

# Fertilizing Landscape Trees and Shrubs - Basic

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Trees and shrubs need nutrients to grow and be healthy. The three most important nutrients are nitrogen (N), phosphorus (P) and potassium (K). A soil test is always the best way to know which nutrients and how much are needed.

Which plants to apply fertilizer to:

- young or newly planted plants.
- stressed plants (from insects, disease, drought, storm or construction damage).
- actively growing plants in the spring (February - April).

How to tell if a plant needs fertilizer - look for:

- pale green or yellow leaf color that is not normal.
- smaller leaves than normal.
- early fall color and leaf drop.
- slow growth.

## Which fertilizer to use

**Nitrogen (N).** All trees and shrubs need nitrogen. Nitrogen dissolves easily in water and can wash through the soil. The first number on a bag of fertilizer (Figure 1) represents the amount of nitrogen in that bag of fertilizer. Plants almost always need nitrogen.

**Phosphorus (P) and potassium (K).** These nutrients do not dissolve easily. Soils in many areas of Virginia already have enough of these nutrients, so more may not be needed. Phosphorus is represented by the second number, and potassium by the third number on a bag of fertilizer.

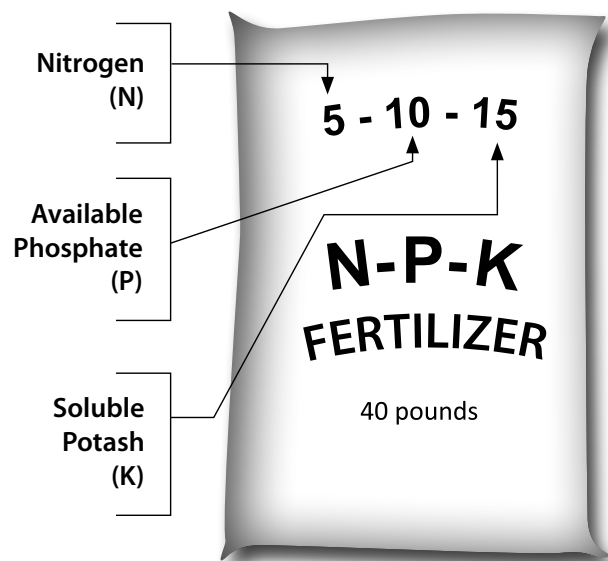


Figure 1. Sample 40 pound bag of fertilizer with nitrogen (N=5), phosphorus (P=10), and potassium (K=15).

Which fertilizer to use depends on:

- a soil test.
- the type of soil.
- what is available to buy.
- the type and location of the plant.
- the time of the year.

Table 1 shows some of the common tree and shrub fertilizers and how much of each fertilizer to use based on either the area being fertilized in square feet or the size of the plant pot.

Table 1. Amount of granular fertilizer to use to get 1 pound of N per 1000 square feet

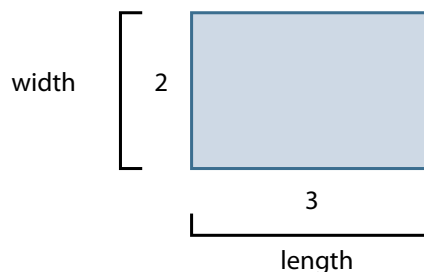
Fertilizer N-P-K	Square feet			Plant pot size		
	100	500	1,000	1-3 gal	5-7 gal	15-25 gal
	pounds			teaspoons (tsp) or tablespoons (tbsp)		
10-10-10	1	5	10	2 tbsp	4 tbsp	6 tbsp
11-7-7 or 12-4-8 or 12-3-6 or 12-6-6 or 12-2-14 or 13-13-13 or 13-3-13 or 14-14-14	3/4	3 1/2	8	2 tsp	3 tsp	4 tsp
16-4-8 o 18-6-12 o 20-0-5 o 20-0-10	1/2	2 3/4	5 1/2	2 tsp	1 tsp	3 tsp

\* The amounts in this chart are based on the amount of granular fertilizer needed to get 1 pound of N per 1000 square feet and are rounded to the nearest 1/4 pound or spoon. The amounts for plant pot size are based on average top of pot diameter. Always follow the fertilizer label directions.

## How to apply fertilizer

Fertilizer can be spread over a planting area before planting, put it into the planting hole when planting or spread on top of the ground around a plant that is already planted.

- Measure the area to be fertilized in feet (length x width = area in square feet, Figure 2) or look at the size of the plant pot (1, 3, 5, 7, 15 or 25 gallon Figure 3).
- Select a fertilizer to use taking into account all information.
- Determine how much of it is needed based on area or plant pot size. (see Table 1).
- Weigh or measure out the amount of fertilizer to use.
- Spread the fertilizer evenly over the area or put it in the planting hole.
- Do not put fertilizer close to the stem or trunk of the plant.
- Do not let fertilizer get on sidewalks, driveways or roads.



$$\text{area} = \text{length} \times \text{width}$$

Figure 2. Example of how to measure and calculate area. Length x width = area or 2 feet x 3 feet = 6 square feet.

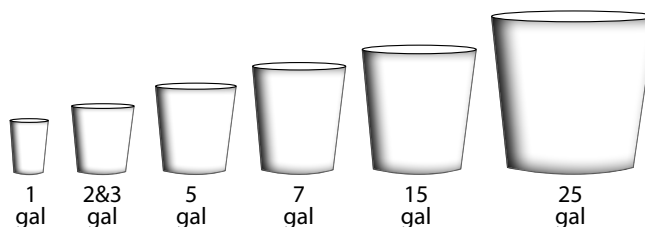


Figure 3. Plant pot sizes that match the sizes in the fertilizer table.

For more in depth information use Virginia Cooperative Extension Pub #430-018, [pubs.ext.vt.edu/430/430-018/430-018.html](https://pubs.ext.vt.edu/430/430-018/430-018.html).

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Produced by Virginia Cooperative Extension, Virginia Tech, 2022

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VT/0522/SPES-397P