

# The 3<sup>rd</sup> C: Continuous Living Plants

**Plants feed soils, just as soils feed plants. Living roots in the soil keep your soil critters well fed and productive.**

Plants use the miracle of photosynthesis to turn the sun's radiant energy into chemical energy in the form of sugars (in general, known as photosynthate). Each plant uses the energy in these sugars to build its own living tissues and to reproduce via flower and seed.

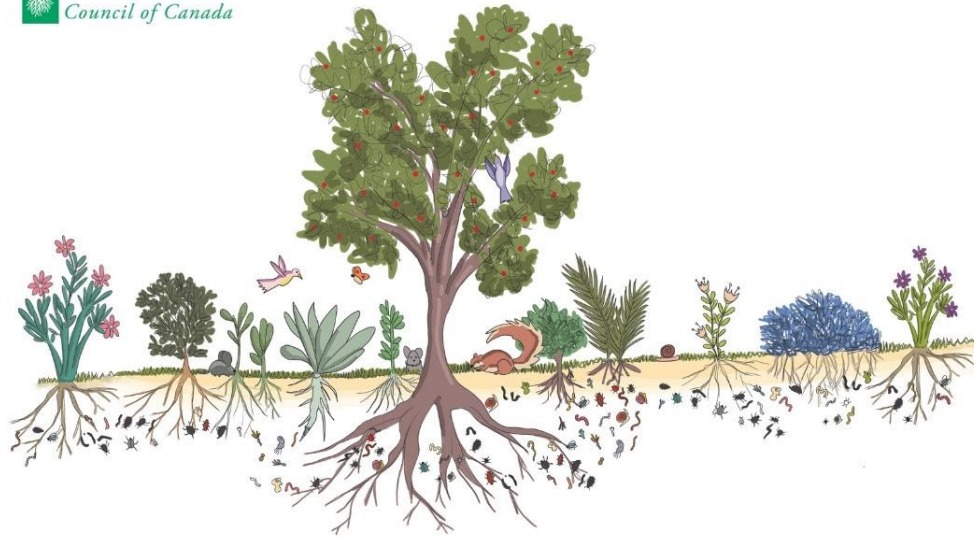
But plants don't save all this chemical energy for themselves; they share up to 40 per cent of their photosynthate with the critters in the soil. They do this by secreting sugars and other substances made from these sugars into the soil through their roots. They use these secretions (called *exudates* by scientists) to feed and grow the populations of critters in the regions of soil surrounding their roots. This is a mutually beneficial process by which plants feed the soil critters who, in turn, bring them the nutrients that they need, not only to grow and reproduce, but also to build the defences that ward off diseases and pests.

This symbiotic relationship between the soil critters and plant roots is a key to healthy soils and plants. It makes sense, then, for us as gardeners to foster and support this relationship by keeping living roots in the soil as much as possible.

Here are some tips for keeping continuous living plants in your garden.

- **The best cover is a growing plant.** Of course, that may not always be possible between plantings, or when your plants are very young and don't cover much area, so check out the options below.
- **You can cover bare soil with plant residues, compost, or organic mulches.** These materials will both protect your soil and feed your critters.
- **You can also use inorganic mulches,** such as stones, crushed rock or brick, or plastic weed-block. These materials don't feed your critters, but they do protect them. These options are often better suited for perennial plants, such as shrubs and trees, than for garden veggies or annual flowers.
- **Some veggie gardeners like to use corrugated cardboard.** You can cover the entire bed, cutting holes where you want to plant seedlings or place seeds. The cardboard protects the soil, keeps weeds at bay, and eventually breaks down and feeds your underground workforce.
- **Don't remove your annual plants in the fall.** If you want to make the garden appear less messy and more attractive, you can cut your plants and leave them on the soil, perhaps mixed with leaves or other organic residues. *Leave the roots in the soil, however: they are feeding your underground workforce!*

# The 6 Cs of Soil Health: Tackling Climate Change with your Lawn and Garden



## Continuous Living Plants ... one of the 6Cs for Healthy Soil