K-STATE Research and Extension

Lawn Fertilizing Guide

MF2916

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.

The fertilizer label indicates content of nitrogen (N), phosphate (P_2O_5), and potash (K_2O). The three numbers on the label show the percentage of each found in the product. For example, 23–6–3 fertilizer contains 23 percent nitrogen, 6 percent phosphate, and 3 percent potash. Nitrogen content is exactly as listed on the label, whereas if there is a desire to know actual percentages of phosphorus (P) or potassium (K), a conversion would be required. For this example, the N percentage is as listed (23% N); P would be 6 x 0.44 (= 2.6% P); K would be 3 x 0.83 (= 2.5% K). 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 _____ = _____

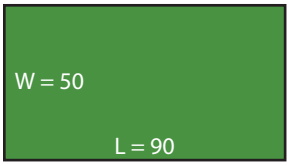
Total area in square feet: = _____

How to Calculate Area

Square or rectangular yard

Area = L x W

L = length



W = width

Area = 90 ft x 50 ft = 4,500 sq ft

Irregularly shaped yard

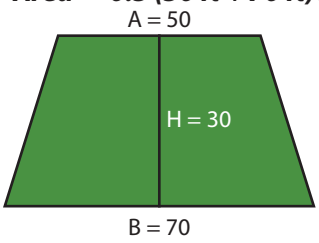
Area = 0.5 x (A + B) x H

A = one parallel side

B = second parallel side

H = height perpendicular to parallel sides

Area = 0.5 (50 ft + 70 ft) x 30 ft



= 0.5 x 120 ft x 30 ft = 1,800 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 23–6–3 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

	Nitrogen content of fertilizer product (%)															
	6	**9**	**10**	**18**	**22**	**23**	**25**	**27**	**28**	**30**	**33**	**34**	**35**	**37**	**39**	**46**
Sq. Ft.	**How much fertilizer to apply (lbs)**															
1,000	17	11	10	6	5	4	4	4	4	3	3	3	3	3	3	2
2,000	33	22	20	11	9	9	8	7	7	7	6	6	6	5	5	4
3,000	50	33	30	16	14	13	12	11	11	10	9	9	9	8	8	7
4,000	67	44	40	21	18	17	16	15	14	13	12	12	11	11	10	9
5,000	83	56	50	26	21	21	20	19	18	17	15	15	14	14	13	11
6,000	100	67	60	32	27	25	24	22	21	20	18	18	17	16	15	13
7,000	117	78	70	37	32	30	28	26	25	23	21	21	20	19	18	15
8,000	133	89	80	42	36	34	32	30	29	27	24	24	23	22	21	17
9,000	150	100	90	47	41	38	36	33	32	30	27	26	26	24	23	20
10,000	167	111	100	53	45	42	40	37	36	33	30	29	29	27	26	22
11,000	183	122	110	58	50	47	44	41	39	37	33	32	31	30	28	24
12,000	200	133	120	63	54	51	48	44	43	40	36	35	34	32	31	26
13,000	217	144	130	68	59	55	52	48	46	43	39	38	37	35	33	28
14,000	233	156	140	74	64	59	56	52	50	47	42	41	40	38	36	30
15,000	250	167	150	79	68	64	60	56	54	50	45	44	43	41	38	33
16,000	267	178	160	84	73	68	64	59	57	53	48	47	46	43	41	35
17,000	283	189	170	89	77	72	68	63	61	57	52	50	49	46	44	37
18,000	300	200	180	95	82	76	72	67	64	60	55	53	51	49	46	39
19,000	317	211	190	100	86	81	76	70	68	63	58	56	54	51	49	41
20,000	333	222	200	105	91	85	80	74	71	67	61	59	57	54	51	43

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service
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