

# Between the Rows

VOLUME 3 ISSUE 3

FEBRUARY 5, 2025

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## Phosphate Fertilizer Options

In the last issue of BTR, I discussed the importance of phosphorus for optimum crop production. This week I'll discuss the options you have to apply phosphorus to your fields.

A 40 bushel canola crop will remove about 40 -60 lbs./ac of phosphate from the soil. As I mentioned in the last BTR, native soils in Alberta can contain over 1,000 lbs./ac of phosphorus. So we should need to add phosphate fertilizer right? Wrong. The problem is the vast majority of phosphorus in the soil is in soil mineral (rock) form. Plant roots are unable to extract phosphorus from a rock. So when we soil test, we actually only evaluate the phosphate form that is readily available to plants. That is also why when we look at fertilizer sources for phosphorus, we need it also be in the plant available phosphate form.

The most common form of phosphate fertilizer used in our area is monoammonium phosphate or MAP for short. MAP contains 52% phosphate (and 11% nitrogen). MAP blends well with other common fertilizers such as urea, potash and ammonium sulphate. However one downfall of MAP is it

relatively high salt index of 26.7. The higher the salt index the more damaging it can be to young seedling roots. The problem is that phosphorus is very important early growth. Side-banding MAP will make it safer, but in hot, dry springs young seeding may have an issue finding the phosphate since it's not mobile in the soil.

New options in fertilizer products have developed such as Crystal Green Synchro. Synchro is a 50/50 mixture of MAP and Crystal Green. This new product has a lower salt index, so high rates can be placed closer to the seed and it also is formulated to have a long release period allowing more phosphate available later in the growing season. This "staged" release also helps to reduce the amount of phosphate tied-up by the soil, making your annual phosphate investment more efficient.

Whatever the form of phosphate fertilizer you use, it is important to provide the right amount, at the right time, in the right place and at the right time. As a Professional Agronomist, I can help make this happen.

## Tidbits from Agronomy Webinars

Here are few tidbits I picked up from recent Agronomy Webinars:

1. The #1 weed in Alberta is chickweed.
2. The #1 weed in the Peace is Field Horsetail
3. Blackleg seems to be on the rise, but not in the Peace
4. Clubroot has made it Clear Hills (Worsley)
5. Verticillium Stripe is one to watch for
6. 2025 (odd # year) Watch for Bruner's Grasshoppers in Peace
7. pH results on soil test tend to be lower in drier years
8. 100 lbs./ac of Potash every 4-5 years can fix a lot of soil issues
9. Over application of Lime is worse than none at all
10. Nitrogen-credit for growing peas is a myth

## Sodium in Our Soils: “Salty Fields”

# Sodium in Our Soils: “Salty Fields”

Sodium is not an essential plant nutrient. Excess of sodium in soil causes disruptive soil structure and nutrient balance issues. High sodium levels replace the nutrient cations (K, Ca and Mg) and the soil may become impermeable to water and plant roots. As a result these soils can also have secondary problems such as waterlogging and hypoxia. Since sodium is not “essential” plants do not take it up in massive amounts, so if sodium is present in the soil (usually a by-product of soil parent material) it can be difficult to remove it.

Sodic and saline soils are not the same thing. A “salty” field can be either one. A sodic soil differs from a saline soil in that the sodium is not soluble, but form a substantial percentage of exchangeable cations. The higher proportion of sodium makes the essential nutrients of Ca, K and Mg less available on exchange sites, leading to nutrient deficiencies. In a saline soil sodium and the other ions (Cl, Ca, Mg and Sulphate) are in high concentrations in their soluble form. So these ions affect the osmotic pressure of the soil water making it difficult for plants to uptake water. Since management strategies are different it is important to soil test to determine if the “salty” field is either sodic or saline.

Next edition: Methods to improve sodium from sodic fields.

## When should I Soil Sample?

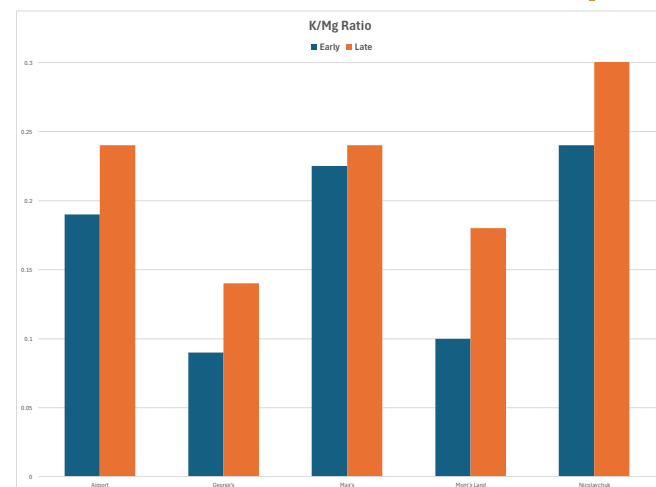
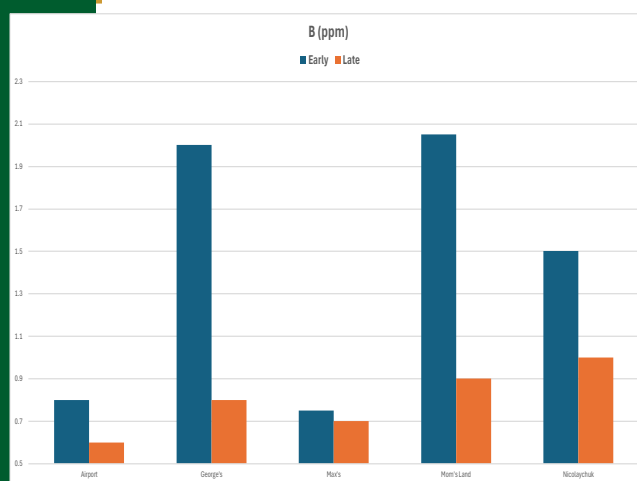
Last fall I did a comparison of soil sampling timing. I sampled 5 fields early (September 12, soil temperature average 12°C), then returned to same fields (GPS points) on October 22 when the soil temperature was below 5°C. My intention was to see how the results would vary.

Soil scientists agree that the most accurate time to soil sample is actually in the spring, just before we seed. However lab turn-around times, logistics and fertilizer pricing make this unpractical. So we do a majority of soil sampling in the fall. As a general rule we have always stated that you must wait until the average soil temperature was below 5°C before we start sampling. But which nutrients would vary if we sampled early?

What I found is that several results were lower: Boron, Sodium and Magnesium% Base saturation, sulphate, Estimated Nitrogen Released, pH and CEC. %BS of K, K/Mg Ratio, Potassium, phosphate and nitrate were all higher. Organic Matter, EC, %BS of Ca and the other micronutrients were not significantly different.

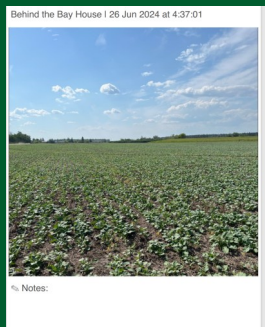
The key take away is that should base your timing of soil sampling on soil temperature and be consistent on that timing every year.

## When should I Soil Sample?



## 2025 Agronomic Packages

Ag Grow Scouting Ltd.			
Observations 2024			
Presented On: Thursday, December 19th, 2024 at 16:33			
Farm: Dairy House			
Prepared By: Scott Schaffert (7806188142)			
Location	County	Latitude	Longitude
Behind the Bay House	Canada (QC)	45.8712	-72.7112
Behind the Bay House	Canada (QC)	45.8712	-72.7112
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## Farming is Fun

# 2025 Agronomic Packages

Interested in having a professional Agrologist scout your field, provide instant updates and recommendations? We have 3 different levels of Agronomic packages available for 2025.

B (Basic) Plan includes 4-5 scouting visits at key timings during the season such as : pre-seed burn off, in-crop herbicide application, fungicide/insecticide timings and pre-harvest timing. The plan can also be customized to suit your needs. Are you planning a month long fishing trip or holiday during the season? You can rest easy knowing that I am your eyes and ears back on your farm. This package also gives you 24hr access to me for any agronomic questions you have. This plan is \$2.00/ac.

Plan 50 is a guarantee of scouting visits to each field at least every 2 weeks and more often during "crunch" times like fungicides and pre-harvest timing. This level of protection allows me to really get to know your field corner to corner and to ease your mind and protect your crop input investment. This plan is available for \$3.50/ac.

Plan 65 is the Cadillac plan that guarantees a weekly scouting visit to each field, comprehensive reporting and updates. This plan is well-suited for high value crops or problem fields that just need more watching.

In 2024 we purchased access to the Ag Grow scouting app that allows me to instantly create pdf files: listing my observations, recommendation and pictures right from the field to your email or text messages. This app also allows me to put together all of the data from your fields for a comprehensive overview of the entire season. As a grower we can also set up the app to allow you to input field operations as they occur, so field record keeping is accurate, consistent and stored safely. For more information or to sign up for our Agronomy packages call Courtney at the Fort Office or myself.

## Farming is Fun

