

## Behmerwald Nursery

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# Fertilizing Your Gardens: Plant Nutrition

*Plants need certain chemical elements in order to grow and function properly. Some of these elements are found in the atmosphere (like carbon, hydrogen, and oxygen), while others are found in the soil. Some of these elements in the soil, called nutrients, may be depleted over time. Fertilizing adds nutrients to the soil.*

## Plant Nutrients

Essential plant nutrients are classified as either macronutrients or micronutrients. The classifications are based upon the amount of the elements needed by plants. The most common nutrients added to soil for plant growth are nitrogen (N), phosphorus (P), and potassium (K). Many fertilizers list the amount of these three elements they contain on the label in the order N-P-K, such as 10-10-10 or 6-3-2.

## When to Fertilize

Deciding when to fertilize is not as difficult as it might seem.

Some general guidelines:

- Fertilizing is normally not necessary the first year after planting
- Never fertilize a plant in the late summer or early fall
- Use organic fertilizers when possible
- Overabundance of nutrients is as harmful as a deficiency
- A soil test is the best measure of nutrient status

Plant clues that soil fertilization may be necessary:

- Poor, stunted growth
- Chlorosis (leaves looking yellow or pale green)
- Lack of flowering and fruiting

## Types of Fertilizer

After establishing that your plant needs to be fertilized, it is necessary to decide what type of fertilizer to use. There are many options available.

### Organic vs. Synthetic

This distinction separates fertilizers based upon origin. Those that were, or were a byproduct of, a living organism are considered organic. Synthetic fertilizers undergo a synthesis to become a fertilizer. Generally speaking, synthetic fertilizers have more nutrients available faster than organic fertilizers.

### Slow Release vs. Fast Release

This refers to the speed at which the nutrients are available to plants. Slow release fertilizers have a lasting effect that is longer than fast release fertilizers. For annual flowering plants water soluble fertilizer (e.g. MiracleGro) applied every few weeks will improve plant performance.

#### Quick List of Recommended Fertilizers

- **Flower-tone®** slow release for perennials and annuals
- **Holly-tone®** for acid loving plants
- **MiracleGro®** fast release for annuals
- **Plant-tone®** for perennials, shrubs, and trees
- **Tree-tone®** for flowering and shade trees

**Sources:** Compiled from experience the Pennsylvania Certified Horticulturist Reference Guide, and *Rodale's Encyclopedia of Organic Gardening*. For more information visit us on the web at [www.behmerwald.com](http://www.behmerwald.com)