



## GENERAL FERTILIZER RECOMMENDATIONS FOR LAWNS AND SMALL GARDENS

# FACT SHEET

The amounts of fertilizer needed for lawns and small garden areas (less than 1,000 ft<sup>2</sup>) may be quite small. It may be impractical to calculate the amount of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O that is needed and may be more convenient to apply small amounts of special use fertilizer. In the following sections, recommendations are given for lawns, vegetables, and other landscape plants that will help achieve optimum fertility conditions for plant growth in the most economical and practical manner.

### LAWNS

Grass, like flowers and vegetables, requires a balanced supply of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O. However, N is the key nutrient to maintaining vigorous growth and green color. Lawn fertilizers should have N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O ratios of about 4-1-1 or 3-1-1 such as 20-5-5 or 23-7-7. For best results, lawn fertilizers should be applied 3 or 4 times during the growing season. Late spring, early fall, and late fall are the preferred times. Generally, a lawn should receive a total of about 3 to 4 lbs of N per 1,000 ft<sup>2</sup> during the growing season. This amounts to approximately 5 lbs of fertilizer per 1,000 ft<sup>2</sup> per application, but actual fertilizer rates are best determined by the directions on the bag.

### VEGETABLES AND FLOWERS

Fertilizers with an approximate N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O ratio of 1-1-1 are best for most garden vegetables and flowers. Common grades such as 10-10-10, 12-12-12, or 10-6-4 are all suitable. Apply 2 lbs per 1,000 ft<sup>2</sup> of any of these fertilizers and work into the soil prior to planting. Root crops, flowering bulbs, and tuberous plants such as potatoes and irises are heavy phosphorus feeders. Bone meal is an organic fertilizer high in phosphorus and is commonly used for feeding fall planted bulbs. Practically all vegetables and flowers require some nitrogen. However, too much can promote excessive vegetative growth with poor fruit development and too little can limit yields or flower development.

### ROSES

Roses should be fertilized about 3 times per year. The first is applied as early spring growth begins, the second immediately following the early summer bloom, and the third about 1½ months later. The first feeding should be with a high N fertilizer with an approximate 3-1-1 ratio or 2-1-1 ratio such as 23-7-7 or 20-10-5. Fertilizer applied later in the season should have an approximate 1-1-1 ratio such as 12-12-12 or 10-6-4. The total amount of fertilizer needed per growing season is ¼ to ½ lb of fertilizer. Apply this amount around each bush and work into the soil. Where roses are planted in beds, apply 2 lbs of fertilizer per 100 ft<sup>2</sup>.

### SHADE TREES

Apply 1 to 2 lbs of high nitrogen fertilizer per inch of trunk diameter. Flowering trees should be limited to 1 lb per inch of trunk diameter. All fertilizer should be applied in holes 12-15 inches deep around the tree's perimeter. The holes should be about 2 feet apart and should not extend beyond the drip line.

### NEEDED EVERGREENS

Apply a fertilizer high in nitrogen in early spring at a rate of ⅓ lb per foot of height or spread of plant, whichever is greater. For example, a 6 foot evergreen would require about 2 lbs of fertilizer while an evergreen with a 2 foot spread would need about 1 lb. Dig the fertilizer into the earth around the base of the plant and water well. Large growing evergreens such as spruce, fir, and pine normally do not require fertilizer but will respond in growth by the addition of some.

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## DECIDUOUS AND BROADLEAF EVERGREEN SHRUBS

Apply a fertilizer high in nitrogen at a rate of  $\frac{1}{4}$  lb per foot of the shrub's height or spread. Where shrubs are planted in beds on bare soil, apply 2 lbs per 1000 ft<sup>2</sup> of bed area. Dig in around the base and water well. Rhododendrons and azaleas are acid-loving plants and may require special fertilizer to lower the pH. For this kind of shrub apply aluminum sulfate or ammonium sulfate at rates similar for other fertilizers once per year.

## FRUIT TREES

Fertilize in late fall or early spring before the buds begin to swell. Broadcast the fertilizer in a circular band about 3 feet from the trunk and extending out to the spread of branches. Apples, plums, and cherries need  $\frac{1}{5}$  to  $\frac{1}{2}$  lb. of 10-10-10, or equivalent, per year of age of tree, with a maximum of 8 lbs per tree. If shoot growth is excessive reduce the rate of fertilizer.

## STRAWBERRIES

During the first growing season apply 1 to 2 lbs of ammonium nitrate (33-0-0) or  $\frac{3}{4}$  to  $1\frac{1}{2}$  lbs of urea (46-0-0) per 100 feet of row. During the bearing year, if the plants lack vigor, apply 1 lb of ammonium nitrate or  $\frac{3}{4}$  lb urea per 100 feet of row immediately after blossoming. Be careful not to apply excessive nitrogen. Excessive vegetative growth and soft berries may result. After harvest, broadcast 6 lbs of 10-10-10 or the equivalent per 100 feet of row.

## RASPBERRIES AND BLACKBERRIES

During the first growing season broadcast 2 to 3 lbs ammonium nitrate (33-0-0) or  $1\frac{1}{2}$  to 2 lbs urea (46-0-0) per 100 feet of row. After the first season apply 8 to 10 lbs of complete fertilizer (10-10-10) per 100 ft of row.

## BLUEBERRIES

Some home garden soils are not suited for blueberries. Blueberries grow best on well aerated, high organic soils with pH levels below 5.5. During the first growing season, scatter 2 tablespoons of ammonium sulfate (21-0-0) in a circular band 12 to 18 inches from the base of each plant. In following years apply 4 tablespoons of ammonium sulfate per plant. On plants 5 years or older apply 1 cup ammonium sulfate per plant annually.

## GRAPES

During the first growing season apply 2 ounces ( $\frac{1}{4}$  cup) of ammonium nitrate (33-0-0) or  $1\frac{1}{2}$  ounces of urea (46-0-0) in an 18 inch circle around each plant 2-3 weeks after planting. In following years, broadcast 4 ounces ( $\frac{1}{2}$  cup) of ammonium nitrate or 3 ounces of urea and 2 ounces of 10-10-10 around each plant. After the 4th growing season increase the ammonium nitrate to  $\frac{1}{2}$  lb per plant annually.

## CURRANTS AND GOOSEBERRIES

Three to four weeks after planting, broadcast 2 ounces of ammonium nitrate (33-0-0) in an 18 inch circle around each plant. After the first year apply 2 ounces of 10-10-10 and 3 ounces of ammonium nitrate or 2 ounces of urea per plant. Currants are injured by chlorides. Do not use muriate of potash as a potassium source, use potassium sulfate which contains no chlorides.

## CONVERSION FACTORS

For some application situations, gardeners may have difficulty calculating how much fertilizer to use. Some equivalent values are:

1 acre contains 43,560 ft <sup>2</sup>	1 pint of water or dry fertilizer weighs about 1 lb
An acre of mineral soil 6-2/3 inches deep weighs about 2 million lbs; an acre of muck soil, about $\frac{1}{2}$ million lbs	1 pint is equal to 2 cups or 32 tablespoons.
1 ppm means 1 part per million. Multiply by 2 to convert to lbs/acre	1 cup is equal to 8 ounces of fertilizer
20 bushels of soil mix equals about 1 cubic yard	1 tablespoon is equal to 3 teaspoons
1 bushel of manure weighs about 50 lbs	1 pint of concentrated liquid fertilizer weighs about 22 ounces