



# Forage Advisor

TerraLink Horticulture Inc.

Fall 2013

## Silage Corn

### Mycogen BMR Corn

The experiences and findings of local dairymen and nutritionists prove that Mycogen BMR Corn is bred for maximum digestibility, high milk production and yield.

BMR (brown midrib) corn silage seed has a naturally occurring gene mutation which results in less lignin in the corn stalk. Less lignin means that there is higher fibre digestibility. Higher digestibility translates into higher dry matter intake (DMI) and more milk. Milk production results are proven in 16 lactation trials published since 1999, averaging 4.8 more pounds of milk per cow per day.

In the past few years several local Fraser Valley dairy farmers have grown and tested BMR silage corn on their herds. What the general finding over all of the farms was that the cattle eating BMR were fed less barley and more straw or other roughage.

**George Dick** of Dicklands Farm planted 85 acres in 2012 to try BMR, and they saw a significant increase in milk production when feeding BMR. A nutritionist has helped them balance their feed rations but the main thing they noticed was the reduction in barley in their feed. The BMR corn seed may cost slightly more but the yield is close



to conventional silage corn and they save on their other feed costs. They think that BMR corn is a perfect fit for high producing herds because it lowers the overall concentrate levels in the ration.



George Dick with Lorne Campbell

**Tony Neels** last year planted 12 acres and this year planted 15 acres again. He too noticed a significant reduction in grain intake by his herd; he figured about 15% less. His average milk per cow also increased by 5 – 10 lbs. He feels that BMR corn will help offset the increase in commodity costs such as barley. The issue Tony had with feeding straight BMR was that his cows were very loose. This year he is going to try and mix the BMR and non-BMR in his bunker at 50/50 to help with this issue. Tony hopes by changing his management slightly he can overcome this issue.

**Dick, Jonathan and Nathan Kleingeltink** of Klein Valley Farm planted 5 to 6 acres of BMR corn in 2012. This year they have 20 acres planted. They planted at the higher rate of 32,000 plants per acre and hope to harvest near the end of September.

Last year they fed their herd a mix of conventional and BMR corn. Their protein and milk fat were higher which they thought may be due to the BMR. The lab results from 2012 showed a digestibility of 76 – 77%. They are interested to see if the results are the same this year. They are going to try to feed a select group of cows the BMR corn to measure the results. They added about 20% more nitrogen with conventional fertilizer and turkey manure as research shows BMR corn requires a bit more nitrogen when in the field.

**Mike Boer** of Harborace Holsteins also grew BMR corn in 2010 but gave up his seed to another grower the next year. He recalls that the yield was good without any yield drag. He kept the BMR silage in a separate bunker. His cows may have milked better and as it was a few years ago he can't recall, but feed analysis results from the year he grew BMR show that at 30 hours digestibility the BMR corn silage had 80.2% NDF as compared to the conventional corn with 60.5% NDF. The higher the digestibility, the less "waste" that is passing through your cow. The percentage of crude protein in the silage samples were 7.4% for BMR and 6.5% for the conventional corn. The higher the protein the less protein supplements you need to feed your herd. This lowers input costs.

**Baarsview Dairy** had similar results when comparing BMR corn with conventional corn silage. The measurement of %NDF at 30 hour digestibility for BMR corn was 70% and conventional corn at 57.6%. Crude protein was 7.4% for BMR corn and 7.1% for conventional corn. "If we could get lower CHU we would grow BMR again."

*Rooted in your community.*

**TerraLink**

A local Dairy nutritionist, Brian Janzen remarked that BMR corn silage is excellent from a nutritionist's point of view, citing a definite increase in dry matter intake and milk production while decreasing the total grain fed. He feels that the only limitation is the land base needed to grow enough yield for a full year's feeding. If your BMR corn silage yield is 5% lower and the cows eat 10% more corn sludge that can be a challenge to have enough corn silage from the same land base. Brian says he prefers BMR corn over non-BMR corn and there are no problems nutritionally. In 2010, the first year Bakerview Eco Dairy grew and fed BMR corn, the cows milked great even though the corn was still quite wet when harvested, as it still had high starch values and 30 hour digestibility percentages. Bakerview Eco Dairy, which is one of Brian's clients, grew BMR corn over three seasons and will likely try it again in 2014 with a lower heat unit variety. He suggested that other Fraser Valley dairy farmers with a large land base give BMR a try in the coming years as acreage is the only limiting factor to feeding year-round and getting excellent results.

Lorne Campbell has worked with eight different dairy farms over the past three years to see if Mycogen BMR corn has a fit here in the Fraser Valley. He feels that while there are challenges with BMR, great rewards can be reaped if the suitable conditions exist. The following limitations should not be overlooked: You will need a larger land base for your herd size; silage chop length

needs to be extended over regular corn, and the lowest CHU variety available is 2,600. However, Mycogen BMR can help you achieve:

- higher milk production
- improved milk quality
- lower barley consumption
- higher profits

If you would like a one-on-one consultation regarding Mycogen BMR corn and its fit with your diary with Lorne Campbell, please call 604-308-2134.

is not instant, especially if the limestone is not incorporated. Typically several months pass before the biggest change in pH takes place. If limestone is applied in the fall the pH should be increased just in time for fertilizing time in the spring.

The second reason for applying limestone in the fall is time. The fall is typically drier than spring so fields are better able to handle the weight of spreading equipment without damaging the soil. Application can be timed right after the last cut of grass or directly following corn harvest. Also, bad weather in the spring with wet soils often means we can't get to all the orders in time prior to planting. Inevitably, some are cancelled and yield and quality may be compromised. It makes far more sense to do some of the spreading in the fall when we can quickly drive across dry fields. For Terralink, this means less overtime, too!

Third, the price of limestone applied in the fall by TerraLink is cheaper than this spring! (*Limestone spreading by TerraLink is only available in the Fraser Valley*).



*Our Terragator spreading limestone.*

## Silage Corn

### Hyland Corn: A Proven Performer

Despite all the changes in seed technology, producers have learned one thing they can count on is constant high performance of Hyland corn seed. It's time to start thinking what variety to choose for the 2014 season.

Check out the data below, taken from the Pacific Field Corn Association's 2010 trials in Abbotsford, Agassiz and Armstrong. Pick Hyland. A proven performer.



Company	Hybrid	Heat Units	Dry Matter (%)	Grain (%)	Standard Yield (t/ha)	PFCA trial site
Hyland	HL SR35	2700	23.3	36.9	17.6	Agassiz
Syngenta	N33R-GT	2800	25.5	39.2	14.8	Agassiz
Maizex	LF881RR	2700	24.8	34.5	17.3	Agassiz
Hyland	HL SR35	2700	37.8	37.5	18.7	Armstrong
Elite	Muranorr	2550	37.4	48.6	18.9	Armstrong
Pioneer	38H06	2700	39.6	47.2	17.8	Armstrong
Elite	Matrix	2550	23.7	45.5	17.9	Abbotsford
Elite	Muranorr	2550	23.1	43.9	17.8	Abbotsford
Maizex	LF753	2350	25.9	48.3	17.9	Abbotsford
Hyland	HL R219	2375	25.2	46.2	18.7	Abbotsford

## Toxic Weeds

# Giant Hogweed – Don’t Touch!

This toxic weed is hard to miss. Originally introduced from Asia, Giant Hogweed is now on the Invasive Plant Council of BC's "most unwanted" list<sup>1</sup>. The plant is significant, bold, striking, enormous – and dangerous. It is likely to be found in uncultivated areas, disturbed ground, ditches, riparian areas and moist pastures. The danger exists because the sap of the plant contains phytotoxins that cause severe and painful burns upon contact with skin in the presence of sunlight. The scars from resulting welts, rashes and blisters can be so bad that they may persist for several years. If sap gets into contact with eyes it could cause blindness. Handling of the plant or its parts is therefore extremely hazardous. It can be found in the Lower Mainland, Fraser Valley, Gulf Islands and lower Vancouver Island<sup>2</sup>.

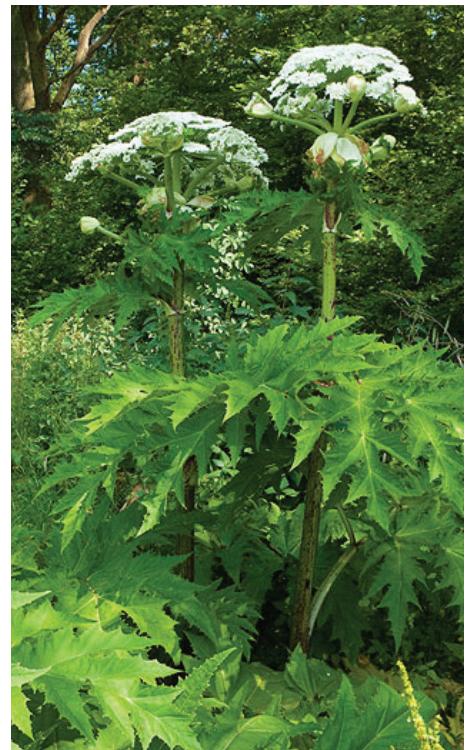
A member of the parsley or carrot family, Giant Hogweed, or *Heracleum mantegazzianum*, is primarily known for its distinct size, growing up to 5 metres in height. White flowers are in dome or umbrella-shaped clusters (this formation of flowers is called an 'umbel') that may be over a metre in diameter. Plants may not flower for a few years, then bloom in summer after which the plant dies off. Leaves may grow to over a metre across, are shiny, deeply divided like a maple leaf with very saw-toothed edges. The stems are hollow with dark red or purple blotches, and contain bristly hairs<sup>3,4</sup>. Giant Hogweed is similar in some ways to a related plant; Cow Parsnip. A comparison chart can be found below.

### Comparison: Giant Hogweed vs Cow Parsnip

	Plant Height	Leaves	Surface Hairs	Flower Heads
<b>Giant Hogweed</b>	Up to 5 metres	Shiny, over a metre across, deeply divided	Stiff, bristly hairs	Over a metre across
<b>Cow Parsnip</b>	Up to 2 metres	Not shiny, smaller, in 3 lobes	Soft hairs	No more than 20 cm across

If you believe you have Giant Hogweed on your property please contact the Invasive Plant Council of BC at 1-888-WEEDSB or [www.invasiveplantcouncilbc.ca](http://www.invasiveplantcouncilbc.ca).

*This is just one of our series of toxic weeds. For the others, enter "toxic weeds" in the search bar on our website at [www.tlhort.com](http://www.tlhort.com), or call our sales desk at 1-800-661-4559.*



### References:

- 1: <http://www.invasiveplantcouncilbc.ca/invasive-plants/invasive-plant-watch>
- 2: Giant Hogweed: National Fact Sheet. Compiled by the National Invasive Species Working Group.
- 3: [http://www.anpc.ab.ca/wiki/index.php/Heracleum\\_mantegazzianum](http://www.anpc.ab.ca/wiki/index.php/Heracleum_mantegazzianum)
- 4: Giant Hogweed (*Heracleum mantegazzianum*) Fraser Valley Regional District.

## Soil Conservation

# Winter Cover Crops

### Why Cover Up? The Fundamentals of Winter Cover Crops

On dairy farms and ranches, fall cover crops are planted to provide soil cover and protection during the winter months and an early spring cut of feed. Cover crops serve multiple functions in sustainable cropping systems, by having important effects upon the soil, such as preventing soil erosion, improving tilth, structure and fertility, reducing movement of nitrates into groundwater and contributing to the management of weed, insect and plant pathogen pests.

### Soil Loss Due to Wind & Water

Wind erosion physically removes the lighter, less

dense soil constituents such as organic matter, clay, and silt. These are the most fertile parts of the soil and losses will eventually result in lower soil productivity. Cover crops reduce wind and rain impact on the soil surface and bind soil particles together. When rain falls faster than the soil can absorb it, the surface soils reach a saturation point, and if the land is sloped, the excess water begins to flow downhill. As the water flows, it breaks off and moves small soil particles. This process can start with a small rill and develop into a large gully, with possible losses of many tonnes of soil.

### Benefits of Cover Crops

Winter legume cover crops, such as vetch, can fix up to 200 lbs of nitrogen per acre. Cover crops also add organic matter which stimulates beneficial microbial growth and accelerates the formation of soil aggregates. Improved soil structure improves

aeration, water infiltration and holding capacity. Grass cover crops, because of their ability to become quickly established in the fall and establish an extensive root system, have shown to be more efficient than legumes at capturing soil nitrates and preventing late fall and winter leaching into the ground water.

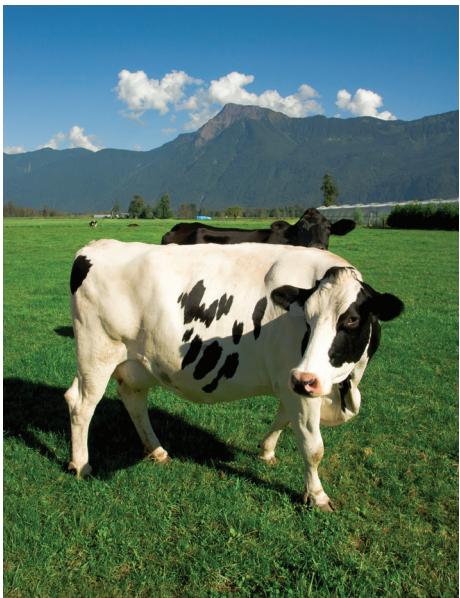
### Which Cover?

Ideal fall cover crops grow quickly under cool fall conditions. Choose a cover crop that is from a different plant family than the crop that follows to break any disease or pest cycles, and will not have any toxic effects on the following crop. Select relatively inexpensive seed that is easy to establish and that fits into your cropping system.

Popular cover crop seed available at TerraLink Horticulture includes Italian ryegrass, winter wheat

or triticale to give you a high feed value cover crop for your first cut in the spring. You can also use fall rye to extend your manure applications this fall while still improving your soil quality.

Some information in this article is from the Abbotsford Soil Conservation Association (ASCA) Winter Cover Crop Factsheet written by: Marina Gibson, P.Ag. The full article can be found by contacting ASCA at <http://www.abbotsfordsoilconservation.com>, and also at [www.tlhort.com](http://www.tlhort.com) under the Latest News section on our main page or on the Forage page. For other cover crop options visit the TerraLink website Seed section or call your sales representative.



## Plant Science Lab

## Soil Testing

In both forage grass and silage corn, a soil test every couple of years is sufficient. Given the low cost per acre and the value of the information, it doesn't make sense to stretch it longer than that. For example, a Standard test package costs \$49.95, which spread over a 10 acre field is \$4.99 per acre. Over a 30 acre field the cost is only \$1.67 per acre.

A Standard test package at TerraLink's Plant Science Lab includes pH, organic matter, salts, nitrate-N, phosphate, potash, sulphur, magnesium, calcium

and base saturation. Although this is sufficient, it doesn't hurt to check micronutrients every 5-6 years too. Even though grass and corn typically don't respond to applications of micronutrients in the Fraser Valley, you wouldn't want your crop to suffer in yield or quality because a minor nutrient is a little low. The Detailed test package is more expensive, but also includes sodium, zinc, boron, copper, manganese and iron.

Fall is the best time to soil test. Why? Several reasons: Except for nitrogen and sulphur, most other nutrients won't leach over winter so what is tested in the fall will generally be present in the spring. Second, both the labs and the folks who conduct soil testing are less busy than they are in the spring. Last, fall testing allows you more time to apply limestone, should the soil test indicate your field has become too acidic, as it is always drier in the fall.

## Forage Varieties

### Festulolium

TerraLink offers 2 certified premium DLF Festulolium varieties: "Lofa" (Ryegrass-type) and "Fojtan" (Tall fescue-type). Call 800-661-4559 to find out how Festulolium could be the ideal addition to your fall planting program.

Festulolium is the name for a hybrid forage grass developed by crossing Meadow Fescue (*Festuca pretense*) or Tall Fescue (*Festuca arundinacea*) with Perennial Ryegrass (*Lolium perenne*) or Italian Ryegrass (*Lolium multiflorum*). This enables combining the best properties of the two types of grass.

The fescues contribute qualities such as high dry matter yield, resistance to cold, drought tolerance and persistence, while ryegrass is characterized by rapid establishment, good spring growth, good digestibility, sugar content and palatability. The individual festulolium varieties contain various combinations of these qualities, but all are substantially higher yielding than their parent lines.

One can regard them as high yielding fescues with improved forage quality or as high yielding, more persistent ryegrasses.

### Ryegrass-type

Morphologically, these varieties resemble Italian ryegrass but with a persistence of up to four years. This type is suitable for both cutting and grazing.

In general, ryegrass-type festulolium can be characterized by:

- High seedling vigor, comparable to annual ryegrass
- Very early spring growth
- Very high yield
- Slightly lower energy concentration and sugar content than ryegrass
- Tendency for heading in regrowth
- Upright growth
- Better persistency than their ryegrass parent lines
- Susceptible to winter kill in absence of snow cover

### Tall fescue-type

Morphologically and in terms of cultivation, these types resemble tall fescue. They combine tolerance to frost, drought and heat and persistency of tall fescue with the better feed quality and rapid establishment of ryegrass. The result is a high quality "tall fescue" with excellent persistency.

Tall fescue-type festuloliums can be characterized by:

- High seedling vigor compared to tall fescue
- Earlier spring growth than tall fescue
- High yield
- High quality, close to that of ryegrass
- Tendency for heading only in 1st cut
- Very persistent
- Upright growth
- Tolerates drought and periodic flooding
- Good winterhardiness

*The above text has been used in part and with permission from "Festulolium Hybrid Grass", DLF International Seeds, [www.dlf.com](http://www.dlf.com).*