

A healthy lawn adds value to your home and improves the quality of the environment. Vigorously growing lawns filter out air pollution, slow movement of chemicals and fertilizers into surface water, prevent soil from washing away, and release life-sustaining oxygen. Most lawn grasses require some fertilizer every year to keep them strong and actively growing. Appropriate amounts help maintain turf vigor, but too much fertilizer can cause problems.

Lawn fertilizer contains three primary nutrients: nitrogen (N), phosphorus (P), and potassium (K). The three numbers on the label indicate the percentage of each found in the product. For example, 23-3-3 fertilizer contains 23 percent nitrogen, 3 percent phosphorus, and 3 percent potassium. Lawns generally require more nitrogen than phosphorus and potassium. The best way to determine what your lawn needs is to have the soil tested. Contact your local K-State Research and Extension office for information on submitting a soil sample.

## Helpful Tips

Fescue and bluegrass lawns are best fertilized in September and November, with an optional application in May. Fertilize bermudagrass and zoysiagrass between May and August, and buffalograss in June. Choose a slow-release nitrogen fertilizer for spring and early fall applications and a quick-release nitrogen fertilizer for late fall. Do not apply fertilizers that contain weed killers or insecticides unless they are needed.

Calibrate the spreader before use. When applying fertilizer, shut off the spreader when turning and before stopping. Turn it back on after you have resumed walking. Shut off the spreader when passing over pavement. Walk in straight lines and try not to overlap or skip areas.

Fill the spreader on a hard surface for easier cleanup. Fertilizer that falls onto sidewalks, driveways, and streets should be swept up and distributed over the lawn to keep it out of the water supply. Do not dump or wash excess fertilizer into storm drains or sewers.

After fertilizing, apply about a half-inch of water to move nutrients into the topsoil where they are more readily available to the grass. Do not apply fertilizer when heavy rain is expected. A drop spreader rather than a rotary spreader should be used when applying fertilizer near open water.

## Step 1. Estimate the coverage area

Determine the square footage of the area to be fertilized by dividing the yard into sections. Use the diagrams on the right to find the area of each section. For example, multiply the length by the width to find the area of a square or rectangle.

## Step 2. Do the math

Add the number of square feet in each section to find the total square footage of your yard.

Front: Length x Width = Square feet

\_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

Back: Length x Width = Square feet

\_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

Side 1: Length x Width = Square feet

\_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

Side 2: Length x Width = Square feet

\_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

Total area in square feet: = \_\_\_\_\_

## How to Calculate Area

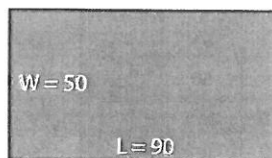
### Square or rectangular yard

$$\text{Area} = L \times W$$

L = length

W = width

$$\text{Area} = 90 \text{ ft} \times 50 \text{ ft} = 4,500 \text{ sq ft}$$



### Irregularly shaped yard

$$\text{Area} = 0.5 \times (A + B) \times H$$

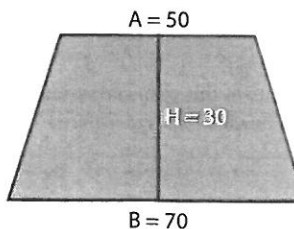
A = one parallel side

B = second parallel side

H = height perpendicular to parallel sides

$$\text{Area} = 0.5 (50 \text{ ft} + 70 \text{ ft}) \times 30 \text{ ft}$$

$$= 0.5 \times 120 \text{ ft} \times 30 \text{ ft} = 1,800 \text{ sq ft}$$



### Step 3. Figure out how much fertilizer to apply

The secret to a healthy lawn is applying the correct amount of fertilizer. The most common application is 1 pound of actual nitrogen per 1,000 square feet, which can be determined using the table below.

First, know the nitrogen content of the product you are using. Nitrogen is the first number in the three-numeral ratio on the product label. For example, a 23-3-3 fertilizer product contains 23 percent nitrogen.

Look for this number in the top row of the table. In the left column, find the total square footage of the area to be fertilized. This is the total area calculated in Step 2.

The numbers in the chart show the amount of fertilizer in pounds. Use this information to figure out how many pounds of fertilizer you need to cover your entire yard. For example, if you select a product containing 23 percent nitrogen and your yard is 10,000 square feet, you would need to apply 43 pounds of fertilizer.

**Lawn Fertilizer Table**

Sq. Ft.	Nitrogen content of fertilizer product (%)															
	6	9	10	18	22	23	25	27	28	30	33	34	35	37	39	46
	<b>How much fertilizer to apply (lbs)</b>															
1,000	20	11	10	5	5	4	4	4	3	3	3	3	3	3	3	2
2,000	40	22	18	11	10	9	8	7	7	6	6	6	6	5	5	4
3,000	60	33	27	16	14	13	12	11	10	9	9	9	9	8	8	7
4,000	80	44	36	21	19	17	16	15	14	13	12	12	11	11	10	9
5,000	100	56	45	26	24	22	20	19	17	16	15	15	14	14	13	11
6,000	120	67	55	32	29	26	24	22	21	19	18	18	17	16	15	13
7,000	140	78	64	37	33	30	28	26	24	22	21	21	20	19	18	15
8,000	160	89	73	42	38	35	32	30	28	25	24	24	23	22	21	17
9,000	180	100	82	47	43	39	36	33	31	28	27	26	26	24	23	20
10,000	200	111	91	53	48	43	40	37	34	31	30	29	29	27	26	22
11,000	220	122	100	58	52	48	44	41	38	34	33	32	31	30	28	24
12,000	240	133	109	63	57	52	48	44	41	38	36	35	34	32	31	26
13,000	260	144	118	68	62	57	52	48	45	41	39	38	37	35	33	28
14,000	280	156	127	74	67	61	56	52	48	44	42	41	40	38	36	30
15,000	300	167	136	79	71	65	60	56	52	47	45	44	43	41	38	33
16,000	320	178	145	84	76	70	64	59	55	50	48	47	46	43	41	35
17,000	340	189	155	89	81	74	68	63	59	53	52	50	49	46	44	37
18,000	360	200	164	95	86	78	72	67	62	56	55	53	51	49	46	39
19,000	380	211	173	100	90	83	76	70	66	59	58	56	54	51	49	41
20,000	400	222	182	105	95	87	80	74	69	63	61	59	57	54	51	43



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