

ACORN Garden Centre List

Many common products sold at garden centres are useful inputs for organic growers. The word organic on the label, however, does not guarantee that the product is acceptable for certified organic production. The National Standard (s) of Canada for Organic Production Systems and Permitted Substances define which practices and products are allowed for organic gardening and farming. Many products are labelled as OMRI approved, but the Organic Materials Review Institute is a U.S. Agency, a country with slightly different organic standards than Canada. In most cases, but not all, OMRI products are acceptable under Canadian organic rules and attempts are being made to harmonize the approval process for these products. If the customer is unsure, they should check with their certifier.

Below is a brief guide to the most common acceptable organic inputs available at garden centres. It is general in scope, and customers considering certified organic production should be aware that inclusion on this list does not guarantee approval by certifiers operating in Canada.

Fertilizers

(Only the principle nutrient for each fertilizer type is mentioned. Most fertilizers will contain modest amounts of other plant nutrients, which should be described on the label. The typical N-P-K analysis found on most labels refers to the relative percentages of nitrogen, phosphorus and potassium.)

Nitrogen (N)

Nitrogen (N) is a critical plant nutrient and a variety of organic sources are available. The most common product for small-scale application is **Blood meal** (9-12% N). This product is permitted for organic production provided it is sterilized. **Fish emulsion** (4% N) is an acceptable concoction of liquefied fish waste. It can be sprayed as a foliar feed or applied directly to the soil. A variety of other **Liquid Fertilizers** are on the market, but the origin of the ingredients is sometimes sketchy. It is not uncommon that they contain conventional fertilizer dissolved in water. All liquid fertilizer has the downfall that they easily leach or run off from the soil and potentially contaminate water sources.

Bagged manure, often sheep manure, is another nitrogen source, but it is not always clear what other materials may be included as bulking agents or added nutrients.

Alfalfa meal (3% N) and **soybean meal** (7% N) are other useful nitrogen sources. The N is less readily available to the plants than from liquid fertilizers, but these products have the benefit of adding more organic matter to the soil.

Note: Chilean nitrate is not an acceptable for certified organic production in Canada.

Phosphorus (P)

Phosphorus (P) is an essential plant nutrient that promotes strong plant growth. **Bone meal** (10-12% N) is acceptable provided it is free of the risk materials thought to be the cause of Mad Cow Disease. **Soft colloidal rock phosphate** (7-12% P, depending on source) sometimes known as Cal-Phos) is a readily available form of P derived from mined rock. Rock phosphate, on the other hand, is less soluble (less available) than the colloidal form and usually available in bulk quantities (25 kg bags) only.

Potassium (K)

Acceptable sources of K vary widely. Several types of **seaweed extract** (4% K or higher) are sold in liquid form and are often used as foliar sprays or for immersing transplants before planting.

Sul-Po-Mag (Langbeinite) contains about 22% sulphur, 22% potassium and 18% magnesium, and is useful when the soil pH is high or magnesium levels are low. **Potassium sulphate** (40% K) is allowable under organic standards, but with restrictions because it is highly soluble and is considered a fertilizer salt. Generally, potassium sulphate is purchased in bulk, but it may be included in some formulated or retail products.

Calcium (Ca)

There are three common sources of Ca fertilizer: dolomitic limestone (brownish colour), calcitic limestone (white) and gypsum. Each contains approximately the same amount of calcium but dolomitic lime also contains magnesium while gypsum contains some sulphur. Unlike the limestones, gypsum will not raise soil pH (make them less acid).

Sulphur (S)

Sulphur can be applied directly as a nutrient or to reduce soil pH. For organic purposes it must be a natural substance or be free of chemically synthesized substances or chemical treatment.

Boron (B)

Boron is considered a trace mineral and useful for specific crops like turnip. **Borax** (11.3% B) is a commonly available form.

Magnesium (Mg)

Magnesium is an important nutrient for most crops, but particularly tomatoes. Some Mg is found in Sul-Po-Mag (18%) or Epsom salts can be used.

Soil Mixtures

There are a variety of soil and transplant mixtures on the market which can be highly effective, but unfortunately are not considered acceptable for organic production. Many contain artificial fertilizers and some contain fungicides designed to prevent damping off disease. Ideally, acceptable products will be advertised as certified organic or acceptable for organic production on the label with the name of the certifier or other regulatory agency. Currently, there are some permitted soil and seedling mixes on the market, but buyers should be aware that the quality of these products appears to vary between years and each product may be best suited to some but not all crops.

Compost and Manure

All compost sold in Canada must conform to strict national guidelines to ensure product safety and

pathogen control. Additional guidelines are in place for compost destined for organic operations that typically define temperature and turning requirements for the windrows. However, buyers should be aware of the ingredients used to manufacture the compost. For example, products that contain biosolids or sewage sludge would not be acceptable. Bagged manures or manure composts, on the other hand, would generally be allowable provided that they were not fortified with prohibited substances such as artificial fertilizers.

Note: Most, if not all, transplants sold at garden centres will have been grown in potting soil that is not acceptable for organic production.

Plastic mulches are permitted in organic production. Ideally, biodegradable mulch will be used, provided it is guaranteed to be free of GMOs (corn starch is the primary ingredient in biodegradable mulch and most corn is genetically altered).

Perlite and **Vermiculite** are permitted in organic production. **Peat moss** is permitted provided it does not contain synthetic wetting agents.

Growth Promoters

Inoculants

Nitrogen fixation by legumes is performed by *Rhizobia* bacteria that colonize the roots. Sometimes *Rhizobia* occur naturally in the soil, but often growers will inoculate seeds for crops such as peas and beans and forages like red clover, white clover and alfalfa in order to promote nodulation. Only inoculants not manufactured with products from genetic engineering are permissible in organic agriculture. Some manufacturers such as Nitragin will provide a letter stating their products are free of GMOs.

Rooting hormones must be free from products of genetic engineering.

Pesticides

There is an increasing array of pest control products on the market for organic growers. Many are registered in the United States and have yet to be registered in Canada. The Pest Management Regulatory Agency regulates the sale of pesticides in Canada. A pesticide applicator's license may be required to purchase some products. In some cases, different brand names for products with the same active ingredient can have different formulations. A product's acceptability for organic production may depend as much on the type of carrier, sticker, surfactant, thickener or buffer in a pesticide formulation than on the active ingredient. Some manufacturers consider such information proprietary and are unwilling to share it. To be absolutely certain whether a product complies with organic standards, buyers should check with their certifier. Currently, there is a project underway across Canada to detail those products that are acceptable, but the results have not yet been fully compiled (see www.acornorganic.org).

Entrust contains an active ingredient called Spinosad, derived from soil organisms which can be used against a variety of insects.

Neem oil is acceptable in organic systems.

Diatomaceous Earth consists of the fossilized remains of diatoms and can be used to control a variety of insects and invertebrates.

Bacillus thuringensis (Bt) and other living organisms are permissible provided they are not products of genetic engineering.

Surround works as an insecticide by forming a thin barrier made of Kaolin clay.

Copper and **Sulphur** products are permissible in organic production.