

Soil Amendments & Fertilizers

A Garden Guide

The three main elements necessary for plant growth are: Nitrogen (N), Phosphorus (P), Potassium (K). These are the three numbers printed on fertilizer bags. Each element has a specific influence on plant growth; different plants want different ratios of nutrients.



Simply stated:

- 1) Nitrogen = leaf growth
- 2) Phosphorus = root growth, fruit growth, needed for photosynthesis
- 3) Potassium = all around plant health and vigor

You can purchase pre-mixed fertilizers made with a variety of ingredients, which are designed for all around plant health. You can also buy individual ingredients and make your own.

What type of fertilizer to use?

- **Organic fertilizers** feed the soil, which then feeds your plants. This is an excellent long term strategy for a healthy garden. Organic fertilizers may be made from animals, mined minerals, and plants. Organic fertilizers are the plant equivalent to a home-cooked meal.
 - **Animal-based fertilizers** are higher in nutrients than plant-based ones, but can attract pests. If you are having pest issues, choosing plant-based fertilizers (such as kelp or alfalfa) means you can continue using organic methods.
- **Conventional fertilizers** feed your plants, but do not help build the soil. Conventional fertilizers are processed mined minerals and chemicals. They can be helpful to quickly address a soil or plant health issue, and pack a potent punch. They work best in healthy, living soil full of organic matter, where their nutrients can be better absorbed. Conventional fertilizers are the plant equivalent to taking vitamins. Relying solely on conventional fertilizers is not a good long term strategy for soil health.

Follow your soil tests and label instructions for application rates.

NPK AMENDMENTS

- 2.5-0-2.5 Alfalfa Meal: Adds organic matter to soil; a growth stimulant.
- 7-3-1 Bat Guano: High in Nitrogen.
- 12-0-0 Blood Meal: Promotes dark green color and leaf growth; rapid growth accelerator. Can attract nuisance animals.
- 4-12-0 Bone Meal: Develops sturdy root systems; stimulates plant growth. Excellent to apply in fall.
- 6-2-1 Cottonseed Meal: Leaf growth. Good for feeding shrubs; contains trace minerals. Plant alternative to Blood Meal that doesn't attract animals.
- 0-0-0.1 Greensand: Natural source of Phosphorus and trace minerals.
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Gypsum: Adds calcium and sulfur; can boost function of other fertilizers.
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Inoculant: dramatically increases ability of certain plants to fix Nitrogen in the soil, excellent added to alfalfa, beans, clover, peas, and more.
- 1-0-2 Kelp: Broad array of vitamins, minerals, and potash. Also contains plant hormones and can aid in seed germination.
- Lime: Neutralizing soil acidity; adds trace elements.
- 0-0-60 Muriate of Potash: aka Potassium Chloride. All around plant health and vigor. Very potent. Be sure to get a soil test and apply carefully.
- Mycorrhizae: forms mutually beneficial relationships with plants. Enables plants to better access water and nutrients in soil, builds soil organic matter, helps to store carbon underground. Increases overall plant resilience. Must be applied directly to roots. Is destroyed by tilling.
- 0.4-0-0 Plant Hormone Booster: contains vitamins and plant hormones to encourage plant growth. Includes products such as Superthrive and Soil Diva.
- 0-3-0 Rock Phosphate: Promotes root growth and vigor. Alternative to Bone Meal. Can also contain iron and trace minerals.
- Sulfur: Acidifies alkaline soil; use as needed on hydrangeas for blue color.
- 0-46-0 Triple Super Phosphate: Promotes root growth, very potent chemical fertilizer. Be sure to get a soil test and apply carefully.
- 1-0-0 Worm Castings: provides trace minerals, rich microbial life, improves soil structure.

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