

# Fertilizing Your Organic Garden



Organic fertilizers generally come from plants, animals, or minerals. Soil organisms break down the material into nutrients that plants can use. Some organic fertilizers contain significant amounts of only one of the major nutrients, such as phosphorus in bone meal, but they often have trace amounts of many other beneficial nutrients. In addition, some gardeners add organic material that improves soil structure and supports soil microorganisms, which helps make nutrients available more quickly, especially in warm weather when they are more active. As a general rule, organic fertilizers release about half their nutrients in the first season and continue to feed the soil over subsequent years.

## Plant-based fertilizers

Fertilizers made from plants generally have low to moderate N-P-K (nitrogen, phosphorus, potassium) values, but their nutrients quickly become available in the soil for your plants to use. Some of them even provide an extra dose of trace minerals and micronutrients. If you don't find all of these at the garden center, check out your local feed store. The most commonly available plant-based fertilizers include the following:

- **Alfalfa meal:** Derived from alfalfa plants and pressed into a pellet form, alfalfa meal is beneficial for adding nitrogen and potassium (about 2 percent each), as well as trace minerals and growth stimulants. Roses, in particular, seem to like this fertilizer and benefit from up to 5 cups of alfalfa meal per plant every ten weeks, worked into the soil. Add it to your compost pile to speed up the process.
- **Compost:** Compost is mostly beneficial for adding organic matter to the soil. It doesn't add much in the way of fertilizer nutrients itself, but it does enhance and help make available any nutrients in the soil.
- **Corn gluten meal:** Derived from corn, this powder contains 10 percent nitrogen fertilizer. Apply it only to actively growing plants because it inhibits the growth of seeds. The manufacturer recommends allowing 1 to 4 months after using this product before planting seeds, depending on the soil and weather conditions. Use it on lawns in early spring to green up the grass and prevent annual weed seeds from sprouting.

- **Cottonseed meal:** Derived from the seed in cotton bolls, this granular fertilizer is particularly good at supplying nitrogen (6 percent) and potassium (1.5 percent). Look for organic cottonseed meal because traditional cotton crops are heavily sprayed with pesticides, some of which can remain in the seed oils.
- **Kelp/seaweed:** Derived from sea plants, you can find this product offered in liquid, powder, or pellet form. Although containing only small amounts of N-P-K fertilizer, kelp meal adds valuable micronutrients, growth hormones, and vitamins that can help increase yields, reduce the plant stress from drought, and increase frost tolerance. Apply it to the soil or as a foliar spray.
- **Soybean meal:** Derived from soybeans and used in a pellet form, soybean meal is prized for its high nitrogen (7 percent) content and as a source of phosphorous (2 percent). Like alfalfa meal, it is particularly beneficial to nitrogen-loving plants, such as roses.
- **Humus:** When looking at organic fertilizer products, you'll invariably come across those containing humus, humic acid, or humates. Some of these products have almost magical claims as to what they can do for your plants. *Humus*, *humates*, and *humic acids* are organic compounds often found in compost. Humus is touted to increase soil microbial activity, improve soil structure, and enhance root development of plants. These products have no fertilizer value, but rather are used as stimulants to support soil microbial life that, in turn, support the plants. Use them as supplements, but not to replace proper soil building and nutrition.

## Animal-based fertilizers

Whether by land, by air, or by sea, animals, fish, and birds all provide organic fertilizers that can help plants grow. Most animal-based fertilizers provide lots of nitrogen, which plants need for leafy growth. The following are some of the most commonly available ones:

- **Manures:** Animal manures provide lots of organic matter to the soil, but most have low nutrient value. A few, such as chicken manure, do have high available nitrogen content, but should only be used composted because the fresh manure can burn the roots of tender seedlings.
- **Bat/seabird guano:** Yes, this is what it sounds like — the poop from bats and seabirds. It comes in powdered or pellet form and is actually high in nitrogen (10 to 12 percent). Bat guano only provides about 2 percent phosphorous and no potassium, but seabird guano contains 10 to 12 percent P, plus 2 percent K. The concentrated nitrogen in these products can burn young plants if not used carefully. They tend to be more expensive than land-animal manures.

- **Blood meal:** This is the powdered blood from slaughtered animals. It contains about 14 percent nitrogen and many micronutrients. Leafy, nitrogen-loving plants, such as lettuce, grow well with this fertilizer. It also reportedly repels deer, but may attract dogs and cats.
- **Bone meal:** A popular source of phosphorous (11 percent) and calcium (22 percent), bone meal is derived from animal or fish bones and commonly used in a powdered form on root crops and bulbs. It also contains 2 percent nitrogen and many micronutrients. It may attract rodents.
- **Fish products:** Fish by-products make excellent fertilizers. You can buy them in several different forms. *Fish emulsion* is derived from fermented remains of fish. This liquid product can have a fishy smell (even the deodorized version), but it's a great complete fertilizer (5-2-2) and adds trace elements to the soil. When mixed with water, it is gentle, yet effective for stimulating the growth of young seedlings. *Hydrolyzed fish powder* has higher nitrogen content (12 percent) and is mixed with water and sprayed on plants. *Fish meal* is high in nitrogen and phosphorus and is applied to the soil. Some products blend fish with seaweed or kelp for added nutrition and growth stimulation.

## Mineral-based fertilizers

Rocks decompose slowly into soil, releasing minerals gradually over a period of years. Organic gardeners use many different minerals to increase the fertility of their soils, but it's a long-term proposition. Some take months or years to fully break down into nutrient forms that plants can use, so one application may last a long time.

- **Chilean nitrate of soda:** Mined in the deserts of Chile, this highly soluble, fast-acting granular fertilizer contains 16 percent nitrogen. It's also high in sodium, though, so don't use it on arid soils where salt buildup is likely or on salt-sensitive plants.
- **Epsom salt:** Epsom salt not only helps tired feet; it's a fertilizer too! Containing magnesium (10 percent) and sulfur (13 percent), Epsom salt is a fast-acting fertilizer that you can apply in a granular form or dissolve in water and spray on leaves as a foliar fertilizer. Tomatoes, peppers, and roses love this stuff! Mix 1 tablespoon of Epsom salt in a gallon of water and spray it on when plants start to bloom.
- **Greensand:** Mined in New Jersey from 70 million-year-old marine deposits, greensand contains 3 percent potassium and many micronutrients. It's sold in a powdered form, but breaks down slowly so is used to build the long-term reserves of soil potassium.

- **Gypsum:** This powdered mineral contains calcium (20 percent) and sulfur (15 percent). It's used to add calcium to soils without raising the soil pH.
- **Hard-rock phosphate:** This mineral powder contains 20 percent phosphorous and 48 percent calcium, which can raise soil pH — avoid it if your soil is already alkaline. It breaks down slowly, so use it to build the long-term supply of phosphorous in your soils.
- **Soft-rock phosphate:** Often called colloidal phosphate, soft-rock phosphate contains less phosphorus (16 percent) and calcium (19 percent) than hard-rock phosphate, but the nutrients are in chemical forms that plants can use more easily. This powder breaks down slowly, so one application may last for years in the soil. It also contains many micronutrients.
- **Limestone:** This mined product has various nutrient levels, depending on its source. It's used primarily to raise pH, but *dolomitic* limestone, which is high in calcium (46 percent) and magnesium (38 percent), also adds magnesium to the soil. This powder also comes in an easier to spread granular form. *Calcitic* limestone is high in calcium carbonate (usually above 90 percent). Conduct a soil test for pH and for magnesium to find out which kind of lime and how much to add to your soil.

Source: <http://www.dummies.com/how-to/content/fertilizing-your-organic-garden.html>