NEW JERSEY AGRICULTURAL EXPERIMENT STATION
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Fact sheet

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How to Calculate the Amount of Fertilizer Needed for Your Lawn

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Fertilizer recommendations for lawns are usually given in pounds of nitrogen to be applied per 1,000 square feet. Home gardeners sometimes have difficulty converting these recommendations to the amounts needed for their selected grade of nitrogen fertilizer and their lawn size. This fact sheet provides conversion tables and examples showing you how to calculate the amount of fertilizer needed for your lawn.

STEP 1

To determine the pounds of fertilizer to apply, first determine the percentage of nitrogen in your fertilizer. This can be found on the fertilizer bag. Nitrogen is always the first number in the three-number series listed on the fertilizer bag.

STEP 2

Now determine the number of pounds of fertilizer to apply based on the percentage of nitrogen in your fertilizer and your fertilizer recommendation. Table 1 lists the number of pounds of material needed when nitrogen content ranges from 1 to 46%.

Example 1

One pound of nitrogen or mixed fertilizer is recommended per 1,000 square feet of lawn and your particular fertilizer contains 20% nitrogen. Refer to Table 1 to convert this to five pounds of fertilizer that should be applied per 1,000 square feet.

Example 2

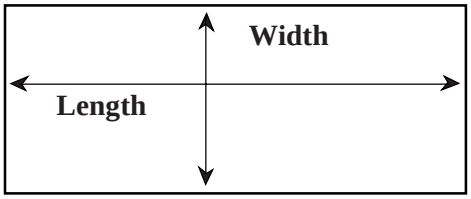
Two pounds of nitrogen per 1,000 square feet* is recommended, and your fertilizer contains 20% nitrogen. You should apply 10 pounds of the fertilizer per 1,000 square feet (five pounds from the table multiplied by the two pound recommendation).

** When using a soluble inorganic nitrogen fertilizer a typical recommendation is to use only one pound of nitrogen per 1,000 square feet for a single application. Slow-release fertilizers, such as natural organics or synthetic controlled release products, provide nutrients over a longer period and may be used at higher application rates.*

STEP 3

The third step is to calculate the number of square feet of lawn area. If the lawn is a square or rectangle (see Figure 1), multiply the length and width (in feet). For a triangular lawn, multiply the base times the height and divide by two (see Figure 2). You can break your lawn into sections and add the areas together for the total area of your lawn.

Figure 1.



Area=length x width

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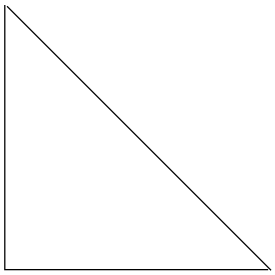
Figure 2.



Area=(Base x Height) ÷ 2

STEP 4

The final step is to multiply the size of your lawn from Step 3 by the fertilizer recommendation determined in Step 2. The actual amount of lawn fertilizer required should include lawn area only—not areas covered by sidewalks, driveways, or other non-turf areas.

Example 1

A lawn that has an area of 25,000 square feet will require 25 times the amount of fertilizer that is needed for only 1,000 square feet. Thus, five pounds of a 20% nitrogen fertilizer applied per 1,000 square feet to a lawn that covers 25,000 square feet requires a total of 125 (five pounds of fertilizer multiplied by 25) pounds of fertilizer.

Photo Credit: Joseph R. Heckman

Table 1.

% Nitrogen Listed on Fertilizer Bag	Pounds of Fertilizer to Apply to 1,000 sq. ft. of lawn to Achieve 1 lb. of nitrogen per 1,000 sq. ft.
1	100.0
2	50.0
3	33.3
4	25.0
5	20.0
6	16.7
7	14.3
8	12.5
9	11.1
10	10.0
11	9.1
12	8.3
13	7.7
14	7.1
15	6.7
16	6.3
17	5.9
18	5.6
19	5.3
20	5.0
21	4.8
22	4.5
23	4.3
24	4.2
25	4.0
26	3.8
27	3.7
28	3.6
29	3.4
30	3.3
31	3.2
32	3.1
33	3.0
34	2.9
35	2.9
36	2.8
37	2.7
38	2.6
39	2.6
40	2.5
41	2.4
42	2.4
43	2.3
44	2.3
45	2.2
46	2.2

STEP-BY-STEP EXAMPLE

The example below shows you step-by-step how to determine the fertilizer needed based on a typical lawn size and fertilizer recommendation.

STEP 1:

From your fertilizer bag, you determine the percentage of nitrogen to be 25%.

STEP 2:

Your fertilizer recommendation is two pounds of nitrogen fertilizer per 1,000 square feet. Refer to Table 1. With a 25% nitrogen fertilizer (from Step 1), four pounds of fertilizer should be applied to achieve one pound of nitrogen per 1,000 square feet. Multiply the four pounds by two pounds (from the fertilizer recommendation) to get **eight pounds of fertilizer per 1,000 square feet.**

STEP 3:

To determine the area of your lawn, add the area of the front, back, and side lawns. Our example includes a front and back lawn only.

Front lawn: 50 ft. x 100 ft. = 5,000 square feet.
PLUS
Back lawn: 200 ft. x 100 ft. = 20,000 square feet.
TOTAL: **25,000 square feet.**

STEP 4:

Since your lawn is 25 times as large as the 1,000 square foot lawn in the chart (your lawn is 25,000 square feet), you also must multiple your fertilizer by 25.

Eight pounds of fertilizer x 25 = **200 pounds of fertilizer to be applied on your lawn.**

For additional information about fertilizers, request the following fact sheets from your county office of Rutgers Cooperative Extension, found in the blue pages of your telephone directory under *County Government*, or visit our web site at *www.rce.rutgers.edu.*

FS 626 - *Fertilizing the Home Garden*
FS 633 - *Fertilizing the Home Lawn*
FS 797 - *Soil Testing for Home Lawns and Gardens*
FS 829 - *How to Protect Water Quality and Have a Beautiful Lawn*

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