

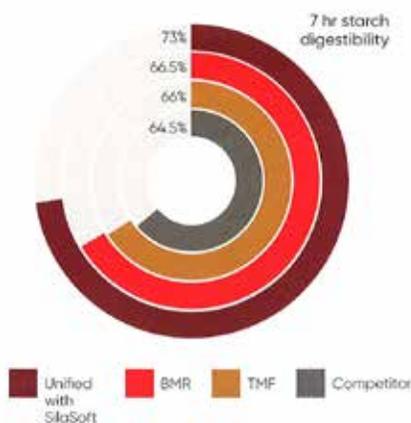
Forage Advisor

A TerraLink Technical Newsletter

New at TerraLink

Game Changing Silage Corn

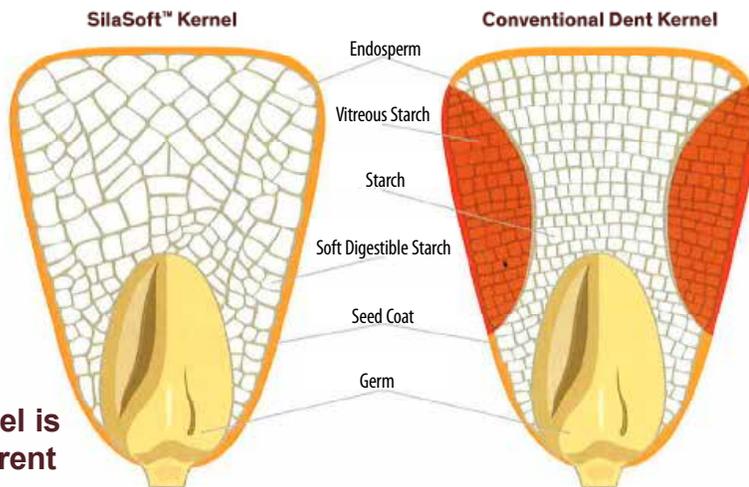
How would you like to get up to 10 pounds more milk per day from each one of your cows? It's possible with Unified™ corn silage hybrids with SilaSoft™ technology.



Unified corn silage hybrids have a softer kernel for improved starch digestibility. Starch provides the energy cows need to produce milk, and the more digestible the starch the greater the feed efficiency and milk output. In fact, silage testing has shown that Unified corn silage hybrids deliver 8.5% improvement in starch digestibility, compared to the average of products intentionally selected for high starch digestibility.

Unified corn silage hybrids produce soft kernels with a reduced starch-protein matrix. This allows starch granules to be more easily accessed and digested by microbes in the rumen.

Research has shown that, compared to conventional hybrids, the increased



The Kernel is Different

digestibility of Unified corn silage hybrids leads to measurable and significant improvement in milk production, including:

- 10.1 pounds more of energy-corrected milk per cow per day¹*
- 7% improvement in butterfat¹
- 13% increase in protein¹

TerraLink is proud to offer Unified corn silage hybrids with SilaSoft technology to British Columbian producers. Talk to us today for more information.

¹Remick, E. M. et. al. 2016. A novel bm3 corn silage hybrid with floury kernel genetics improves lactational performance and feed efficiency in Holstein cows (<https://asas.confex.com/asas/jam2016/webprogram/Paper16530.html>)

Government Regulations New Regulations and Research for Phosphorus

On February 28, 2019, the Code of Practice for Agricultural Environmental Management (CPAEM) replaced the Agricultural Waste Control Regulation (AWCR). What does this mean, and how does it affect us?

To put it simply, the provincial government has put new regulations into effect which will

significantly affect how dairy producers, and other farmers, use, store and manage fertilizer and manure sources of phosphorus and nitrogen. In this article, we will focus on just the phosphorus-specific changes that affect you.

The new regulations are the end result of a process that began over a decade ago. In 2005, the BC Ministry of Agriculture conducted the Fraser Valley Nutrient Study in the Fraser Valley, as well as a similar survey in the Okanagan Valley. In both cases, high soil phosphorus levels were confirmed.

The goal of the CPAEM is to ensure that agricultural practices are “consistent with the protection of safe and clean water and air.” In other words, the new regulations are meant

to prevent air and water pollution caused by excess phosphorus and nitrogen. To that end, existing regulations within both the Agricultural Land Commission Act and the Environmental Management Act have now been replaced by the new Code (CPAEM). It affects dairy and forage producers directly.



TerraLink's Forage Sales Manager, Duncan Reid

Exactly what changes to phosphorus management depends on locations, size and type of farming activity. The approach is both science-based and risk-based. If you farm in a "high risk area", and/or farm during "high risk conditions", the conditions for you will be more stringent. High risk areas include places with excessive precipitation, those in which the local aquifer is vulnerable, and other factors that increase the possibility of adverse impacts on the environment or human health. High risk conditions may include the degree to which a farm field slopes toward a watercourse, chance of flooding, and others. To determine whether you are in a high risk situation, the government will develop interactive maps on a website for you to use.

To help you manage your phosphorus inputs, you may be expected to take frequent soil samples, use environmentally responsible and sustainable agricultural practices, and complete a Nutrient Management Plan, among others. Records of the crops, their phosphate requirements, date, location and rate of phosphate applications, yields, and other information must be documented and retained.

TerraLink participated in research!

To learn more about phosphate in Fraser Valley soils, TerraLink is coordinating with the provincial government in phosphate research. Ten farms will be asked to participate, five in 2019 and five in 2020. The research will involve low-phosphate fertilizer blends, which will be supplied by TerraLink.

Use of Bio-activators and Phosphorus Enhancer products will also be used in the research to help avoid excess phosphorus fixation. As we have always been, TerraLink continues to be committed to the dairy industry.

Weed Control

Sortan IS Herbicide

DuPont registered this herbicide for control of grass and selected broadleaf weeds in field corn. In particular, the label lists control of Couch Grass (Quack Grass), a notoriously difficult perennial weed to manage in any crop. The active ingredient in Sortan IS herbicide, a Group 2 class chemical, is Rimsulfuron. Apply either before the emergence of the corn crop or the weeds, or as a post-emergence application. It can be tank-mixed with glyphosate, but must be applied prior to the V4 stage (6 leaves) for optimum control. Sortan IS herbicide will control Quackgrass, Barnyard grass, Redroot Pigweed, Lamb's-quarters and Wild buckwheat.

Symptoms in Field Corn

Phosphorus Deficiency

This seems an appropriate time to talk about phosphorus deficiency in silage corn. Phosphorus will be the centre of government regulation changes and a major focus by researchers in the next while (see article in this advisor on phosphorus research). And last May, we published a Forage Agri Advisor in which we featured potassium deficiency in field corn, so now it seems timely to talk about phosphorus deficiency in the same crop. Phosphorus is a macro, or major nutrient, required by all plants in considerable amounts, along with the other two macro

nutrients, nitrogen and potassium. Most people know that phosphorus plays an important role in early root formation and growth. Equally important, phosphorus is involved in the production and processing of energy. It is crucial to photosynthesis and respiration, energy storage and transfer. It is involved in the processes of cell division and enlargement, and is consequently found in highest levels in young plants at the growing points. Inside plants, phosphorus is known to be mobile and moves from older tissue to new tissue quickly.

So, how do we know whether or not our corn is deficient in phosphorus?

Since phosphorus moves from older plant tissue to new tissue, it is no surprise that deficiency symptoms become apparent on oldest leaves first. In general, phosphorus-deficient plants may be stunted, and green areas of leaves may be darker green than normal. In corn, the edges can become a distinct purple colour, especially in cool weather. If your corn is showing what could be deficiency symptoms at the pre-sidedress growth stage and it is an unseasonably cold spring, it may just be the weather. Just wait for the weather to warm up. If the symptoms don't go away, you have a real deficiency.

What can be done once phosphorus deficiency symptoms have been established in your corn?

Not much. Phosphorus is a macronutrient, which means your corn needs a lot of it. If you can see deficiency symptoms in the foliage, it is a safe bet your soil is very short in this important nutrient. You should have taken a soil sample before preparing your field for planting. Major corrections of soil phosphorus deficiency can be made with application of granular or liquid phosphate, but well before knee-high. You can in desperation sidedress phosphorus into a well-established field, but since phosphorus is immobile in the soil, you would have to basically run down your rows in order to get close enough to your roots. You would be better off to spray or fertigate with foliar applications of phosphate, although the amount you can apply this way is limited. TerraLink has a wide range of liquid and water-soluble phosphate fertilizers if you find yourself in this situation.