

BMP: Intercropping (302)

Intercropping (growing two or more crop types together) enables more efficient crop utilization of water, nutrients and sunlight, compared to monocropping (growing a single crop alone), and could also provide benefits related to reduced weeds, pests and diseases. Higher nutrient use efficiency reduces the risk of nutrient loss. Intercropping with legumes reduces nitrogen fertilizer requirements and the associated nitrous oxide emissions.

The benefits of intercropping may include:

- greater and more efficient capture of available resources (water, nutrients, light) compared to monocropping
- higher overall yields compared to monocropping
- reduced nitrogen fertilizer costs when adding a legume to what would otherwise have been a non-legume monocrop
- increased suppression of weeds (reduced nutrients, water and sunlight available for weed growth)
- increased resilience to crop pests and diseases
- increased adaptability of the crop to adverse weather conditions (e.g., stressful conditions for one crop may favour the other)
- reduced risk of nutrient loss to the environment

Cost share ratio and funding cap

There is a cost of 50:50 and a funding cap of \$10,000 for this BMP.

Eligible costs

- intercropping legume crops with non-legume crops to reduce N fertilizer rates
- other annual intercropping mixtures with clear environmental benefits
- seed separating equipment to separate seed harvested from an intercropping mix
- equipment modification to enable seeding intercrops in a single pass

Ineligible costs

- personal labour
- field work costs
- seed, fertilizers and pesticide costs

BMP specific questions

You will be asked to answer the following questions as part of your application.

- What environmental risks will intercropping address on your farm?
- How will intercropping affect nitrogen fertilizer management on your farm?
- By what amount (in lb/ac or kg/ha) do you expect nitrogen rates to decrease (or increase) due to intercropping?
- How many acres do you plan to intercrop and what crops are you growing together?
- If you were not intercropping, what would you normally be growing in this rotation instead?
- Include a diagram to illustrate how intercropping reduces environmental risks on your farm. (e.g., areas affected by erosion, areas affected by salinity).

Reference materials

For more guidance in developing your application, visit:

Westman Agriculture Diversification Organization (WADO) 2016 Annual Report - Responses of Pea and Canola Intercrops to Nitrogen and Phosphorous Applications (year 1 of 2 interim report) (pp. 80-88)

Manitoba Pulse and Soybean Growers

- Pulse Beat Newsletter (**fall/winter No. 79, 2016**) - On-farm evaluation of peola - an intercrop of peas and canola (p.30)

- Pulse Beat Newsletter (**fall/winter No. 76, 2015**)
 - On-farm evaluation of peola intercropping (pp. 56-57)
- Pulse Beat Newsletter (fall/winter No.73, 2014) - Intercropping pea and canola: An Opportunity for Enhanced Profitability (pp. 37-39)