

Definition

Yard fertility management is supplying optimum amounts of nutrients to your landscape plants without waste or pollution.

Fertilizer Information

In order to manage your yard fertility program, you need to be aware of the basics. To begin with, healthy soil should be the goal of any gardener. A healthy soil is a forgiving soil that requires less inputs in the form of fertilizer. Of the 100 known elements, 16 are considered essential for plant growth. Three of the 16 are taken directly from air and water. They are carbon, hydrogen & oxygen. The remaining 13 are referred to as fertilizer elements. They are absorbed through the roots and in some cases through the foliage.

Three of the 13 fertilizer elements are considered primary nutrients (nitrogen, phosphorous & potassium). These are the nutrients included in a **complete fertilizer**. They are the same 3 you see on a container where **fertilizer grade** is discussed. In addition, some will contain minute amounts of other nutrients that may be needed in your area. Figure 1 provides an illustration of the primary nutrients and their function.

FIGURE 1. PRIMARY NUTRIENTS AND THEIR FUNCTION

Nitrogen - Vegetative growth.
Phosphorous - Stimulates flowering.
Potassium - Durability/disease resistance.

How do I manage fertility?

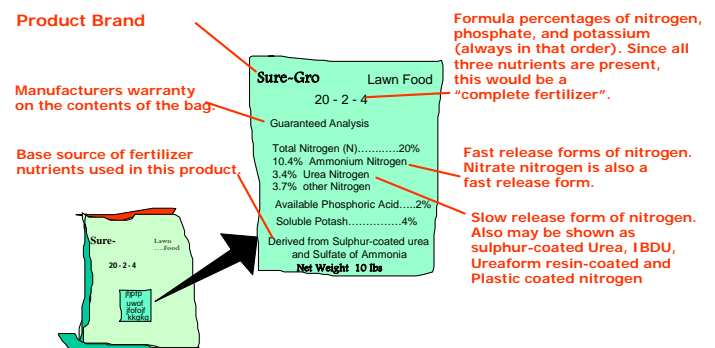
You can minimize or even eliminate your dependence on fertilizer by landscaping with the many beautiful native and adapted grasses, shrubs and trees that have little need for fertilizers. When fertilizer is necessary, you can manage your home fertilizer program by acquiring and using basic knowledge. The soils at Lake Tahoe are known to contain an abundance of plant available phosphorous (P) therefore it is not necessary to include this element in your fertilizer blend. Learn to apply fertilizers according to container labels and learn

when to fertilize for optimum plant use. Excess fertilizer applied at the wrong time may end up in our ground water, or in runoff that will eventually find its way to Lake Tahoe. Over applying also weakens your plants by causing excessive top growth or result in disease. Also, mulching grass clippings into the lawn with a mulching mower can reduce fertilizer requirements by 15 to 25 percent.

How do I get started?

Learning how to read a fertilizer label is the first step in the proper application of fertilizer. This is important to you not only as a gardener but as a consumer. Purchasing the appropriate fertilizer type and grade will not only produce a healthier lawn but also save you money in the long run.

Figure 2. Fertilizer label showing contents



The following points are basic guidance to get you started on a well managed program:

- Contact your local Extension Service or NRCS office for the basic fertilizer grade (ration of N-P-K) suitable for Lake Tahoe's environment.
- For lawn fertilizer applications, have a quality spreader and know how to set it to apply specific rates shown on the container.
- For gardens, begin composting your grass clippings and other organic materials and apply them to your garden.
- Learn how to apply only as much water as the plant needs. **Do not over water.** This not only harms

your plant but also washes away the nutrients into the groundwater or into the street.

Applying the practice

A few items to consider to apply proper yard fertility management are:

- **Fertilizing lawns**
 - Fertilizers are available in many different grades. Determine the fertilizer grade recommended for your soil. A good rule of thumb for Lake Tahoe is to apply 27-0-12.
 - Use only a **slow release fertilizer**. Apply one in early June and again in early August.
 - Apply a maximum of 1 pound of actual nitrogen per 1000 square feet of lawn on each application. If you use a fertilizer grade of 27-0-12, then $1 \text{ lb.} \div 0.27 = 4 \text{ lb.}$ This means you apply 4 pounds per 1000 square feet. If your lawn is less than 1000 square feet then multiply (actual square feet \div 1000 square feet) \times 4 lb. = amount of fertilizer to be applied.
 - Use a mulching mower to reduce the amount of fertilizer needed.
 - Fertilizers should not be applied within 25 feet of a stream zone.

Fertilizing shrubs and Trees

Fertilizers are applied to trees and shrubs in a number of ways. It can be spread over the soil surface, injected as a liquid into the soil, placed in holes in the soil, or sprayed on as a liquid. Injection and foliar application is not an effective means for general fertilizer application.

If placing fertilizer in holes, create holes 1 inch in diameter under the canopy and up to $\frac{1}{2}$ the radius of the canopy beyond the drip line. Begin drilling holes 3 feet away from the trunk to avoid damaging roots. The holes should not be over 8 inches deep and should be placed 1 to 1 $\frac{1}{2}$ feet apart. Divide the amount of fertilizer to be applied (see below) equally among the holes.

Fertilize newly planted trees and shrubs when they are planted if a slow release fertilizer is used, or six weeks after planting if a fast release fertilizer is applied. Fertilize young plants at least once the first year. Late summer and fall, after the tree has stopped growing, is the best time to fertilize.

One way to **calculate** the amount of fertilizer needed for older trees is to measure the trunk about 4 feet from the ground. If the trunk is less than 6 inches in diameter, apply 0.1 lb. of actual N per inch of trunk diameter. If the tree is greater than 6 inches in diameter, apply 0.2 lb. per inch. Spread the fertilizer evenly under the plants canopy and extending beyond by one half the radius of the canopy.

Once the fertilizer is applied irrigate it into the root zone. When lawns are growing over the root zone of the tree, apply the fertilizer on dry grass and water after application to wash the fertilizer off the grass leaves to prevent burning.

When to apply fertilizer.

Fertilizer should be applied in a timely manner to reduce loss from leaching or runoff, reduce competition from weeds, and basically assure that maximum benefits go to desirable plants. A few points to consider are:

- Apply fertilizer only when needed by lawn or garden plants or to aid in mulch decomposition.
- Follow container recommendations for commercial sources of fertilizer.
- When in doubt do not hesitate to contact either the Extension Service or NRCS for additional advice.

Maintenance

A well managed fertilizer program for a lawn or garden requires maintenance to assure correct amounts and timing of applications. In soils deficient of nutrients, your lawn will appear yellow, grows sparsely, and is susceptible to invasion by weeds. Conversely, applying too much fertilizer, or applying it at the wrong time of year leads to turf with excessive thatch, low drought tolerance and a greater susceptibility to insects and diseases. Maintenance requirements can be minimal if soils are well conditioned with compost or manure. Water your plants with the minimum amount necessary and only when necessary. **Do not over water!**

For further information contact:

In Nevada
Nevada Tahoe Conservation District
1-775-586-1610 Ext 28

In California
Tahoe Resource Conservation District
(530) 543 – 1501 Ext 6

Or

Natural Resources Conservation Service
(530) 543 – 1501 Ext 3

