



## Recommended Cool Season Lawn Fertilization Practices

Nitrogen (N), phosphorus (P), and potassium (K) are the three major nutrients needed by lawns. Nitrogen is the nutrient required most, although too much nitrogen can cause excessive top growth, leading to assorted problems. Percent nitrogen (by weight) is always the first of three numbers on the fertilizer bag, followed by phosphorus and potassium. For example, a 24-6-12 fertilizer contains 24 percent nitrogen. This number is important because it determines how much fertilizer is needed. In most cases, a rate of one pound of nitrogen per 1,000 square feet is suggested for each fertilizer application. If high percentage nitrogen fertilizers are used, then less actual fertilizer product is needed. Recommended ratios of N-P-K for lawn fertilizers are 4:1:2.

Fertilizers containing controlled-release nitrogen sources are suggested for most applications, primarily because they help assure uniform growth.

### Characteristics of Lawn Nitrogen Fertilizers

#### Nitrogen Type/Fast-Release

(e.g., urea, ammonium nitrate, ammonium sulfate)

##### Advantages

- Quick response (greening)
- Provide nitrogen when soils are cold
- Relatively inexpensive

##### Disadvantages

- May cause undesirable large flush of growth
- Likely to burn grass
- Losses through soil or air more likely

#### Controlled-Release/Slow-Release

(e.g., urea form, sulfur-coated urea, milorganite, IBDU)

##### Advantages

- More uniform grass growth
- Not likely to burn grass
- Losses through soil or air less likely

##### Disadvantages

- May not work on cold soil
- Most are expensive
- May not see quick color change in grass

### Other special lawn fertilizers:

- **Winterizer** fertilizers are typically high in potassium, and although advertised for fall application can be applied in spring as well. Potassium helps increase lawn cold tolerance and disease resistance.
- **Weed and feed** products contain a broadleaf weed killer for weeds such as dandelions (fall application); others contain a preemergence herbicide to control crabgrass (spring application).
- **Turf starter fertilizer** with a 4:1:2 ratio is recommended. It is also recommended that two pounds of nitrogen per 1,000 square feet be tilled into the top 4 inches prior to turf installation.

### Application Rate:

About three pounds of nitrogen per 1,000 square feet per growing season is suggested for most full-sun lawns about half as much suggested for shade lawns. These three pounds can split into three to four applications.

To figure how much nitrogen fertilizer to apply:

- Divide rate of nitrogen desired by percent nitrogen in bag (first number of the 3 on bag. Use decimal form)
- Multiply answer by square footage and divide by 1,000

For example if you want to apply a 20-5-10 fertilizer to 7,000 sq. ft. at a rate of 1# nitrogen per 1,000 sq. ft., make these calculations:

- 1# divided by .2 = 5.0 (round up if needed)
- 5.0 multiplied by 7,000 = 35,000; divided by 1,000 = 35 pounds
- Therefore about 35 pounds of 20-5-10 is needed to cover entire lawn

**When to Apply:** Late Fall is the most important time to fertilize a cool season lawn! Spring applications are suggested for late May. In most cases, avoid the hot weather months. Use controlled release fertilizers for all applications. Total amount of nitrogen should be spread over the application schedule. Do not over fertilize in Spring.

#### One application annually:

- 3# per 1000 sq. ft.
- **Late October (Halloween)**
- Controlled Release

#### Two applications annually:

- 1.5# per 1000 sq. ft.
- **Late May (Memorial Day)**
- Controlled Release
- **Late October (Halloween)**
- Controlled Release

#### Three applications annually:

- 1# per 1000 sq. ft.
- **Late May (Memorial Day)**
- Controlled Release
- **Early September (Labor Day)**
- Controlled Release
- **Late October (Halloween)**
- Controlled Release

#### Four applications annually:

- 1# per 1000 sq. ft.
- **Late May (Memorial Day)**
- Controlled Release
- **Early July (Independence Day)**
- Controlled Release
- **Early September (Labor Day)**
- Controlled Release
- **Late October (Halloween)**
- Controlled Release



## Recommended Maintenance Practices:

**Aeration:** Aeration is the process of loosening up soil and lessening compaction in order to allow water, nutrients and air to reach the roots easier. Aeration should be done twice annually, in the late spring and late fall. Leave soil plugs on lawn so as not to remove nutrients from the lawn.

**Thatch:** Thatch is an excess of plant material at the base of the lawn which impedes nutrients from reaching the soil. This can be particularly troublesome on sloped areas. You can remove thatch with a landscaping rake. This should be done at the start of the growing season.

**Mowing Practices:** Mow your lawn at a height of 2-3 inches. The shorter you mow your lawn the more water, fertilizer, and maintenance it will require. Use a mulching lawn mower so that you can leave the clippings on the lawn. Clippings are approximately 70% water so if you remove them you are removing a great source of water. Keep the blades sharp so that you do not cause undue stress to your lawn while mowing.

**Watering:** Most homeowners apply an excess of 50 inches of water to their lawn every year. Most cool season grasses only require 17-22 inches of supplemental water per year. In order to create deeper roots and thereby train your lawn to thrive with less water follow the fertilizing and maintenance practices described here and use the watering charts below to decrease the amount of water you apply to your lawn. To determine how much water you apply with each watering cycle, place catcher cups in several places on your lawn, run the sprinkler system for 1 hour, measure the amount of water in your cup, then run your system long enough to achieve the amounts recommended below.

## Watering Guide

Use the table below as a guide to determine how much water to apply to newly installed turf. After the 4th week regularly decrease the waterings until you achieve 1 inch every 7-10 days.

| Week                            | 1st       | 2nd             | 3rd             | 4th              |
|---------------------------------|-----------|-----------------|-----------------|------------------|
| How often to water              | Every day | Every other day | Every third Day | Every fourth day |
| April                           | *         |                 |                 |                  |
| May                             | *         | 1/3             | 1/2             | 2/3              |
| June                            | 1/4       | 1/2             | 2/3             | 3/4              |
| July                            | 1/4       | 1/2             | 3/4             | 1                |
| August                          | 1/4       | 1/2             | 2/3             | 3/4              |
| September                       | *         | 1/3             | 1/2             | 2/3              |
| October                         | *         |                 |                 |                  |
| *Apply 1/4 of an inch as needed |           |                 |                 |                  |

A typical northern or central Utah lawn has a water demand curve that begins in mid-April, rises to a peak in July, and then falls rapidly until mid-October. Lawns in southern Utah have a different demand curve.

Adjusting your timer monthly to better follow this demand curve will save you water and money. An easy way to do this is to keep the minutes constant and increase or decrease the number of days between watering as shown in the table below.

| North/Central Utah |   |
|--------------------|---|
| <b>April</b>       | No irrigation recommended, unless needed under extremely dry periods            |
| <b>May</b>         | 1 inch every 10-14 days   |
| <b>June</b>        | 1 inch every 7-10 days  |
| <b>July</b>        | 1 inch every 6-7 days   |
| <b>August</b>      | 1 inch every 7-10 days  |
| <b>September</b>   | 1 inch every 10-14 days   |
| <b>October</b>     | A good soaking to a depth of six to eight inches around the middle of the month |
| <b>November</b>    | No irrigation recommended unless unusually warm and lawn shows signs of stress  |

# How much fertilizer should I use for my lawn?

Use this simple worksheet to determine how much fertilizer you should apply to your lawn.

You will need to know the following information:

Square footage of the lawn you are fertilizing

Nitrogen content of your fertilizer

1. Enter the pounds of nitrogen you want to put on your lawn for this application. If you plan on fertilizing your lawn only once (do in late Fall) enter 3. If you plan on fertilizing in the Spring and Fall enter 1.5. If you plan on fertilizing 3 or 4 times this year enter 1.

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2. Nitrogen is the first of the 3 numbers at the bottom of your bag. Make sure to enter this number as a decimal. For example, if your fertilizer is 20-5-10 you would enter .20 in the box.

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3. Enter your answer from dividing box 1 by box 2 here.

X

4. Write in the square footage of the lawn you wish to fertilize in this box.

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5. Enter the result from multiplying box 3 and 4 here.

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6. Divide box 5 by 1000.

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7. Enter your answer from dividing box 5 by box 6 here. This is the amount of fertilizer, in pounds, that you should apply to your lawn. For example. If this number is 28 and the bag is a 14# bag, you will need to apply 2 bags to your lawn.