

NITROGEN MANAGEMENT – SOIL TESTING AND MAPPING



The RDAR On-Farm Climate Action Fund (OFCAF) program supports the adoption of Beneficial Management Practices (BMPs) that reduce the difference between levels of nitrogen (N) in the soil and additions of N needed to meet crop requirements. OFCAF Applicants may choose some or all of the BMPs listed below and other BMPs related to Nitrogen Management, Cover Cropping or Rotational Grazing. Costs of multiple new BMPs within each of the three activity categories can be combined to a maximum total grant payment of \$100,000 from all OFCAF funding sources from April 1, 2022 to March 31, 2028.

Soil testing and mapping are foundational practices for optimizing N-fertilizer use efficiency and crop yield. Mapping has the added benefit of providing a basis for targeting rates according to nutrient needs within specific field production zones. Strategies for soil testing and mapping vary by region and cropping system. Many companies and consulting agronomists offer comprehensive soil testing and mapping services.

The BMPs supported by OFCAF must be new to your farm or field. Applicants may request funding to support eligible practices listed in the OFCAF Program Guide. Please outline how you will apply these practices on your farm using the BMP Action Plan on page 3 of this form, including labelled maps that show field boundaries on an aerial photo or imagery, with the fields clearly visible beneath. The [Guide to Locating and Labelling BMP Action Plans](#) provides further details. Your completed BMP Action Plan must be recommended by a qualified third-party adviser who is a Professional Agrologist (PAG) or Certified Crop Advisor (CCA); please reference the [Guide to Accessing Agricultural Recommendations in Alberta](#). Your BMP Action Plan must be approved **in writing** by RDAR to be eligible for OFCAF funding.

Please note: Invoices and proof of payment must be after April 1, 2026 and you must receive RDAR's written approval of your application. Paid invoices must include Legal Land Descriptions (LLDs) of pre-approved project fields and proof of payment by November 30, 2026. Soil sample results with the name of the analysis lab will be required to document completed project conditions. If Field Zone Mapping for N Prescriptions (see below) was also approved, documentation will also be required.

There is a maximum of \$20,000 for the total cost of all Soil BMPs in all program years (2022 to 2028). If an applicant has reached the \$20,000 limit, they are not eligible for additional funding for Soil BMPs. If your application is just for soil testing and mapping and does not include a different BMP funded by OFCAF from 2022 to 2025, a report of N management for the field, historic and new average actual N rates will be required when submitting your final report with paid invoices. This information will help demonstrate the impact of soil testing BMPs on N management.

GUIDELINES AND ELIGIBLE COSTS

- A minimum soil sampling depth of 12 inches (30 cm) is required.
- Additional costs for increasing sampling depth or within-field intensity are eligible.
- Since nitrate (N) can leach into the soil profile, costs of soil sampling and testing to deeper soil depths are also eligible. Soil analysis for nitrogen content must use analytical protocols recognized by the Soil Science Society of America and/or the Canadian Society of Soil Science¹². The laboratories listed below use these methods. A soil sample result that specifies the analysis laboratory must be included with project documentation. If a lab is not listed below, invoices will not be reimbursed.
- May include PAG or CCA recommendation of BMP action plans to a maximum of \$2,000 over all program years (2022 to 2028).

¹ Carter and E. Gregorich (eds.), Soil Sampling and Methods of Analysis 2nd Edition, Boca Raton, FL: CRC Press.

² Down to Earth Labs Inc., Lethbridge, AB; A & L Canada Laboratories, London, ON; AGAT Laboratories, Calgary, AB; AgVise Laboratories, MB; Element, Edmonton, AB; Natural Resources Analytical Lab, Edmonton, AB; Farmers Edge Laboratories Inc., Winnipeg, MB; Western Ag, SK; Midwest Laboratories Inc., Omaha, Nebraska; AgSource, Lincoln, Nebraska; and Ward Laboratories Inc., Kearney, Nebraska.

APPROACHES

Many approaches are available to adapt a range of soil testing and mapping BMPs to field and management conditions. Please choose **only one** approach per field from the following:

- 1. Basic Soil Testing** – Fields that have been soil tested in the past are not eligible unless sampling intensity or depth has increased to a minimum 12-inch depth. It may include multiple depth intervals and the analysis of factors that impact N-fertilizer management.
 - Option a): Sampled by the farmer lab costs: up to \$100 per field
 - Option b): Third-party sampling + lab costs: up to \$300 per field
- 2. Field Zone Mapping, Testing and Variable Rate N Prescription** – Note: Fields funded by OFCAF for **1) Basic Soil Testing** in previous years are eligible for Field Zone Mapping, Testing, and Variable Rate N Prescription in 2025.
 - Costs of identifying agronomic zones must include zone-based soil sampling (0-12 inch minimum) together with lab analysis costs³⁴ within each zone, and the development of variable rate N prescriptions for the field: up to \$8 per acre

Please Note: Agriculture and Agri-food Canada has mandated that when applying for Soil Testing or Field Zone Mapping, Soil Testing and VR N Prescription and you do not have a different BMP funded by OFCAF in 2022-25, or 2026, a report of N management for the fields is required in your final report before RDAR can review for potential reimbursement:

- i. Historic field average rate of actual N (lb/ac)
- ii. New field average rate of actual N (lb/ac)

INELIGIBLE COSTS

- Fields previously mapped for variable rate N application
- Fields that do not include zone-based soil sampling to a minimum 12" depth
- If you have previously been paid a total of \$20,000 for this OFCAF Soil Testing and Mapping BMP you are not eligible for additional funding.
- Costs of in-kind labour, company subscriptions, annual fees and software are not eligible.

³ Carter and E. Gregorich (eds.), Soil Sampling and Methods of Analysis 2nd Edition, Boca Raton, FL: CRC Press.

⁴ Down to Earth Labs Inc., Lethbridge, AB; A & L Canada Laboratories, London, ON; AGAT Laboratories, Calgary, AB; AgVise Laboratories, MB; Element, Edmonton, AB; Natural Resources Analytical Lab, Edmonton, AB; Farmers Edge Laboratories Inc., Winnipeg, MB; Western Ag, SK; Midwest Laboratories Inc., Omaha, Nebraska; AgSource, Lincoln, Nebraska; and Ward Laboratories Inc., Kearney, Nebraska.

NITROGEN MANAGEMENT SOIL TESTING AND MAPPING - BMP ACTION PLAN

Please note: all costs must exclude GST. Use extra forms to add information and identify individual fields as needed.

Applicant Name:					
New BMP objective – check or fill (Y/N)	Increase sampling depth*	Increase sampling intensity	Identify and sample agronomic zones for variable rate N prescription		
Is BMP new to the field?	Yes	No	Is BMP new to the farm?	Yes	No
Planned sampling date (mo/yr):	Lab* where samples will be analyzed:				
1) BASIC SOIL TESTING ONLY – Choose Option a) or b) described in 1) on page 2:					
Field	BMP Area	Sampling Depth(s) & Units*	Samples	Cost of Sampling &/or Lab Analysis**	
(LLD)	(ac)		(number of)	(\$/field)	
Total Area		A) Cost of All Soil Testing \$			
2) MAPPING, SAMPLING & TESTING FOR VARIABLE RATE N PRESCRIPTION					
- For fields never mapped for variable rate N and not listed in 1) above. Up to \$8/ac, \$20,000 maximum					
Field	BMP Area	Sampling Depth(s) & Units*	Samples or Zones	Cost of Mapping, Sampling, Analysis & N Prescription ***	
(LLD)	(ac)		(number of)	(\$/field)	
Total Area		B) Cost of Field Zone Mapping, Sampling, Testing and N Prescription*** \$			
Is this Plan recommended by a Professional Agrologist (PAg) or Certified Crop Advisor (CCA)?	Yes	No	Have you included a labelled map?	Yes	No
Name:	PAg/CCA:	Phone number:		Date:	
		Email:			
C) Cost of Other and/or PAg or CCA^ \$					
Total Cost of Project (A + C or B + C) \$					

*Minimum eligible soil sampling depth is 12" (30 cm). Must use protocols and laboratories listed on pages 1 & 2. **Eligible costs if farmer sampled: up to \$100/field for lab fees; for third party sampling and lab fees: up to \$300/field. ***For field zone mapping, sampling & lab fees for variable N rate prescription: up to \$8/acre. Maximum of \$20,000 total for all Soil BMPs (2022 to 2028). In-kind labour costs are not eligible. ^May include the cost of BMP Action Plan recommendation of up to 10% of the cost of all eligible BMPs to a maximum of \$2,000 per applicant over all program years (2022 to 2028).

Map on an aerial photo or image showing the fields that will be sampled, legal land locations, and field boundaries. Any method of outlining and labelling fields may be used as long as the fields are visible beneath. Further details are available in [A Guide to Locating and Labelling BMP Action Plans](#).

