Organic Fertilizers

The following are excerpts from (Rutgers NJAES: Fertilizers and Soil Amendments) and a list of some of the sources of (Organic Fertilizers From hobbyfarms.com). The organic fertilizer may be available in these forms or may be combined to give a more balanced blend.

Rutgers NJAES: Fertilizers and Soil Amendments

Examples of soil practices that are prohibited in an organic land care program would be:
Adding soil amendments and fertilizers without a soil test
Using any synthetic fertilizer or soil amendment
Using chemically treated wood, burlaps, stakes, and twines
Using mulch made from ground-up tires
Using newspaper with colored inks and inserts used to suppress weeds
Using sewage sludge (biosolids, ex. milorganite) as a soil amendment

Buyer Beware:
Fertilizers labeled as "organic" may still contain ingredients that are not permitted in an organic land care program such as sewage sludge, urea, and super phosphate. This is because fertilizer labels are regulated on a state-by-state basis and most states do not mandate that "organic" fertilizers have to comply with National Organic Program standards. When buying an organic fertilizer, read the label carefully to make sure there are no ingredients that are prohibited. Ingredients that come from natural sources such as plant or animal by-products (i.e., fish, feather, or blood meal), rock powders, and seaweed would be permitted for use.

Organic Fertilizers From hobbyfarms.com

1. Fish emulsion and hydrolyzed liquid fish

Processing fish or fish byproducts with heat or acid treatments creates fish emulsion. Fish emulsion is generally a pretty stinky fertilizer, but it's a good source of all three macronutrients—nitrogen, phosphorus and potassium—with an N-P-K (nitrogen-phosphorus-potassium) ratio of 5-2-2.

Hydrolyzed liquid fish fertilizers are created using enzymes rather than heat. The resulting product is not smelly and retains more trace nutrients and vitamins. The average N-P-K ratio for hydrolyzed fish fertilizers is 4-2-2.

2. Bone meal

A byproduct of slaughtering facilities, bone meal is created through the steam processing and pulverization of animal bones. Bone meal is an excellent high-phosphorus fertilizer with an average N-P-K ratio of 3-15-0. The phosphorous in bone meal takes a few months to become available to plants via microbial processes in the soil. It also contains calcium, another essential plant nutrient. Phosphorous is most available in soil with pH between 6.0 and 7.0, so be sure to test and adjust soil pH if necessary.

3. Compost

Both commercially produced compost and homemade compost benefit soil by adding organic matter, providing food for beneficial microbial life, increasing the soil's water-holding capacity and gradually releasing plant nutrients. Composts made with high amounts of manure or biosolids (sewage sludge) may be high in salts and can burn plants, but composts made with primarily plant residues do not generally contain troublesome amounts of salt. A typical N-P-K ratio for compost is 2-1-1, though its exact nutritional content depends on many factors. Compost that smells like ammonia or is not yet fully decomposed should be allowed to finish breaking down to avoid damaging plants. Compost also contains many micronutrients essential for plant growth.

4. Manure

The nutrient content of manure is dependent on many factors, including its age, source and the presence of bedding materials. Because of potential pathogen

exposure, raw manure should be avoided. Manure should be a minimum of 180 days old or fully composted before it's added to growing areas. In addition to containing macronutrients, manure is also a great source of several trace nutrients essential for plant growth. Most cattle and horse manures have an average N-P-K ratio of 1-0.5-0.5 while poultry manures tend to be better high-nitrogen fertilizers (3-1-1 on average). The nutrients in manure are not immediately available to plants and can take up to several years to be released by soil microbes. In general, about half of the total nitrogen is available the first year, with the rest being released slowly over several subsequent seasons. Manure is also an excellent source of organic matter but can contain weed seeds.

5. Rock phosphate
A mineral rock powder, rock phosphate is an excellent source of phosphorous, with an N-P-K ratio of 0-2-0. The phosphorous contained in rock phosphate becomes more available the second year after application, and phosphorous is most available within the soil when the pH ranges between 6.0 and 7.0. Be sure to test soil pH before adding rock phosphate. It is also a good source of calcium
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6. Cottonseed meal
Cottonseed meal is a high-nitrogen fertilizer with an average N-P-K ratio of 6-0.4-1.5. It takes several months to be processed by soil microbes and broken down so that it can release the nutrients it contains. Organic farmers should seek out organic cottonseed meal because cotton is often a genetically modified crop and many pesticides are used during its growth.

7. Alfalfa meal
With an average N-P-K ratio of 2-1-2, alfalfa meal provides plants not only with these macronutrients but also many trace nutrients. It takes one to four months to be broken down by the soil microbes and for the nutrients to become available.

8. Blood meal
A byproduct of slaughtering facilities, blood meal is a very high-nitrogen fertilizer with an N-P-K ratio of 12-0-0. Because of its high ammonia content, inappropriate use or over-fertilizing could cause burned foliage.

9. Feather meal
Although it takes four months or longer to break down and release its nutrients, feather meal is a great high-nitrogen fertilizer with an N-P-K ratio between 7-0-0 and 12-0-0. It is a byproduct of poultry processing.

10. Liquid kelp

Although the amounts of nitrogen, phosphorous and potassium contained in liquid kelp are minimal, it is high in essential trace nutrients as well as plant growth hormones that accelerate plant growth and improve flowering. Liquid kelp is created through the cold processing of this ocean plant. It is mixed with water and applied to plants both as a soil drench and a foliar spray. The nutrients it contains are available immediately for plant use.