Compost Fact Sheet

Compost for Crop Production

Composting is the natural process of recycling organic matter, such as plant leaves, food scraps and livestock manure, into a valuable organic nutrient-rich product that can enrich soils and fertilize plants. The composting material is turned throughout the process to maintain oxygen, moisture, and temperature levels for optimum microbial decomposition of the feedstocks. This process stabilizes nutrients while reducing pathogens. Overall, compost supplies nutrients to the crops while improving soil health.

Types of Compost

There are many types of compost which vary based on their feedstocks (input materials). They include:

Green Bin Compost

Feedstocks are source-separated organics (SSO) consisting of food, yard, and wood residuals from municipal waste green bin collectors. SSO compost usually has the highest nutrient value but may have more foreign materials (small plastics).

Biosolid Compost

Feedstocks consist of biosolids derived from the treatment of municipal and industrial waste waters. This compost is less likely to contain foreign matter such as metal, glass, synthetic polymers (e.g. plastic and rubber).

Miscellaneous Compost

Feedstocks can include fisheries and aquaculture residuals, livestock manure, pulp and paper residuals, food processing and wood residuals.

Nutrient Content and Application Rate

Nutrient content of composts varies from 1 to 4% for nitrogen, 0.2-3.0% for phosphorus, and 0.5-3.0% for potassium. Typical application rate is 3-10 tonnes /acre.

Commercially available compost must meet parameters set out in the Canadian Council of Ministers of the Environment (CCME) guidelines for compost quality. These guidelines offer specifications on heavy metals, pathogens, foreign material, maturity, and stability.

ARE COMPOST PRODUCTS A GOOD FIT FOR MY CROPPING SYSTEM?

Compost benefits crop production by providing nutrients, organic matter and stimulating healthy microbial populations.

Compost is important as:

- Crop nutrient supplier.
  - Provides stable nutrients to the crop.
  - Can have a significant fertilizer displacement value.
  - Can increase of crop yields and quality.
- Organic matter source.
  - Improves the soil biological, chemical, and physical properties.
  - Improves soil tilth and aeration.
  - Reduces soil crusting.
- Microbial activity stimulator.
  - Provides benefits to the soil in nutrient cycling by converting nutrients to plant-available forms.
  - The compost is alive with soil microorganisms working as "decomposers" to recycle nutrients back to crops.
- Helps agricultural soils to be more resilient to climate change.
  - Sequesters carbon.
  - Creates soil resiliency to drought by increasing soil water holding capacity.
  - Improves water cycling.
  - Increases soil biodiversity.
- Has some effect on soil pH

  Upon repeated applications, compost can have an inadvertent effect of raising soil pH.