Forage Advisor

TerraLink Horticulture Inc.

June 2010

Dairy Innovation Day
Register before June 16th

Updates

Fertilizer Pricing

Spring prices for fertilizer remained mostly flat from February thru May. Demand for nitrogen, phosphate and ammonium sulfate was high enough to push most manufacturers to a sold out or near sold out position. Typically the beginning of June sees discounting at the manufacturer's level which has not yet occurred. This is due to a late finish to the Prairie planting season and high topdressing demand in large markets. Demand will continue until the middle of June after which prices are expected to soften, particularly nitrogen and sulfur products. Phosphate is expected to hold its pricing for a while longer than nitrogen. Potash does not follow the other nutrients trends and is likely to stay flat.

Register Now for June 16th!

Dairy Innovation Day

Register now for Dairy Innovation Day June 16th, 2010 (10AM to 2PM) at the UBC Dairy Research & Education Centre in Agassiz. $20 includes BBQ lunch ($25 at the door). Producers from all over BC are invited to attend a 'speed learning' morning to learn about innovations in the dairy industry. Find out about ongoing research and how to implement it on your farm! Topics include: • Forage Varieties • Robotic Milk Feeders • Livestock Transportation • On-Farm Anaerobic Digestion • Feed Mixing Management • Lighting for Growth & Production • Implementing the New Dairy Code of Practice • Cull Cows (Composting, Disposing, Transporting)

Register online at:
www.bcmilkproducers.ca/DairyInnovationDay

Nutrients Explained

Better Forage

Magnesium and sulfur are typically too low these days. Phosphorus and potassium are changing too.

Forage crop producers tend to get most of their nutrients from manure these days and top up with Nitrogen and Sulfur as needed. This is fundamentally a good, least cost of production model and makes a lot of sense. Some things tend to get overlooked though.

Magnesium is rarely applied to forage crop soils which is not good seeing the soils are typically not well supplied. Magnesium is the most important element in the chlorophyll molecule in all plants. Chlorophyll makes the plant green and darker green than one expects when it is well supplied. Chlorophyll is central to making the little engine work that drives the nutrient production factory in plants. Limiting chlorophyll limits how much protein, carbohydrate, etc. that the plant can generate. Magnesium is not very expensive, just a bit more per unit nutrient than nitrogen and sulfur.

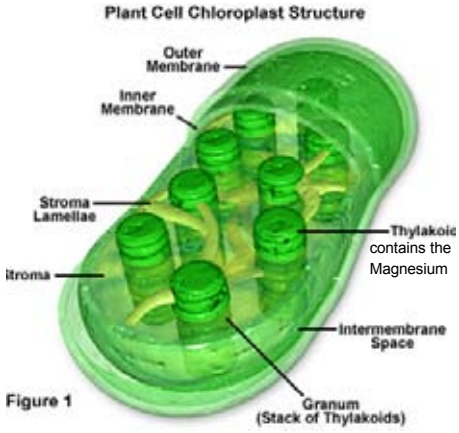


Figure 1

Sulfur tests are also trending low in most soil tests run on forage crops. Forage crops are basically taking out everything we apply. Little is lost to leaching. Growers are advised to put sulfur on every time you fertilize. Using straight urea is not the best thing. Don't worry about the sulfur you apply acidifying the soil too quickly. The amount of sulfur needed by the crop is small in comparison to what it would take for sulfur to unduly acidify the soil.

Phosphate tends to be quite high in a lot of soils, mostly from a combination of years of fertilizer application plus manure sources. In the last decade phosphate use from fertilizer has declined to compensate. It would seem that the 'bank' of phosphorus retained in the soil is coming down now after many years of reduced use. It is not down to moderate or low levels yet, but the trend is downward.

Potassium is rarely applied as a fertilizer to forage producing soils as dairy farmers typically want lower potassium levels in their feed. After two decades of reduced potassium use we now see a definite trend to moderate and low potassium soil test results. Quite surprisingly we have recommendations with potassium included. Some soils are so low that it definitely is affecting winter hardiness and disease resistance of the crops.

Time to Apply Mg with S

The changes in phosphorus and potassium are not to the same extent as magnesium and sulfur. At this time we feel quite strongly that summer / fall fertilizer programs should include sulfur in every application and magnesium

should be applied a couple times a year. **Don't apply straight urea** as you are most likely missing out on value for your crop. Below is a recommended formula and cost difference comparison.

Summer Forage Mg Blend 38-0-0-5.5S+3Mg

How to measure the cost of nutrients when using blends

Use the $ Cost per acre and $ Cost per nutrient analysis per acre method to get an accurate cost comparison. Otherwise it is difficult to get the real picture.

To get $ Cost per acre per unit of analysis, take the $ per acres for the blend and divide by the total analysis of the blend (which in this case is derived from 38+5.5+3= 46.4).

Summer Forage Mg Blend 38-0-0-5.5S+3Mg cost comparison to 40-0-0-5.5S

- Using May 31st pricing (will be dropping when prices drop later in June). Based on applying 65 lbs/acre of actual N after a cutting forage grass.

38-0-0-5.5S+3%Mg

Has a total analysis of 46.5. This blend will cover 12.8 acres to get 65 lbs of N/acre at 172 lbs/acre. The total cost per acre is $48.96. You are spending $1.05 per acre per unit of analysis.

40-0-0-5.5S

Has a total analysis of 45.5. This blend will cover 13.6 acres to get 65 lbs of N/acre at 162 lbs/acre. The total cost per acre is $41.74. You are spending $0.91 per acre per unit of analysis.

The grower is spending an additional $7.22/ acre to get 5.2 lbs/acre of magnesium. This represents good value for any forage grass stand growing in soil that has moderate to low levels of magnesium. For soils with high magnesium you will likely not have a response and would find a better return on dollars spent with other inputs.

PSNT

Sidedressing May Be Required this Year

Why? – Conditions this spring have been ideal for loss of nitrogen for your corn. The soluble nitrogen we are used to having in our soils at this time may be gone. With all the rain we have been having the nitrogen could have leached away or denitrified. Denitrification is a process that occurs when the soils become saturated with water causing Nitrogen to change form and be lost to the atmosphere as a gas. If you want to see an example take a look at your grass, the spots where it is light green have probably had saturated conditions and the nitrogen was lost.

How? Plan for a PSNT test (Pre-Sidedress Soil Nitrate Test). A quick PSNT test will tell you how much nitrate is in the soil for your corn and how much may be needed to achieve top yields. Two day turnaround is generally available for your results.

When? Test for nitrogen when your corn is 8 – 10" tall (6 leaf stage).

Sidedress Fertilizer nitrogen recommendations based on the PSNT:

PSNT test value (ppm)	Sidedress N Rate (kg N/ha)
25 or higher	0
20 - 24	30
15 - 19	60
10 - 14	90
less than 10	120

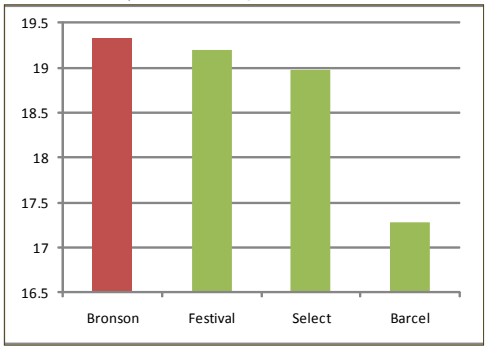
Plan ahead and our Plant Science Lab (PSL) at Terralink will get a PSNT done for you when required.

Better Feed

Yield and Texture Make The Difference

Bronson Tall Fescue

Bronson outyields the competition.



Bronson TF blended with the CMV resistant orchardgrass varieties AC-Cheam and AC-Chilliwack will outyield and provide better texture and palatability than any other combination grown in Coastal BC.

Bronson is endophyte free, has softer textured leaves than most varieties and withstands tough growing conditions including grazing, drought, and heat. **Bronson** is a high yielding variety that had the highest palatability rating in Wisconsin grazing studies. **Bronson** is best suited to high fertility and heavier soils. It withstands acid, alkaline and poorly drained soils. **Bronson** should be first harvested in late boot stage for high quality. Do not overgraze below 5-6 inches or cut too close.

Avail

Get The Most Out Of Your Phosphate Fertilizer

Avail – keeps phosphate fertilizer available for your plants to use longer.

The Problem

Typically up to 70-90% of the phosphate fertilizer you apply gets tied up in the soil and does not get used by the plant. You can't escape the problem.

The Avail Solution

Avail increases your fertilizer efficiency by surrounding the phosphate with a protective polymer that keeps it available to your crop for the growing season. Fraser Valley soils are generally high in phosphorous but when the plants are tested for P using tissue samples they are often less than optimal or deficient. Using Avail will help overcome soil tie-up and get the P into the plant. Results show a potential yield increase of 10-15% over untreated crops. If a yield increase is not in the works, then using Avail allows you to use less product which will allow you to lower your fertilizer cost producing savings greater than the cost of Avail and you will be making things better for the environment.

High P Soils Are A Problem

Our soils are getting saturated with P (that is plant unavailable P) and will or are already starting to leach and cause environmental issues. Reducing the amount of P applied to cropland is a big issue of growing importance. Avail allows the reduction in use without

limiting yield potential. Avail has been used for several years in the Pacific North West of the USA and is now registered in Canada.

How To Use Avail

TerraLink will apply Avail to your phosphate fertilizer during our blending process. It's as simple as that.

Trial Data

Below is data on various crops showing yield increases. Avail works no matter what the crop. Take a look at this data:

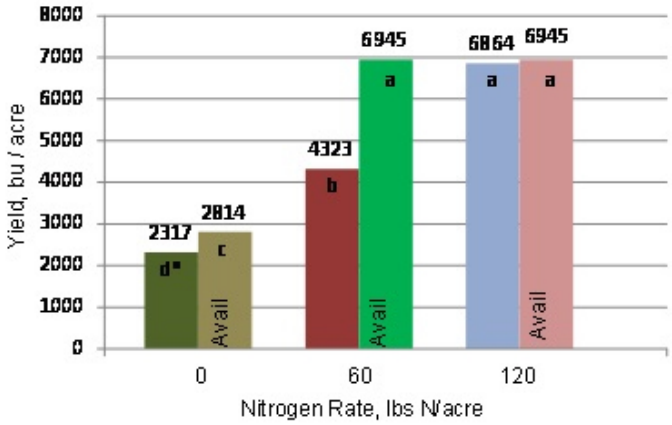
Avail Sweet Corn Trial

Albany, Oregon – (JA), Chehalis Silty Clay Loam; pH: 5.6-5.8 Very high initial soil P level Sidedressed with 280 lb of urea/ac. Planted June 30, Harvested October 13 2009

	Starter Fertilizer Brand Rate/ac	Yield tons/ac	Gross Margin $/ac	Avail Advantage $/ac	Benefit to Cost Ratio
10-32-10	450 lbs	9.03t	$ 1,324.94		
10-32-10 w/AVAIL (+$21.00/ac)	450 lbs	11.8t	$ 1,641.76	+ $ 295.82	15:1
11-28-10 w/AVAIL (+ $ 21.00/ac)	450 lbs	9.78t	$ 1,435.68	+ $ 95.45	5.5:1

Avail Grass/Forage/Hay Trial

Effect of Avail on bromegrass production when applied to diammonium phosphate at 30 lbs P_2O_5 per acre with three N rates in Kansas (Barney Gordon, 2007-2009)



Avail Onion Trial

Look at the large increase in biomass of the onions.
*GSP –growers standard practice

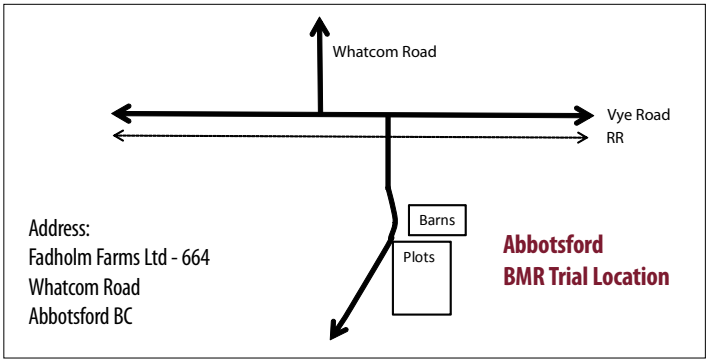
Fall Field Day

Introduction of BMR silage corn into the Fraser Valley

Dow AgroSciences Mycogen SEEDS

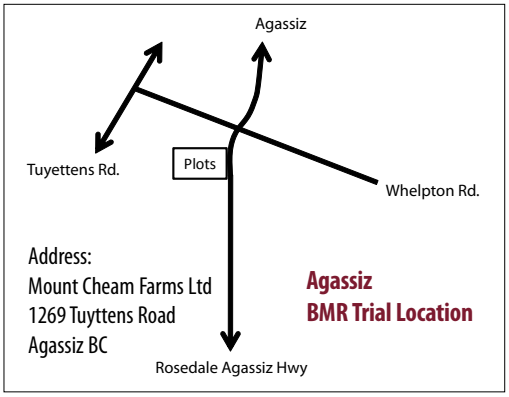
Brown Mid Rib (BMR) is being grown in 4 locations this year in the Fraser Valley. This corn has proven itself in other dairy markets, increasing milk production, cutting feed costs, and improving herd health. These are only some of the benefits of this corn.
Mycogen Seeds is the premier supplier of industry-leading Silage-Specific™ BMR corn hybrids that maximize your milk production like nothing else. These award-winning hybrids offer the latest advancements in agronomics and are bred specifically to deliver both high digestibility and more tonnage — leading to maximum milk production and a higher return on your investment. With lower lignin content, these hybrids give you the highest fiber digestibility and higher dry matter intake. The result is more milk, and ultimately, more profit for your dairy.
Sixteen university and independent scientific reports published since 1999 show cows fed BMR hybrids produced an average of 4.8 pounds more milk per cow per day than cows fed non-BMR hybrids. Silage-Specific BMR hybrids have up to 40 percent less lignin than conventional hybrids. With a 10 to 14 percent increase of digestible fiber, BMR hybrids allow for increased dry matter intake and higher-forage diets, which make more nutrients available to the cow for milk production. They also allow for lower grain feeding which improves rumen health and lowers the risk of acidosis.

More information on BMR corn:
The website below answers many questions and has testimonials from several producers that have made the switch: http://www.dowagro.com/mycogen/silage



This fall attend our annual field days and see BMR corn first hand.

Coming in mid to late September is an Open House / BBQ to view Terralink Seed Trials.
Give Lorne Campbell a call in early Sept for more information as to the date and time of the Open Houses at the two locations.



Pest Control

Fly Parasites

FLY SEASON is here! You may have just a few flies around now, but with warmer weather coming, the numbers will increase exponentially. One female fly can lay upwards of 900 eggs in a month. If you have 1000 flies laying 900 eggs, you'll have close to a million flies within a month, and it keeps going! Several studies have shown negative economic impacts on agricultural operations including lower meat, milk and egg production that are directly attributed to fly related stress on the livestock. As well, biting flies can transmit blood borne diseases and pathogens.

Fly control is a three step process: manure management, biological control and chemical control. Combined, these three components have proven to reduce fly populations to tolerable levels or lower.

Manure Management:

Female flies require moist manure to lay their eggs. If there is a 'crust', the fly will not lay eggs but instead, search for a more suitable location. Keeping your manure in a pile reduces the surface area for flies to breed. Another method is to spread the manure thinly over fields. The manure dries out quickly and, if no moisture, the flies cannot reproduce.

Biological Control:

Scheduled releases of fly parasites help to eliminate developing fly larvae. The reduction in emerging flies is critical in breaking the reproduction cycle. The fewer the number of adults that hatch out, the fewer adults to lay eggs, the fewer larvae to parasitize and your fly problem is greatly reduced. It is easier to prevent an increase in fly numbers than it is to get control of a well established fly population!

Chemical Control:

Involves the use of fly baits and traps. Fly baits, as opposed to chemical sprays, are localized and target only flies and do not interfere with biological control programs. Chemical sprays and fogs will kill most flying insects and will have a negative impact on the fly parasites. As with all chemical treatments, the flies will become resistant to chemicals over time.

Upon arrival, the fly parasites will be close to hatching from the fly pupae. Once hatched, they will immediately search for fresh fly pupae in which to lay eggs. The female fly parasite lays up to 50 eggs during her life that lasts, depending on climatic conditions, from 2-3 weeks. **DO NOT** put the package in the refrigerator, this will kill them! The fly parasites move around in a 100 yard radius in search of fly pupae and will even burrow into the breeding site. Release in and around manure and manure piles.

Keep an eye on the fly population. As the numbers increase as the days get warmer, it is advised to also increase the release rates of the fly parasites. It is easier to stay on top of the pest, rather than try to play "Catch-up".

Remember, fly parasites are a long-term solution to fly problems, not a quick fix. They take time to establish, so don't wait until you're overrun with flies before you start!

Contact Cody at Terralink Horticulture Inc. to discuss your fly control program pricing and recommended release rates for the upcoming season.

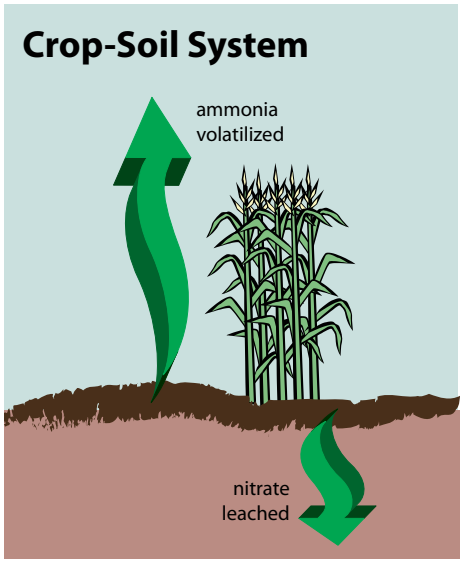
Save Money

Combat High Nitrogen Prices with Agrotain

AGROTAIN®

Although Agrotain has been in the market for several years, most producers continue to think of it only as an additive to liquid nitrogen that reduces the potential of burning in forage grass stands. Agrotain is more than this. Because it delays the conversion of urea to ammonium and ammonia, more nitrogen is taken up by the crop and less is lost to volatilization. This has two benefits: less atmospheric pollution by ammonia and less money is lost.

When you topdress nitrogen you can lose money two ways. The first is volatilization of ammonia to the air, and the second is leaching of nitrate. Ammonium converts to nitrate which is vulnerable to leaching. So, if you think of a planted crop as a closed system, ammonia volatilizing out the top and nitrate draining out the bottom represent net losses to you of money.



Here is how Agrotain works: it contains a compound that inhibits the activity of urease, an enzyme involved in the hydrolysis of urea to ammonia and carbon dioxide. This puts this part of the nitrogen cycle "on hold" for up to two weeks, thereby keeping more nitrogen sustained in a usable form for your crop. Agrotain is impregnated onto either granular urea or liquid UAN right at TerraLink in Abbotsford. Worse in warm conditions, surface-applied urea can lose 30% of the nitrogen in the first three days following application.

What does it cost? Using the five to seven day rate, Agrotain costs about $2.05 per acre for 40-0-0+5.5(S) applied at 150 lbs per acre. Compared to a potential loss of 30% of the nitrogen at a cost to you of about $15 per acre, it seems an obvious choice to use the Agrotain. While the cost of nitrogen has increased significantly along with other nutrients, the cost of Agrotain is still about the same. That's a fivefold return on your money.

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Let us direct You to a dealer near You.

TerraLink