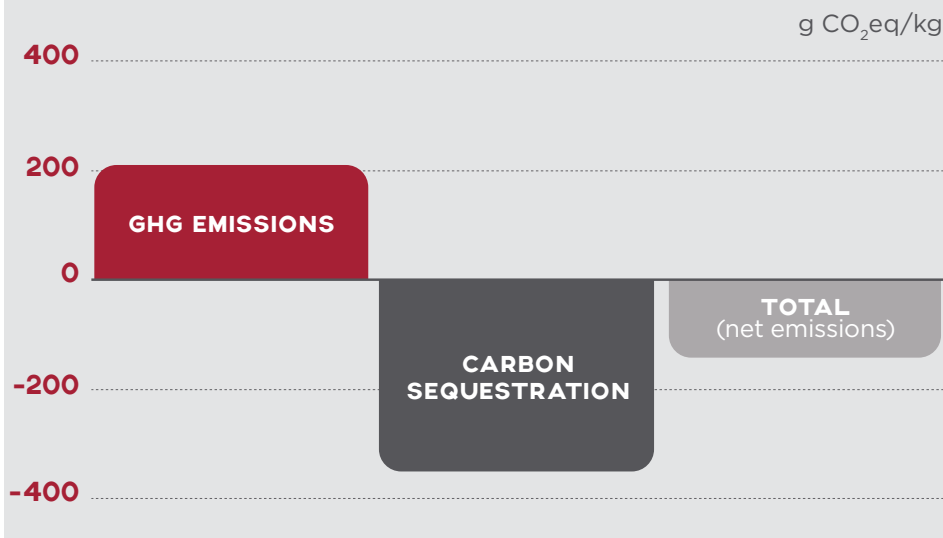


CARBON FOOTPRINT OF CANADIAN-GROWN LENTILS:



Graph 1



HOW LENTILS CONTRIBUTE TO SUSTAINABILITY:



NEGATIVE CARBON FOOTPRINT

More carbon is sunk or sequestered into the soil than is emitted into the atmosphere in the production of lentils (Graph 1). Lentils are effectively carbon negative, and align well with net-zero carbon strategies.

Source: Canadian Roundtable for Sustainable Crops, Updated Carbon Footprint for Canadian Lentils, 2021



LOW WATER FOOTPRINT

Lentils are not grown under irrigation and only require water from environmental precipitation to grow. They are well adapted to semi-arid conditions and tolerate drought stress well, with shallow root systems that reserve groundwater for subsequent crops.



NITROGEN FIXING CROP

Lentils and other pulses have the unique ability to fix their own nitrogen through nodules on their roots. This reduces the need for nitrogen fertilizer while growing lentils and for the subsequent crops grown on that field.



SUSTAINABLE CROP ROTATIONS

Lentils are grown as part of sustainable crop rotations in Western Canada where different crops are rotated or grown on land every year in 3-7 year cycles to naturally disrupt weed, disease, and insect cycles.



ZERO WASTE

All plant material including pods, shells, and stalks are shaken loose from the lentil seeds during harvest and are redistributed back onto the land as natural compost.



ADOPTION OF NO-TILL PRACTICES

No-till production practices have been widely adopted in western Canada for several years. Farmers plant seeds directly into the stubble of the previous crop, forgoing the step of working up or tilling the land between crops. This works to retain a protective cover over the land to prevent soil erosion. Over 70% of Canadian farmers in key agricultural regions of Saskatchewan and Alberta use no-till practices on their farms.



IMPROVES SOIL HEALTH OVERALL

All of these attributes including nitrogen fixation, sustainable crop rotations, no-till practices, and waste recycling all contribute to creating healthy and robust soil to sustain food production well into the future.

SUSTAINABLE IMPACTS TO FOODSERVICE OPERATIONS:

*Good for the consumer*

High in protein and fiber, low in calories and fat

*Good for the planet*

Lowers environmental impact of the menu

*Good for the bottom line*

Among the most affordable sources of protein and plant protein



HOW LENTILS CAN IMPROVE A TRADITIONAL BURGER PATTY:

Adding 33% pureed red lentils to a 100% U.S. beef burger patty will:

- Reduce the carbon, water, and land-use footprint of the burger patty by 33%
- Reduce cost by 26% (*calculated in 2020*)
- Increase fiber by 3 grams/serving
- 12% reduction in calories, 32% reduction in fat, 32% reduction in cholesterol
- If every burger served annually in the U.S. was blended with lentils, it would equate to removing 1.9 million cars off the road

Source: Environmental, Nutritional and Cost Impacts of Beef Lentil Blended Burgers, Pulse Canada, 2020

SUSTAINABLE PRACTICES VS. BUY-LOCAL:



- The local food movement often focuses on the distance foods travel to the consumer. But in order to understand the impact our eating decisions have on the environment, it is more important to consider how a food is produced. For example, the no-till and low-input farming practices of Canadian lentil farmers mean that Canadian lentils can be exported to markets like Europe and still be a more sustainable product than locally produced lentils in Europe. This is even the case when accounting for transportation emissions to get Canadian lentils to the European market.

Source: Life cycle assessment of pea and lentil production in Canada and Europe, including transportation impacts, Nicole Bamber, 2022

- The carbon benefit of lentil production in Canada reduces greenhouse gas emissions by nearly 1.7 million metric tonnes annually. That is the equivalent of removing nearly 370,000 cars from the road.
- Growth in Canadian lentil production will bring additional carbon benefits, with a 10% increase in production preventing annual greenhouse gas emissions of 170,000 metric tonnes.

Source: Canadian Pulse Industry Environmental and Economic Indicator Report, 2021 (DRAFT)