



## Canadian Agricultural Partnership

[www.cap.alberta.ca](http://www.cap.alberta.ca) | 310-FARM (3276)

In March 2021, most Canadian Agricultural Partnership (CAP) programs relevant to primary production were closed or not accepting applications. You can receive CAP program announcements by subscribing to the CAP online newsletter at [cap.alberta.ca/CAP/Subscribe](http://cap.alberta.ca/CAP/Subscribe).

### Environmental Farm Plan (EFP)

An EFP is required for some CAP programs. An EFP is also required for certain sustainability platforms, such as proAction for Canadian dairy farmers. Learn more about how to start or renew an EFP at [albertaefp.com](http://albertaefp.com).

Leduc and Wetaskiwin counties' sustainable agriculture program coordinator can assist you with the EFP process and share CAP program developments. Contact the coordinator at **780-387-6182**.

### Alberta EFP online webbook updates

On March 29, Alberta EFP updated its online webbook to version 3.1. If you have completed an EFP online within the last ten years, your EFP remains current. Producers with completed EFPs wishing to upgrade to the new version can expect to complete the updates in about an hour.

▶ Producers working on their EFP before the update will likely be the most affected, as follows:

▶ there will be a grace period of four weeks to finish the old version;

▶ producers are recommended to switch to the new version during the grace period;

▶ four weeks after launch, on April 26, 2021, all in-progress workbooks will be automatically upgraded to the new version.

▶ The Habitat Management chapter is new for version 3.1. Why was this content added?

▶ Alberta EFP is working toward alignment with the global Farm Sustainability Assessment silver standard. Habitat and biodiversity are components of this assessment.

▶ Fun fact, the chapter is being launched with other provincial EFP programs, but Alberta is first.

▶ Alberta EFP and your local technician will be available to support producers with the transition.

## Alternative livestock watering



Do you have a body of water, such as a creek, river, wetland or lake on your farm?

If you want to provide an alternative livestock water source, and produce

increased ecosystem services from that body of water, you could get up to 50 per cent of the costs from ALUS.

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## Alternative livestock watering

ALUS pays farmers and ranchers who produce ecosystem services on their farms and ranches. Examples of ecosystem services related to watering systems include improved water quality, wildlife habitat and biodiversity.

ALUS cost-shares on projects such as watering systems, and provides a yearly, per-acre maintenance payment for project acres involved. Providing a cleaner, reliable source of water can have production benefits.

To find out how to qualify for ALUS funding for a new alternative watering system, contact Kim Barkwell, ALUS Program Coordinator at **780-387-6182**.

### Examples of ALUS-funded alternative watering systems



## Understanding and interpreting soil test reports

### Featuring Dr. Ross McKenzie

Soil test reports allow farmers to make wise fertilizer decisions and avoid unnecessary and costly applications. Many producers rely on their fertilizer dealer or independent agronomist to interpret soil test reports; however, understanding some basics is beneficial.

Soil test reports provide actual values of physical and chemical components and most labs will provide a rating for each factor. Soil nutrient levels are used to develop fertilizer recommendations. Some labs will provide fertilizer recommendations on the report; however, this is really the farmer's job! Work with your fertilizer dealer or agronomist to review and fine tune the recommendations to your unique fields, yield goals and conditions.

Both the depth and number of samples are important when soil sampling. You need more than 20 samples for good representation. Why so many samples? A quarter section, six inches deep, contains approximately 320 million pounds of soil. Multiple depths are also recommended. Soil depth from zero to six inches provides a good indication of phosphorus (P) and potassium (K) levels. However, nitrogen (N) and sulfur (S) require samples at all three depths for best representation, which is zero to six inches, six to 12 inches and 12 to 24 inches. Soil samples should be taken in late fall or early spring.

#### Nutrient levels

Macronutrient levels deserve the most scrutiny. The macronutrients are

nitrogen (N), phosphorus (P), potassium (K), sulfur (S), calcium (Ca) and magnesium (Mg). It is rare to see a Ca or Mg deficiency in our western soils. To be considered low, calcium levels would be less than 300 ppm and magnesium levels less than 35 ppm.

Dr. McKenzie describes potassium (K) levels as key. Black and gray soils in Alberta tend to be potassium deficient. Potassium fertilizer has limited movement in soil and placement near the seed will improve uptake

#### Potassium (K) levels from soil test results:

- ▶ K = less than 250 ppm, need supplement.

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- ▶ K = 250 to 300 ppm, adequate but may want a maintenance application.
- ▶ K = 300 ppm or greater, no additional K for most annual crops.

Micronutrient deficiencies are uncommon in our area, except for copper (CU). Copper deficiencies are seen in grey and black transition soils in central and north central Alberta. Typically supplement if copper levels are below 0.5 ppm. If the soil test shows sufficient levels of micronutrients, there is no need to test for them every year.

### Soil quality factors

Typical soil quality parameters tested are pH, electrical conductivity (EC), organic matter, cation exchange capacity (CEC) and per-cent base saturation. If any of these parameters are at a level of concern, consult a soil specialist.

### General comments on soil quality parameters:

- ▶ pH: good range is 6 to 8. Need to be concerned if levels 5.5 or lower or 8.5 or higher.
- ▶ Electrical Conductivity (EC): measure of soluble salts.
  - ▶ Ideal is <1 dS/m
  - ▶ 2 to 4 dS/m - yield reduction of 10 to 40 per cent; however, will not see evidence of salt in field at that level
  - ▶ Organic matter (OM) per cent: based on Agricultural Land Resource Atlas of Alberta; our regional soils have high OM content
- ▶ Soil texture: measure of sand, silt, and clay components
- ▶ CEC (cation exchange capacity): ability of soil to hold positively charged

elements. Level increases with clay content and does not change from year to year.

- ▶ Per cent base saturation: if pH is above 7, base saturation will be 100 per cent. Also does not change from year to year. Some look at ratios of K:Mg in this test. Dr. McKenzie advises to ignore this ratio in western Canada. Focus on macronutrient levels instead.
- ▶ Testing for cation exchange capacity (CEC) and base saturation from the same location every year is not necessary.

Follow a proper soil sampling procedure and use test results to decide if fertilizer is necessary to correct any nutrient deficiencies. Decide rate, method and time of application for best efficiency. Seek opinions from more than one agronomist if you have any concerns with recommendations.

## Phosphorus filter: mitigation options for nutrient contributions from agricultural run off

### Featuring Brad Calder

Agriculture is the largest user of freshwater and can have negative impacts on water quality if excess nutrients and manure enter waterbodies. Agricultural run off typically contains increased concentrations of nitrogen and phosphorus. Dissolved phosphorus is readily available to algae and can cause water quality deterioration.

To reduce impacts of agricultural activities, there are many beneficial management practices (BMPs) that can control nutrient contribution to downstream watersheds. BMP examples include:

- ▶ conservation tillage
- ▶ crop nutrient management
- ▶ integrated pest management
- ▶ conservation buffers
- ▶ irrigation management
- ▶ grazing management
- ▶ animal feeding operations management
- ▶ erosion and sediment control

A phosphorus filter uses industrial by-product materials that can absorb dissolved phosphorus and reduce the amount of

phosphorus entering water bodies. The first filter of its kind in Canada was installed in the County of Warner in 2017 on Tributary Four. Preliminary results showed the removal of approximately 95 per cent of dissolved phosphorus.

Based on learnings from the filter on Tributary Four, the County of Warner, Alberta Agriculture and other partners developed a research project to determine the cost effectiveness of phosphorus filter technology in Alberta conditions near East Raymond. The project was developed in summer 2020 and uses a three-stage approach:

1. **Stage one** used three different sizes of gravel to mechanically filter coarse organic particles.
2. **Stage two** used a bio-filter to facilitate bacteria consumption of nitrogen, which changes it to gaseous nitrogen.
3. **Stage three** used metal slag to bind with dissolved phosphorus.

The East Raymond system will be evaluated for its ability to perform in Alberta conditions over the next four to five years.

## Kim's corner

What is your definition of continuous improvement on the farm? Examples such as increased yield per acre, increased loin depth, improved feed efficiency and reduced days to market may come to mind.

Those examples are production-oriented and important to strive for; however, when addressing public trust in agriculture, these metrics mean little to the person pushing a grocery cart down the aisle.

In Sept. 2020, the Canadian Roundtable for Sustainable Beef (CRSB) announced ambitious, 10-year goals to provide a positive and clear industry message. The first three goals released will interest consumers and relate to:

1. Greenhouse gas and carbon sequestration (reducing carbon footprint).
2. Animal health and welfare.
3. Land use and biodiversity (enhancing natural environments).

Another way to think of continuous improvement is doing your best right now, while recognizing that you can do better by adopting beneficial management practices or new technologies.

According to the CRSB, "building support from government and public trust is based on doing the right things for our land, our animals and our environment." If stakeholders are powerful and interested, an industry requires a basic level of public trust to provide legitimacy. The public is powerful and interested in their food, yet they are unaware of current production practices and can be afraid of how those practices affect their food. Based on that alone, agriculture needs public trust. Continuous improvement needs to be recognized and our challenge is not to educate, but communicate. Sustainability platforms, such as CRSB, proAction and Farm Sustainability Assessment 2.1, are industries' way of communicating continuous improvement to consumers.

### Agriculture – strength in diversity

Who's familiar with the expression, variety is the spice of life? A common word heard lately, and in different contexts, is diversity. Words that mean about the same thing as diversity are variety, mixture, assortment and medley. Here are some examples:

- ▶ Diversity is the natural order of the world and makes systems stronger.
- ▶ Agriculture is a multi-solution provider: there are diverse food production methods.
- ▶ Wildlife and biodiversity can exist and improve within agricultural systems.



### Looking for more?

If you have any questions or wish to bring a matter to the attention of your Agricultural Service Board, please contact your county's Agricultural Services department.

- ▶ County of Wetaskiwin No. 10 Agricultural Services: 780-361-6226 or visit [www.county.wetaskiwin.ab.ca](http://www.county.wetaskiwin.ab.ca)
- ▶ Leduc County Agricultural Services: 780-955-4593 or visit [www.leduc-county.com](http://www.leduc-county.com)

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