



# UConn Soil Nutrient Analysis Laboratory

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## Suggested Fertilizer Practices for Strawberries

Strawberries are a choice fruit crop for many home gardeners. The low-growing plants are reliable and quick to produce. Strawberries should be planted in full sun for maximum yield. June-bearers provide a delicious supply of fruit from late spring through early summer, while day-neutral types produce berries throughout the summer.

The strawberry is a shallow-rooted perennial. More than 75 percent of its root system can often be found in the top 6 inches of soil. Because of this, strawberries tend to be quite sensitive to both excess water and drought conditions. They grow best when planted on fertile, well-drained soils that contain at least 6 percent organic matter. Organic matter should be incorporated into sandy soils to increase moisture retention.

Sites that tend to stay wet may not be suitable for strawberries unless raised beds are constructed. Water saturated soils prevent necessary oxygen from entering the root zone and roots may die. Diseases, especially red stele, are also more likely to occur under these conditions. Avoid growing strawberries where tomatoes, potatoes, peppers, eggplants, raspberries or strawberries were recently grown. The insect and/or disease problems carried over may cause substantial damage to strawberry plantings.

### Six months to one year before planting:

It is strongly recommended that a soil test be performed before planting and the soil be amended according to the results of the test. When the soil pH, nutrients and organic matter are in the range preferred by strawberries, plants can get more quickly established and will typically be healthier and more productive.

Strawberries prefer a slightly acidic soil with a pH ranging from 6.0 to 6.3. If it is necessary to adjust the soil pH, apply the amount of ground limestone recommended on the soil test report. It is generally advisable to use a dolomitic limestone that contains both calcium and magnesium, especially if the soil has below optimum magnesium levels.



If soil test magnesium levels are optimum or above, a calcitic limestone can be substituted if increasing pH is necessary. Build up the organic matter levels by adding an inch of peat moss, leaf-based compost or other available materials. If a high nutrient manure-based compost is used, retest the soil one month after adding it to check if any more nutrients, in the form of chemical or natural organic fertilizer should be added.

If soil test results for potassium are below optimum, apply potassium chloride (0-0-60) or potassium sulfate (0-0-43) at a rate of about 7.5 lbs. or sul-po-mag (0-0-22) at a rate of 14 lbs., per 1000 sq. ft. If soil test results for phosphorus are below optimum, apply, triple superphosphate (0-46-0) at the rate of 5 lbs. or bonemeal (1-11-0) at the rate of 20 lbs. per 1000 square feet. Incorporate all necessary amendments thoroughly to a depth of 6 to 8 inches. Retest the soil before planting.

Boron is one of the most commonly deficient micronutrients in strawberry plantings. If boron was not added to the soil in the past 3 to 4 years, an application of borax (10-12 % boron) may be beneficial. For every 100 sq. ft. of intended strawberry bed, mix  $\frac{3}{4}$  of an ounce (about 2 tablespoons) of borax into a gallon of water. Do not overapply as excess boron can cause plant injury. Soils regularly amended with compost or natural organic fertilizers generally contain sufficient boron for strawberries.

### Year of Planting:

Without a soil test, about two weeks before planting, incorporate 20 lbs. of 5-10-10 (or the equivalent from other sources) for each 1000 sq. ft. of planting bed. Six to eight weeks after the first fertilizer application, apply 10 lbs. of 5-10-10 (or equivalent) per 1000 sq. ft.; spreading the fertilizer in a 6 inch band on each side of a row of strawberry plants. Repeat this rate again in late August. Brush or wash off any fertilizer granules that land on the foliage to avoid leaf injury.

**Fruiting Year:**

Avoid use of nitrogen fertilizer the spring before harvest as it may result in large, soft berries, excessive vegetative growth, and increase susceptibility of plants and fruits to diseases. However, if plants are a light shade of green and are not growing well, an application of 5 lbs. of 5-10-10 or 7.5 lbs. bloodmeal (12-0-0) (or equivalent) per 1000 sq. ft. may be beneficial.

June-bearing strawberry plantings are renovated after harvest. Cut back leaves, thin plants, and remove weeds, then apply 10 to 20 lbs. of 10-10-10 (or equivalent) per 1000 sq. ft. It is important that plants receive at least 1 inch of water per week following fertilization to encourage strong, healthy new growth and to avoid salt injury. In years of adequate moisture, either from natural rainfall or supplemental irrigation, fertilize strawberry beds again in late August with 5 lbs. 10-10-10 (or equivalent) per 1000 sq. ft. Do not fertilize after August 31st. This post harvest fertilization is repeated each year after harvest and renovation. Proper cultural practices should keep June-bearing strawberries productive for at least 3 to 5 years.

**Fertilizers for day-neutral strawberries:**

Day-neutral strawberry varieties can produce fruit throughout the summer, so they require a steady supply of nutrients for optimum growth and development. Without a soil test, apply 10 lbs. of 10-10-10 (or equivalent) per 1000 sq. ft. in mid-June, mid-July and again in late August.

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**NOTE:**

10 lbs. of 10-10-10 will supply plants with 1 lb. of Nitrogen (N), 1 lb. of Phosphate ( $P_2O_5$ ) and 1 lb. of Potash ( $K_2O$ ) per 1000 sq. ft. (Phosphate is a form of phosphorus; Potash is a form of potassium.)

10 lbs. of 5-10-10 will supply plants with ½ lb. of Nitrogen (N), 1 lb. of Phosphate ( $P_2O_5$ ) and 1 lb. of Potash ( $K_2O$ ) per 1000 sq. ft.

10 lbs. of 5-10-5 will supply plants with ½ lb. of Nitrogen (N), 1 lb. of Phosphate ( $P_2O_5$ ) and ½ lb. of Potash ( $K_2O$ ) per 1000 sq. ft.

**To supply nutrients using natural/organic sources use the following equivalents:**

1 lb. of Nitrogen can be supplied by 8.3 lbs. of bloodmeal (12-0-0) or 11 lbs. of corn gluten (9-0-0).

1 lb. of Phosphate can be supplied by 6.75 lbs. of bonemeal (3-15-0) or 33.5 lbs. of rock phosphate (0-3-0)

1 lb. of Potash can be supplied by 25 lbs. of kelp meal (1-0-4) or 4.5 lbs. of sul-po-mag (0-0-22)\* or 2 lbs. of potassium sulfate (0-0-50)\* \*\*

\*Note: May need to be special or mail ordered.

\*\*Note: Not all sources are certified for organic production.

Keep in mind that the NPK analysis of natural organic products may vary by producer and adjust your application rates accordingly.



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