

Summer 2020



The Bio-Ag News

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WELCOME TO OUR SUMMER NEWSLETTER!

From the President

When I wrote the article for our Spring Newsletter, I had no idea of the chaos that was about to hit North America a mere few weeks later. We've all been challenged in some fashion by the impacts of the pandemic. Bio-Ag and the rest of the feed industry have continued to serve our customers without missing a beat. Some Ag industries have had bigger challenges than others, but they appear to be finding their way through the obstacles.

I would like to acknowledge the great work the [OABA](#) (Ontario Agri-Business Association), [CFIB](#) (Canadian Federation of Independent Business) and [EMC](#) (Excellence in Manufacturing Consortium) have done over the past several months keeping their members informed, up to date and providing constant support. They've done a great job. I'd also like to thank the staff at Bio-Ag for not missing a beat and doing fantastic work this whole time.

As you may know, Bio-Ag had to adjust a few of our activities for the short term. We will continue to keep our office closed to the public for the foreseeable future, but we will continue with pickup at our Wellesley location (please call ahead to arrange).

As you will note, or may have already heard, Bio-Ag has cancelled our annual Customer Appreciation Day. To make up for it, staff have come up with some creative ways for Bio-Ag to say thank you. Turn to page 6 for the details.

Let's move on from pandemic talk – you can get your daily dose in any newspaper, online or on the television. I encourage you to focus on what is in your immediate sphere of influence and what you might be able to do to make things a bit better. Enjoy your time with your family. Enjoy the weather (sunshine or rain!). And enjoy farming – people still got to eat, and they need you to succeed!

Stay healthy and be happy.

~Parry Bast



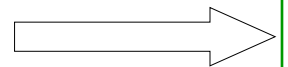
Right Knight on the 2020 Crop Season

How are the crops doing?

Summer is now entering its full glory, after some sporadic moisture and temperature swings; we are now enjoying a stretch of good growing conditions. How are your crops doing? Are your crops utilizing the full potential of the sun to harvest carbon, water and soil nutrients?

A questioning and curious mindset

Curiosity and observation is really underrated. All the expertise in the world is not the same as what you see in the field and what you pay attention to. What are you looking at? What are you seeing? How do these observations inspire your curiosity and management decisions? These tips may seem redundant for some but they are a good reminder that when you get into the field with your shovel and poke around, you see things differently. Only by seeing things differently will you learn and manage differently, and improve your potential to get different results. Yup – there are many environmental factors such as moisture, temperature and soil characteristics that are challenging and out of your control. Let's explore the aspects that you can influence. Leading with questions directs your mind to observe and explore solutions.



Greenwood Clinic Announcement

Re-Opening During COVID-19

Following a recent directive from the Chief Medical Officer of Health, we are happy to be able to offer in-person visits again. Rest assured we will be following all requirements and guidelines set forth by the Ministry of Health and the College of Naturopaths of Ontario. Some of these measures include:

- We will continue to offer telemedicine appointments whenever appropriate
- Pre-screening of all patients for COVID-19
- Increased cleaning of office, with attention to high touch surfaces
- Sanitizing after each patient visit
- Scheduling of appointments to avoid multiple patients in the waiting room
- Personal protective equipment worn by Naturopaths as directed by Ministry of Health and CONO
- Cleaning of washrooms after every use
- Patients will be asked to wash or sanitize hands before entering clinic and on leaving
- Plexiglass barrier at reception

As always, we encourage patients to ask any questions they have. The health and safety of patients, staff and our doctors is our highest priority - if for any reason we are unable to fulfill any of the requirements (e.g. lack of PPE), appointments will be re-scheduled.

Lindsay Bast B.Sc., ND
Greenwood Wellness Clinic
Wellesley, ON
N0B 2T0
T 519-656-2358
F 519-656-2534
www.greenwoodclinic.ca
www.facebook.com/greenwoodwellnessclinic/



Early season check list from within the field

I have included a short list of questions for early crop scouting. Maybe you have others. What works for you?

Category	Symptoms	Possible Causes
Soil Conditions	<p>Are there signs of</p> <ul style="list-style-type: none"> -crusting -compaction -cracking -erosion? <p>Important Note: check the soil on the surface and at depth. Dig a soil pit and get deeper knowledge.</p>	<ul style="list-style-type: none"> - there are multiple factors that impact soil conditions such as the soil characteristics and environmental factors while others are general soil health management - aspects you can impact are based on soil health management principles - diversity, low disturbance, armour on the soil, live roots as long as possible, and integrating livestock - wet soil conditions before tilling, manure application and planting will result in any or all of these signs - check the traffic patterns, tire inflation and tractor and implement weight
Emergence	<p>Has the crop emerged evenly?</p>	<ul style="list-style-type: none"> -Seed placement depth and consistency -Soil to seed contact from mechanical or soil conditions -Insect or fungal damage, bird or animal predation -Germination is the ability of the seed to break dormancy and sprout. Test the seed germination before planting and recheck if you find a problem ie. seed age and storage conditions impact germination. -Vigour is the ability of the seed to develop after germination. Seed size and weight consistency impact vigour on a crop by crop basis ie. low weight or small sized seeds have less vigour. Adequate nutrition of the parent plant improves seed vigour.
Root Development	<p>Are the roots alive, robust and fully developed in all directions?</p>	<ul style="list-style-type: none"> - wet conditions during planting may smear the seed slot creating compaction and roots that grow sideways - compaction layers may cause roots to be stunted or grow sideways - live roots are white, roots are short lived and are replaced with new roots
	<p>Do the roots have fine aggregates of soil clinging to the roots?</p>	<ul style="list-style-type: none"> -active biology and soil health will promote root exudates (sugars) to form aggregates along the root
	<p>Do legumes such as alfalfa, peas, and soybeans have active nodules?</p>	<ul style="list-style-type: none"> -soil health enhances nitrogen fixing bacteria to form nodules -cut open or squish the nodules, are the nodules abundant and plump, in soybeans the inside of active nodules will be pink
Weed development	<p>What weed species are present? What is different about the weeds species in each field year over year?</p>	<ul style="list-style-type: none"> -thinking beyond weed elimination what observations do you see that help you understand the relationship between your management and the weed species
Other ecology	<p>Has anyone noticed more birds this year?</p>	<p>Enjoy your time observing all of the ecology in the field and beyond its borders. There are many ecological services that nature provides that do the “heavy lifting” for free.</p>

Finding the most limiting factor and the sweet spot between inputs and management approaches

The factor that may be limiting your management system may be found within one of the four main cycles: Water, Carbon, Nutrient or Diversity. These factors are interrelated and may directly or indirectly affect plant growth and nutritional quality. Whether your goal is yield or nutritional quality, soil fertility is just one piece of the puzzle when considering the “Whole Thing”. Since soil fertility is a factor we tend to pay a fair amount of attention to and allocate resources toward, it makes sense to monitor and evaluate if soil fertility is one of the limiting factors. While pre season soil tests provide a prediction of what the plant may be exposed to, tissue analysis gives information about what the plant has taken up from a point in real time, differentiated by mineral, and in percentage of plant mass. From the tissue analysis we may determine which mineral is limiting. If there is a soil analysis from the same location we can

compare the actual plant outcome with what was expected from the soil analysis. A soil analysis may indicate that there are ample minerals available to the plant while the corresponding tissue analysis from plants growing in the soil may uncover other factors that are inhibiting mineral uptake. This spring I reviewed soil tests with very high levels of phosphorous and potassium. There is a point when 'too much is too much' and high levels may inhibit the uptake of the nutrient itself or other nutrients. A common example is high phosphorous in the soil may inhibit zinc uptake. For some minerals such as boron, sulfur and other micronutrients, soil analysis is not an accurate predictor while tissues. The soil conditions, emergence, root development and soil moisture reviewed above often override nutrient cycling and efforts to manage fertility. The majority of nutrients are taken up by the roots in solution with water, therefore the lack of roots, and lack of water reduces nutrient uptake. This is an example of the compounding and cascading affects of fertility inputs and soil health management. It's not one or the other; it depends on where you are at and your "whole system" goals. The sweet spot is finding where fertility inputs complement your soil health management and overarching system goals.

What about your fertility? Have you met the mark on your fertility program?

You don't have to wait until harvest to find out. There may still be an opportunity to adjust the fertility depending on your circumstances. Tissue analysis completed at various growing crop stages adds another valuable layer of information that can help you monitor and fine tune your fertility program in the same crop year. At the very least the results you get this year will help you adjust your expectations and adapt your management going forward. For some compliance programs a tissue analysis is a justification for adding soil or crop amendments.

Biology versus Chemistry – The nutrient cycle is influenced by biology, chemistry and physical characteristics of soil. In some cases, a management system that creates conditions for soil health, a conventional soil test may indicate low mineral levels; however the biology may access higher mineral nutrition. A tissue analysis will be verify this scenario, helping to evaluate management impacts, reduce the application of unnecessary inputs, and potential release of nutrients into the environment. There are several soil tests available that will measure biological factors. Soil biology testing and interpretation for management is an evolving, complex and controversial area of discussion. It's quite an exciting and growing edge for our management. My best advice is to try some of these tests and see if they match what you know or how they provide new value.

Nutritional Quality – For livestock producers, making sure the crop has the complementary balance of nutrients can improve livestock health, reproduction, and longevity. You may already be monitoring the harvest with a feed analysis. A tissue analysis during the early growth stages provides an opportunity to make adjustments earlier, especially if you are trying to optimize soil management to make up for shortfalls in feed analysis. One example is boron levels in hay. Adding boron if limited will enhance the calcium levels and improve the yield. Another example that I am interesting in and curious about exploring is the impact of forage diversity and nitrogen levels on the flavour profile of grazing livestock.

For fruit and vegetable producers the nutritional quality makes the difference in crop quality, flavour profile, nutritional quality, and shelf life of the produce. Tissue analysis is a finer tool for fertility monitoring, meeting production goals and brand differentiation. For example a storage vegetable such as carrots or potatoes that is grown with a full complement of nutrients will store longer, provide a more predictable return on the investment of storage and ability to market post harvest.

When to sample

The best time to sample is before symptoms in the crop appear. This can begin early and continue through various stages of crop stages. If you want to capture an opportunity to enhance yield you need to sample between early growth and before reproductive stages ie. flowering.

While I can say more about the benefits of tissue analysis, I suggest that you will learn best by trying it and seeing if the analysis matches your intuition about the crop in the field. My key points for how to use tissue analysis for management decisions are – target sampling from good and poor crop areas in the same field from the same crop variety and treatment; soil sample from the same area as you tissue sample; sample part or whole plants as early as true leaves are fully formed and before the reproductive stage; and use tissue analysis to compare crop treatments, product effectiveness and other management impacts

To summarize my final points for integrating fertility management into a "whole system"

- Find the most limiting factor. It's not always fertility.
- Focus your resources – time, energy, tools, money on the most limiting factor.

- Pay attention to (measure) what you value the most based on improving the most limiting factor.
- Profit based on a production focus is - Income minus Expense = Profit is a belief that expense is the most limiting factor with a lot of focus on manipulating income and expenses. Fertility is often considered an expense and a means to improve output.
- Management based on a profit focus is - Income minus Profit = Expense is the approach where you replace money (expenses) with management that allow nature to provide for free. Nature will do the "heavy lifting" and utilize services ie. multi species in cover crop or forage diversity provides services for other species such nutrient cycling, water cycling, carbon cycling, predator insect habitat, and flavour profiles for livestock and humans.

Enjoy an abundant and joyful summer.

~Ruth Knight

MONTHLY SPECIALS - 5% OFF

JUL Protein Feed
120 ml

Protein  Supplement

AUG Nutri-Mins
946ml & 3.79L

 **NUTRI-MINS**

SEP Bio-Lac Dry & Liquid
25kg, 1L, 4L & 20L

Bio-Lac

Base on product availability

Dates to Remember

Wed, July 1st
Bio-Ag Closed for Canada Day

Mon, Aug 3rd
Bio-Ag Closed for Civic Holiday



Wed, July 8th
CANCELLED: Customer Appreciation Day

Mon, Sep 7th
Bio-Ag Closed for Labour Day

Customer Appreciation Day

It is with sadness that Bio-Ag management has decided to cancel our 2020 CA Day. This is an obvious response to the current restrictions on large group gatherings resulting from the recent COVID-19 global pandemic.

Our decision is based on compliance with Regional mandates and our sincere desire to protect people-our valued staff, Dealer network, Vendors and guests.

We have held this event annually for many years. We promote it to be a family day; time to bring your family out to our site to relax, enjoy good food & fellowship with one another. We like to offer an opportunity for education, product highlights and savings. We think the Bast Farm organic beef-on-a-bun and Mapletons organic ice cream might be the biggest highlight of the day!

The many components of the day are our way of saying "Thank You" for your loyalty and patronage. It is our honour to serve you and continue to endorse Working with Nature~ Naturally.



Customer Appreciation Event 2020!

The July 08th on-site event is cancelled

This decision is made following Public Health guidelines, Provincial & Waterloo Regional restrictions around large group gatherings currently linked to the pandemic.

We will miss seeing everyone but are offering alternative ways to show our appreciation for your ongoing support and patronage

Event Details:

- Discount applies to one order/ account received at Head Office between July 6th-10th, 2020
- Available for Retail clients with current accounts.
- **Use code: CP0004 when ordering.**
- A method of payment must be confirmed at time of order: VISA & MC [2%] or E-Transfer [5%]
- Delivery or pick-up must be taken within 30 days.
- Watch for a thank-you gift with your order.

Bio-Ag Consultants & Distributors Inc
1.800.363.5278
orders@bio-ag.com
www.bio-ag.com

Wishing your family continued good health and a bountiful season.
~Your Bio-Ag Team

Bio-Ag Retail Accounts Receivables Policy

Bio-Ag continues to review our systems to provide the highest quality products and services for our customers.

Our Accounts Receivables are one of these areas. Most of the Bio-Ag's customers respect and operate within our current customer account terms. We would like to thank you for that.

Others need clarity of our policy. Please review carefully.

Current Accounts Receivable Policies

Bio-Ag's account terms are the following:

- Net 30 days of the invoice date
 - 3% discount applies on **current**, retail sales [\$50 min pre-tax & shipping] paid within 5-business days by method of: Cash, Cheque, Online banking or e-Transfer to: payments@bio-ag.com
 - MasterCard & VISA payments are accepted with no discount applicable

Account Statements are for reference purposes only; terms apply to individual invoices

- **Customers who pay back only the principal portion of an account with interest charges outstanding will be required to pay the interest charges before receiving their next order**
 - Note: payments on accounts in arrears will be applied to the oldest invoice(s) and finance charge(s) first.
- The 5% monthly Calendar special replaces the regular 3% early payment offer on these featured products [Please note the specific products and sizes as promoted in the Bio-Ag Calendar]
- Customer accounts with invoices that are:
 - **60 days** past due will be switched to a prepaid basis, until all outstanding overdue balances are covered including finance charges
 - **90 days** past due will not be permitted to purchase any more product, until all outstanding overdue balances are covered including finance charges.
- Bio-Ag charges a 2% per month [24% annually] interest charge to accounts that are 31 days past due.
- All sales are deemed to be final. Returns are rarely allowed due to Bio-security concerns. If allowed, specific criteria must be met, and a 10% re-stocking fee does apply. Contact Head Office for Return Policy details
- Any concerns relating to failure to receive product, incorrect quantity of goods or incorrect products must be made within 30 days of the invoice date. Failing to do so, the customer is deemed to accept the invoice as accurate [Please note a written notice of discrepancy may be required]
- Product remains the property of Bio-Ag until paid in full
- Returned cheques will be subject to a \$20.00 service charge + any additional bank charges
- All payments are to be made to Bio-Ag Consultants and Distributors Inc. and forwarded to the following address
 - Bio-Ag Consultants and Distributors Inc.
 - P.O. Box 189
 - 1400 Greenwood Hill Road.
 - Wellesley, ON
 - N0B 2T0

Bio-Ag has grown over our 38 years; this is due to all our valued clients. We appreciate your loyalty and support. If you have any questions regarding any of the above information, please feel free to contact me.

Fazal Ali
Controller
Bio-Ag Consultants & Distributors Inc
1-800-363-5278
fazal.ali@bio-ag.com
www.bio-ag.com



RECIPE CORNER

Refrigerator Bars

Submitted by: Florence Bast

Cook in double boiler for five minuets.

1/2 cup butter 4 teaspoons cocoa

1/2 cup white or brown sugar 1 egg

Remove from heat and add

2 cups graham wafer crumbs

1 cup coconut

1 teaspoon vanilla

Pinch of salt

1/2 cup nuts

Pour into greased 8X8 pan. Refrigerate until firm

Optional: cover with butter icing and then spread with melted chocolate chips.

**Keep in touch with Bio-Ag,
and let Bio-Ag keep in
touch with you!**



Bio-ag is proud to be part of the electronic / social media age.

We have some very informative and exciting videos on our You Tube channel. Please watch them when you can and feel free to subscribe to our channel.

We also have a Facebook page for both Bio-Ag Consultants and Norman's Naturals, as well as Twitter accounts (Bio-Ag and Norman's Naturals).

We post product specials and information, as well as sharing many interesting articles we think you'll enjoy reading. Please "like" and follow us so we can grow and share together.

PREMIUM DOG FOOD

Chicken Meal & Brown Rice Formula

NO CORN, NO WHEAT, NO SOY

Enhanced Formula



Norman's Naturals™



Do you have something you'd like to share in our newsletter - an event or a classified advertisement?

You can email your submission to nicole.kuyten@bio-ag.com Or mail them to us at P.O. Box 189, Wellesley, ON, N0B 2T0. Thank you!
Bio-Ag reserves the right to edit based on length & content