



## Cover Crops as Forage for Beef Cattle

**Cover crops** are planted with the intent to build and improve the soil. Cover crops are usually seeded in diverse annual mixes comprised of five, ten, or even twenty species, although they can include biennial or perennial species. Cover crops can be used to protect soil and prevent it from eroding, build organic matter, and work as a green manure or plough-down crops. Companion crops, as they are also known, can be a valuable and quick-growing source of forage for livestock, and provide grazing in the same year the crop is seeded. Cover crops also allow cropland and pastures to be more efficient with water and nutrient cycling, and less reliant on costly inputs such as fertilizer.

Cover crops, often called “cocktails,” consist of species that benefit the soil ecosystem, improve water infiltration and increase organic matter. Cover crops support a variety of soil microflora to thrive in and recycle nutrients through. Cocktails may be useful in utilizing excess water in a field that would otherwise be water logged, and cover crop species are efficient photosynthesizers, capturing energy from the sun through their large leaves.

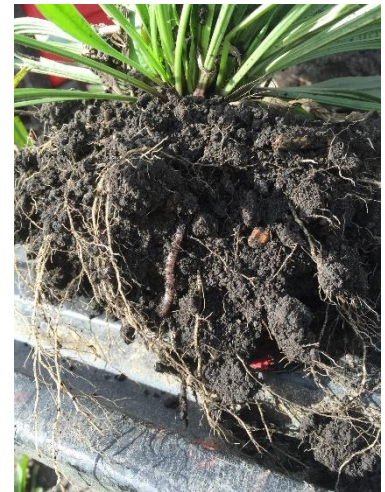
Cover crops are also referred to as companion crops and cocktail crops.

### Grazing Cover Crops

From an animal standpoint, a forage cocktail also provides cattle with a diet that is nutritionally diverse. A mix may include species such as clover, forage brassicas (i.e. turnip, radish), barley, or peas. Each plant species may reach maturity at slightly different times, therefore providing green forage continuously through the growing season. Using a combination of plants rather than a single forage species also helps to increase the overall yield potential of the crop. Producers will want to manage cover crops through grazing management strategies that time grazing appropriately to the species that are planted and their stage of growth.

Depending on soil fertility conditions and species selection, some cover crop species, such as brassicas, can accumulate excess nitrates and sulfur so cattle producers do want to pay attention to their animals for symptoms of that. Also, some species within a forage cocktail do not have a lot of fibre, particularly as species regrow following grazing. Cattle producers may want to include roughage in these grazing fields, even by providing straw bales or slough hay, to slow down the passage of forage through the digestive system and increase the nutrient uptake.

If producers are planning on using companion crops for silage, greenfeed or another controlled feeding methods, feed testing is required to prevent nutrient toxicity issues. Producers are also urged to pay close attention to animals for signs of incoordination, reduced feed intake, vomiting, increased heart rate or other signs of toxicity.



A cover crop species showing a build-up of organic matter. Photo courtesy of Cover Crops Canada

## Cover Crop Considerations

Producers may want to incorporate one or several legumes in their cocktail mix to build nitrogen in their soils. Different legumes can be selected to meet different grazing needs, whether you're grazing in early spring or late fall or winter.

*Seeding rates* will vary according to the diversity of mix. Seeding rates also have a large impact on the cost, as does the number and variety of species. There are several seeding cost calculators available to producers, including this version available at: <http://decision-tool.incovercrops.ca/>

*Seeding dates* may be planned strategically. Some producers may opt to seed two crops in a season, where they silage the first crop and graze the second crop. Other producers sometimes seed fall or winter crops in the spring, for grazing later in the season and early in the next.

### What are some things producers can do if they are interested in using cover crops?

- Evaluate your **goals** for cover crops. What is your intended outcome and what specific issues are you trying to resolve? Do you need to build organic matter or improve water infiltration? Are you concerned about soil erosion? What is motivating you? How will this fit in with your current cropping and grazing management?
- Evaluate your **existing infrastructure**. What sort of water development, fencing, or other infrastructure may you need in order to graze cover crops? Do you have the seeding equipment necessary to plant a cocktail?
- Look for **informational resources**. Do you have experience seeding cover crops or grazing them? Do you have someone you can contact or resources available?
- Evaluate **grazing conditions** as the season progresses. Have you performed feed analyses? Are your cattle receiving all of the nutrients that they need to stay healthy?



A cocktail crop featuring numerous plant species. Photo courtesy of Cover Crops Canada

The Beef Cattle Research Council, a division of the Canadian Cattlemen's Association, sponsors research and technology development and adoption, in support of the Canadian beef industry's vision to be recognized as the preferred supplier of healthy, high quality beef, cattle and genetics.

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