

COVER CROPPING

Cover crops, sometimes referred to as ‘green manure,’ help to protect against soil erosion and improve soil structure and soil fertility by catching nutrients after annual cropping. Planted right after harvest into standing crop stubble, cover crops include cool-season grasses like oats or annual ryegrass; warm-season grasses such as millet; brassicas such as radish or yellow mustard; broadleaves like buckwheat; and legumes such as clover. When cover crops are plowed down, the decomposition of plants, shoots and roots release nutrients, particularly nitrogen, into the soil.

Implementation Tips

- Plant cover crops following annual crop harvest. Consult an agronomist/agrologist for crop recommendations.
 - **West:** Some cover crop choices for farms in B.C. include various clovers and sweet clovers, bird’s-foot trefoil, hairy vetch, field pea or forage pea.
 - **Prairies:** Consider trying oats, clover varieties, peas, radish, hairy vetch and/or fall rye in the Prairie region.
 - **Central:** Incorporate rye, winter wheat, red or sweet clover, or buckwheat into cover cropping in central Canada.
 - **Atlantic:** Try implementing hairy vetch, radishes, ryegrass, clovers, buckwheat or sorghum if located in the Atlantic region.
- Cover crop seed can be applied with manure applications to reduce field passes.
- Cover crops can provide new grazing options for operations with rotational grazing.
- Consider intercropping or relay cropping radish, peas, faba bean or crimson clover between a main crop, such as corn. Benefits include improved crop and soil stability, a reduction in inputs, fertilizer and crop protection products, weed suppression and possible yield improvements.

“I started cover cropping after corn silage is harvested so that the soil remains stable for the remaining eight months of the year. We apply liquid manure to all the harvested fields. As each tanker of manure is being loaded, we throw approximately 4 lbs. of oil seed radish seed into the tanker. The fields are tilled with a vertical tillage implement and miraculously the cover crop is uniform across the field. The oil seed radish flourishes during the fall and creates a lush mat of green matter which dies off over the winter and provides organic matter for the soil in the spring. The only trick is to have someone dedicated to throwing the seed in the tanker at the fill-site.”

— Kevin, a dairy farmer in Ontario

Benefits



Carbon sequestration



Increased resiliency to the effects of climate change



Improved soil health



Enhanced biodiversity



Estimated return on investment
High



On-farm emission
mitigation potential +++

Resources

- **Webpage:** Establishing Your Field with the Best Cover Crop, Lactanet (dfc-plc.info/COCR1)
- **Factsheet:** Best management practices inter-seeding cover crops, OMAFRA (dfc-plc.info/COCR2)
- **Website:** Soil Conservation Council of Canada (dfc-plc.info/COCR3)
- **Research study:** Yanni, S.F., Laporte, A.D., Rajsic, P., Wagner-Riddle, C., Weersink, A., 2021. The environmental and economic efficacy of on-farm beneficial management practices for mitigating soil-related greenhouse gas emissions in Ontario, Canada. *Renewable Agriculture and Food Systems* 36, 307–320. (dfc-plc.info/COCR4)