

The first step is to determine the area or square footage of your lawn or garden space. Look at your space, measure it, make a rough sketch, and divide it up into a group of squares, rectangles, and/or triangles. Math problems often cause us anxiety, but don't worry; some simple formulas will help solve the problem. For example, the square footage or area of a rectangle or square is simply the length multiplied by the width. Areas for common shapes are provided here.



STEP 2 – Determine how much fertilizer to buy and apply



Let's say your front lawn measures 100 feet long by 50 feet wide. We know from the formula above that this equals 5,000 square feet in area (100' x 50'). Lawn companies usually tell us how many square feet each fertilizer bag covers. For example one popular lawn fertilizer, 22-4-10, indicates that their 45 pound bag covers 10,000 square feet. For your 5,000 square foot front lawn, you will only need to apply half the bag. Save the rest in a dry, indoor spot for later use.

How do companies decide how much fertilizer to recommend? Researchers suggest that grass plants can use only one pound of actual nitrogen per 1,000 square feet per application. Our 45 pound bag contains 22% nitrogen (22-4-10) or approximately 10 pounds of actual nitrogen (45 pounds x 22%)...so this bag will cover approximately 10,000 square feet. All of UNH's soil test recommendations for turf are also based on applying one pound of actual nitrogen per 1,000 square feet.

If in doubt about how much fertilizer to buy, use this handy chart.

STEP 3 – Calibrate your fertilizer equipment

Calibrate or test your spreader equipment each spring to ensure it is operating properly. Don't rely only on the manufacturer settings provided on the fertilizer bag – equipment can be wildly inaccurate!

Materials Needed

- Sheet of plastic
- Scale or balance
- Measuring container
- Fertilizer
- Tape measure

FERTILIZER CALCULATIONS				
	Weight of Fertilizer in Bag (Lbs)			
	45		50	
% Nitrogen in Bag	Lbs. Actual nitrogen in bag	# of square feet coverage*	Lbs. Actual nitrogen in bag	# of square feet coverage*
3	1.4	1,350	1.5	1,500
5	2.3	2,250	2.5	2,500
7	3.2	3,150	3.5	3,500
10	4.5	4,500	5	5,000
13	5.9	5,850	6.5	6,500
15	6.8	6,750	7.5	7,500
18	8.1	8,100	9	9,000
20	9.0	9,000	10	10,000
23	10.4	10,350	11.5	11,500
25	11.3	11,250	12.5	12,500
27	12.2	12,150	13.5	13,500
30	13.5	13,500	15	15,000
33	14.9	14,850	16.5	16,500
35	15.8	15,750	17.5	17,500

* Based on an application rate of 1 Lb. actual nitrogen/1,000 square feet

1. Spread out the sheet of plastic on a flat surface outdoors.
2. Use the tape measure to measure the length and width of the plastic surface.
3. Determine the square footage of this surface by multiplying the length times the width. Example: 20' x 30' sheet = 600 square feet.
4. Fill the spreader's hopper with fertilizer.
5. Many fertilizer bags will indicate what setting to use for a particular brand of spreader. If unknown, select a setting near the middle of its range.
6. Weigh the empty container. This will be the "tare" weight. Example: 2oz
7. Begin applying the fertilizer over the plastic sheet walking at your normal rate.
8. When the entire area of the plastic has been covered, stop, carefully gather all the fertilizer from the sheet and place it in the empty container.
9. Weigh this container. Record the weight and subtract the tare weight (the empty container) from this figure. The net result is the amount of fertilizer applied to that square footage. Is the amount of fertilizer collected the correct amount for this size area? If not, change the setting and redo the steps.

Let's look at an example. The 50 pound bag of fertilizer we selected has an analysis of 20-4-8. The chart above indicates that this bag will cover approximately 10,000 square feet at the desired rate of 1 pound of actual nitrogen per 1,000 square feet. After selecting our spreader setting, we applied our fertilizer, collected, and weighed it. Results: 34 oz. The tare weight of 2 oz. is subtracted, and we find that 32 oz. or two pounds of fertilizer was spread over our 600 square foot plastic sheet. If this had been a 10,000 square foot lawn, we would have applied about 33 pounds of fertilizer (2lbs /600sq.ft. = ?lbs/10,000sq.ft.). Have we applied too much or too little fertilizer? Yes...we applied too little (50 pounds desired vs. 33 pounds spread). The solution is to change the spreader setting to allow more fertilizer to drop through the hopper and redo the calibration steps again until the correct amount of fertilizer is applied. Good luck!

Written by Nancy E. Adams, UNH Cooperative Extension Agricultural Educator, 12/03

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