

# The Bio-Ag News!

Fall 2020 Edition

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## From The President

Greetings!

Around Wellesley the weather has been hot and dry. But we seem to have gotten rain when we needed it. I hope your weather has cooperated.

The past several months have been interesting, and not because of the weather. It does seem we are starting to adjust to the new normal and get back into a rhythm. Although for most of us farming, very little will have changed. The animals still need to be fed and the crops still need to be harvested.

Rather than dwell on challenges, I thought it would be worth spending some time thanking recent retirees and acknowledge some new additions to Bio-Ag. Over the past few months long-serving employees Ron Wagner and Rob McGonigle retired and Michelle Schuit left to pursue other opportunities. We've missed their trade-mark behaviours, but we are happy they have some time to focus on other interests and hobbies.

We have also added some new faces. Alex Wagler and Ralph Cressman joined the Bio-Ag team in March. Ralph has been doing deliveries for Bio-Ag and Alex joined us part-time and quickly moved to our full-time Production Lead. I would also like to recognize our long time dealer Jeff Campbell for his 20 years of service to Bio-Ag.

As school ended familiar faces Colby Switzer and Travis Poole rejoined us in "new to them" full-time positions in June and April.

We are delighted to be working with all of these talented individuals! Stay healthy and happy.

~Parry Bast, President





## Reminders For Fall - Soil Testing & Cover Crops

Following grain harvest is an opportune time to soil test. Sample fields right after harvest and before any manure applications. A sample should represent no greater than 25 acres. Break up larger fields into management zones or similar size chunks if previous soil sampling shows that it is fairly uniform. The sampling strategy can follow changes in topography or crop performance history; each sample will be a composite of 20 or more 6" deep soil cores. For more detail, contact Ruth 519 357 5224 email [organicconsultantinc@gmail.com](mailto:organicconsultantinc@gmail.com).

Right now is an opportune time to add cover crops to your rotation for added diversity and supporting soil health. Your choice of cover crops depends on what limiting factor you are trying to address like, adding more carbon or improving water infiltration. We still have a couple of months of growing days to capture more carbon from the atmosphere and cover soil for the winter. Avoid leaving soil covered over the winter. Try to aim for more than one species in your cover crop and balance legume crops with higher carbon grasses to transfer nutrients to the next crop.

have a safe harvest

~Ruth Knight

# Monthly Specials

## 5% Off

### October

#### Bio-Lac PLUS

Bio-Lac PLUS is a dry free-flowing product with a long shelf life

### November



**ALL SPECIES SPECIFIC BLENDS!**

Each blend is created with the individual species in mind

### December

#### BIOCHARGE

Supports feed conversion, water soluble ingredients, safe for new born calves

## Dates To Remember

- Sep 07: Bio-Ag Closed for Labour Day
- Oct 12: Bio-Ag Closed for Thanksgiving
- Dec 07: Pre-Christmas Deliver Order Deadline
- Dec 24: Bio-Ag Closed at Noon
- Dec 25: Bio-Ag Closed for Christmas Day
- Dec 28: Bio-Ag Closed for Boxing Day
- Dec 31: Bio-Ag Closed at Noon
- Jan 01: Bio-Ag Closed for New Years Day 2021

## 2021 January Seminar

As we approach autumn harvest season, Bio-Ag has been looking ahead to our annual January educational seminar.

Due to current restrictions of indoor gathering numbers, and the need to confirm hall rental, speakers and caterers several months in advance, we have had to make a decision in July.

**We regret to inform you that our 2021 Seminar is cancelled.**

Referring to Provincial and Regional forecasts, indoor gatherings will continue to be greatly restricted for many months to come.

We hope to offer some alternative educational options and are considering ideas at this time. Stay tuned for more to come!



# Fertility Problem Solving for the Dairy Herd

By Kathrine Stoeckli

**REVISED**

This is an overview of some of the causes of reproductive failure and strategies to help improve reproductive success in your dairy cow herd.

## Nutrition and Balancing the Ration

### Energy

Energy is the first thing to look for when having a herd wide problem with fertility. It is known that mammals put reproduction on their list at the very end when it comes to energy partitioning. So, it makes sense that a high producing dairy cow will take some time to regain enough body reserves and energy in order to begin cycling again. It is important that rations provide enough energy in order to resume timely reproductive cycling. A high percentage of wet feeds in the ration (this includes pasture!) can make it hard, especially in the summer, for the cow to achieve enough dry matter intake to meet energy needs. Inactive ovaries usually mean that energy levels are too low but ovarian cysts can also be a sign. Rule out other causes of cysts (e.g. high estrogen feeds, unbalanced grain and protein in ration)

### Excess Protein

Feeding excess protein will not only result in an increase in blood urea nitrogen (that is toxic to implanting embryos) it also increases the energy demand of the cow. The breakdown of protein requires the body to expend energy. Excess protein (especially soluble protein) can also occur when cows are pastured on lush pasture without enough fiber or energy.

### Phytoestrogens

Cows can be exposed to plant estrogens by consuming soybeans, red clover and alfalfa. Although a moderate amount of these foods can be beneficial, excesses can contribute to infertility. Growth conditions of these plants can also influence the amounts of phytoestrogens present in the plants. So you might have no issues one year and be scratching your head trying to figure out what you did different the next year.

Continued on pages 5-7

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4 by 5 round bales of corn socks

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## Minerals

**Phosphorous.** This mineral is low in many organic and grazing herds. The optimum Phosphorous level in a milking cow ration is around 0.4%. However, an excess amount of calcium in their diet (e.g. high legume pasture) will increase the need for Phosphorous. Cows with low Phosphorous in their bodies will show silent or delayed heats and will take a longer time to show their first heat after calving.

Trace minerals especially **Manganese, Zinc and Copper** are important for reproduction. Manganese plays a big role in the quality of the egg production in the ovaries.

**Selenium and Vitamin E** are important antioxidant precursors for optimal immune system cleanup of the uterus after calving. Selenium and Vitamin E also play a big role in preventing retained afterbirths. If the uterus didn't recover from the previous calving, then the new embryo will not implant or will die soon after.

**Iodine** plays a big role in fertilization. Also see weak or stillborn calves with deficiency. Teat dip iodine could interfere with proper utilization of dietary iodine.

## Heat stress

There are a few reasons why there appears to be a summer slump in fertility. The main one is the summer heat and the effects the high temperatures have on the cow's body. Heat stress not only suppresses the cow's drive to show a good heat, it can also reduce embryo quality if the cows cannot cool themselves. Not to mention, when cows are hot their feed intake is decreased leading to a global energy deficiency in the body. To mitigate heat stress, it is sometimes necessary to use fans, sprinklers, shade and such to keep cows cool and to feed smaller amounts more often and at times of the day when it is cooler. You can use homeopathic Belladonna in the water on those hot days to help mitigate the negative effects of heat.

## Homeopathy

Some useful homeopathics include the following:

**Lachesis** for right sided cysts, **Apis** for left sides cysts

**Sepia and Pulsatilla** can be used for cows that don't show heats. Think of using **Sepia** on cows that have a "worn out" look and potentially a sagging udder and weak legs. Use it for those cows that have a floppy uterus. The **Sepia** cow may also show indifference to her calf and dribble urine. Think of using **Pulsatilla** for younger cows and heifers, gentle cows with a slim build. Pulsatilla cows may have problems with retained placenta and white discharge and sometimes struggle to let down their milk.

**Sepia and Pulsatilla** can also be used in the water for the whole herd to help with fertility.

**Iodum** can be used when the vet diagnoses a cow as having small ovaries

**Folliculinum** is for the cow that isn't cycling on a regular schedule. It helps regulate her hormones.

**Pulsatilla** can also help prevent breech births. See the next paragraph!

Using **Homeopathics Pre-fresh and at Calving** can help prevent problems down the road...her experience at calving time plays a big role as to how quickly she will return to estrus and become pregnant again with her next calf.

I have seen great benefit using **Pulsatilla** and **Caulophyllum** in the last month of pregnancy to help "prime" the cow and her uterus for calving. Adding each remedy to the water once or twice during the close-up period should be a sufficient starting point if calvings are usually easy and problem free. Increase dosing frequency if calvings are difficult or delayed. Once in or near labour **Pulsatilla** and **Caulophyllum** can help to speed up the process. **Caulophyllum's** main action is on the uterus to help contractions. Think of using it when she has stopped pushing (also remember she may also need some calcium). **Pulsatilla** seems to work when a cow seems like she should have progressed but not much has happened, for example she has been leaking milk for hours.

After calving, use **Pulsatilla** and **Caulophyllum** to help expel the placenta. **Bellis** and **Arnica** to help her body recover from the process of giving birth. I just put these remedies in the bucket of warm water that I bring the cow after she has calved. The calf will benefit from **Arnica** as well, especially if it was a hard pull and there was some trauma.

## Herbs

**Nature's cycle (Dr. Paul)** and **Heat Seek (Dr. Karreman)** are two herbal supplements that I have experienced success with for cows. Both are indicated when a cow isn't showing heats or is a repeat breeder. However, if there is an infection in the uterus then these two products will not help. Use **Caulophyllum** tincture orally and Protein Feed intra-uterine infusion to help clean up that uterus first. **Caulophyllum** tincture works to contract the uterus and expel infections.

Use her heat to help clean up that uterus and hopefully by her next heat she will be ready and clean for the embryo to implant.



### Think back to her last Calving

As mentioned previously, a cow will not conceive if there is an ongoing low grade infection in her uterus from her last calving. This doesn't necessarily mean that she will appear "dirty" and you see the infection, but it is there. It is just like a festering wound that doesn't heal. The immune system oversees the clean up the uterus after calving to ensure successful implantation for the next calf. A depressed immune system means this process will be delayed.

The immune system is influenced by management stress, oxidative stress and sources of inflammation. Most fresh cows are in a negative energy balance, which means competition for resources that take away from immune function. The first line of defense in the body, and the cells responsible for cleaning up the uterus are called neutrophils. Most fresh cows have neutrophils with reduced responding abilities, especially the ability to kill pathogens. Neutrophils need antioxidants (like vit E and selenium), glucose and calcium. Ketones and perceived stresses also inhibit neutrophils. Neutrophils are most important to prevent infection of uterus.

Neutrophils use glucose as fuel but the mammary gland wants glucose too. Neutrophils also need calcium to function well. So here is where fresh cow management and nutrition are very important. Cows need calcium already two weeks before calving.

So now you can understand the broader picture when it comes to fertility. Calcium, selenium and vit E, and proper management of fresh cows to reduce stress and optimize feed intake are very important for future fertility.

### Sources and Additional Reading:

- Dr. Karreman's "Treating Dairy Cows Naturally"
- Dr. Paul Dettloff's "Complete guide to Raising Animals Organically"
- Homeopathy at Wellie Level books

As always, I am available to answer questions and do farm consults! Call the office or email me at [kathrine.stoeckli@bio-ag.com](mailto:kathrine.stoeckli@bio-ag.com)



# Recipe Of The Season

## Mini Zucchini Pizzas

### Ingredients

Zucchini - large size  
Oregano  
Basil  
Garlic  
Bell Peppers

Black Pepper  
Tomato or Pizza Sauce  
Shredded Cheese  
Pepperoni  
\*all toppings can be substituted based on personal preference

### Directions

Preheat oven to 325  
Wash and dry zucchini.  
Layer cookie sheet with parchment paper.  
Slice zucchini in ¼ in or 5cm slices and lay close together on parchment lined cookie sheet.  
Sprinkle spices over each slice.  
Spoon tomato/pizza sauce onto each slice of zucchini.  
Sprinkle shredded cheese onto tomato sauce.  
Top with pepperoni/toppings.  
Bake 15 minutes.  
Enjoy!

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