September 2018

Small Fruit Advisor

A TerraLink Technical Newsletter

Good Management

Fall is the Best Season

The best time of year is Fall. Is it because the air is cooler, the leaves are changing colours and falling, and Hallowe'en is on its way?

Not even close. Fall is the best time of year because it is the right time to take care of so many field operations. Some of them cannot be done anytime else.

Fall is the best time to get your soil tested. Except for nitrogen and sulphur, the other nutrients don't move in the soil or leach over winter, so what is tested in the winter you can assume to be present in the spring. Your recommended rates for nitrogen and sulphur are based more on crop removal than soil test levels, so unless you are engaging in a Nutrient Management Plan, part of an Environmental Farm Plan, don't worry about them for now. Secondly, the soil testing labs are less busy than they are in the spring. Last, should the soil test indicate that your field has become too acidic, fall – being typically drier than spring – is a good time to apply limestone. Use the Plant Soil Lab, located right at TerraLink in Abbotsford. We're both fast and less expensive.

Fall is the best time to build up your soil. The fall is a very good time to bring up soil levels of nutrients that can be "stored" in the ground; those nutrients that don't easily leach into the groundwater during winter. If your levels of potash or Magnesium are low, for example, now is a good time to apply those nutrients. TerraLink has inventory of 0-0-62, 0-0-50+17(S), 0-0-22+22(S)+11Mg. If you have an organic farm, try BioFert Sulphate of Potash or BioFert 1-3-15.

Fall is the best time to apply limestone. There is a good reason for this. From an agronomic point of view it makes the most sense. What happens when limestone is applied to soil? In Fraser Valley soils there is an abundance of aluminum, which naturally reacts with water to produce hydrogen ions (H+). The presence of a concentration of H+ creates acidity.

When limestone (calcium carbonate) is added to the soil, some of the calcium replaces aluminum at the cation exchange sites. Meanwhile, some of the carbonate combines with hydrogen to produce water and carbon dioxide. This reaction is not instant, especially if the limestone has not been mixed into the soil. 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. This is most important, since plants take up nutrients most effectively when soil pH is in the correct range.

Fall is the best time for weed control. Pull the big ones by hand, mow down the ones in the alleyways, clean out the weeds from within the row and apply simazine, Devrinol or Casoron for long-term control.

Fall is the best time to plant cover crops. It never hurts to remind ourselves of the benefits of cover crops. There really are no disadvantages. Advantages include:

- Build up organic matter
- Improve soil structure
- Reduces compaction
- Capture excess nitrogen which helps prevent leaching loss
- Competes with weeds
- Helps prevent erosion by wind and water
- In raspberries, a mat of cover crop provides a nice footing for workers

Insect Pests

Japanese Beetle

What? Not another new pest?

In fact, this is very probably not the last time we have to worry about new pests. Despite the best efforts of the regulatory agencies here and in other countries, eventually we can expect non-native species of pests of all kinds to find their way to Canadian shores. Pests that are no significant threat in their native places often become major economic issues once introduced, without their naturally-controlling predators they evolved with. And so, the case with Spotted Wing Drosophila (SWD), Brown Marmorated Stink Bug (BMSB), Western Corn Rootworm – and now possibly the Japanese Beetle. Although we have no knowledge of Japanese Beetle currently infesting our crops as yet, it behooves us all to be aware of it, just in case.

In the summer of 2017 Japanese Beetle *(Popillia japonica*) was found south of False Creek in Vancouver, in enough numbers to come to the attention of the BC Ministry of Agriculture (BCMA), the Canadian Food Inspection Agency, and the nursery industry. If not controlled quickly, Japanese Beetle could spread quickly in the Fraser Valley farther afield. Ultimately, based on experiences elsewhere, it could become a serious pest problem in a wide variety of ornamentals, berry and tree fruit crops.

Adult beetles have copper-coloured wing cases, and the thorax and head are green. Five patches of white hairs on each side of abdomen. This last feature distinguishes *P. japonica* from all other similar-looking beetles. The larvae are pale white "C"-shaped grubs, with a yellowish head.

It can take one to two years to complete a life cycle, depending on the climate. It should be noted that until study is undertaken, we do not know yet how long a life cycle of Japanese Beetle will take to complete in the Fraser Valley or other parts of British Columbia. The number of cycles per year depends on how cool or warm it is, and of course as the average accumulated heat is now increasing, this remains to be discovered.

In eastern North America, Japanese Beetle is a significant pest of turf and grass crops, in which it is the larvae that cause damage. This means lawns, institutional turf, golf courses, hay fields and forage grass stands are potential crops that may experience damage. In nursery crops and ornaments the adult beetles cause skeletonization of foliage, although they can also damage flowers and fruit. Again, until the behavior of the Japanese Beetle in BC is studied by researchers, we won't know precisely how much damage and in which crops to expect.

A partial list of known primary hosts includes maples, roses, pome and stone fruit, cane berries, grapes and corn. Note that although turf grass is known to be a secondary host, in 2002 one reference listed Japanese Beetle as the "…most widespread pest of turfgrass…" costing the American turf and ornamental industry approximately $450 million a year to manage the pest in those crops.

If your field is already being monitored by a qualified scouting firm or agronomist, ask them to start to include monitoring for Japanese Beetle. Report any possible sightings to the BCMA, or to an Agronomist at TerraLink, or to your fruit packer or grower association. For more detailed information, you can download a PDF of our new Pest Bulletin on Japanese Beetle from our website. Or you can ask for a copy from our Customer Service people at either Delta (4119 – 40th Street, 604-946-8338) or Abbotsford (464 Riverside Road, 800-661-4559).

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... with post-harvest applications of Stella Maris!

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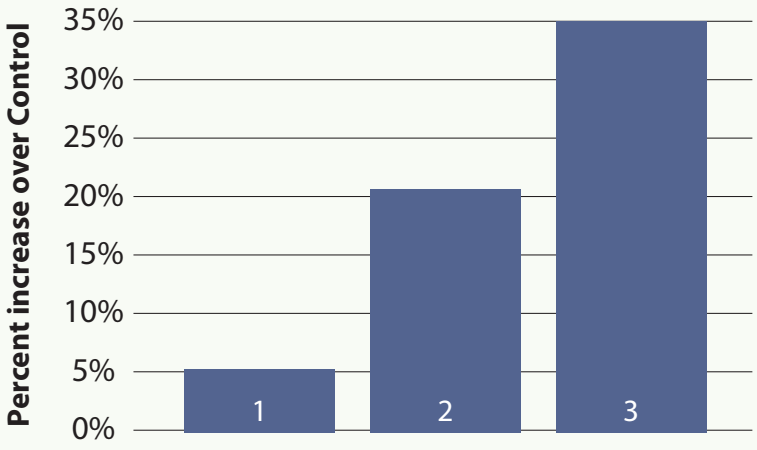
Stella Maris and Bud Development



Percentage Increase in Buds per Branch on Stella Maris Treated Blueberries

In three different blueberry trials, the number of buds per branch was increased by an average of 18.8% using in-season Stella Maris applications, indicating the potential for increasing yield the following year.

Plant Nutrition

Novacal II for Maximum Production

A manufactured granular gypsum-like product, Novacal II contains a natural plant extract derived from rice and cotton, called Nutrisorb. Carboxylic acid within Nutrisorb enhances activity in the root zone, improving auxin metabolism. This in turn induces production of root hairs and overall root growth. It stimulates the ability of the root hairs to absorb nutrients, and facilitates the colonization of beneficial microbes in the rhizosphere. The result? Increased root mass, volume and dry weight. It also increases respiration, nutrient uptake and translocation, and water use efficiency.

Novacal II can be applied by blending with fertilizer, or independently. Fall is a good time to apply it, as growers often desire to apply gypsum at this time of year anyway. A typical application rate is in the range of 50 to 150 lbs per acre. Novacal II is superior to gypsum also in the nutrient make-up. Compared to regular gypsum that is normally about 20% calcium, Novacal II contains 28% calcium and 19% sulphur.

Plant Nutrition

TigerClaw Top-Set DL

Top-Set D.L. is a mix of boron and molybdenum, two plant nutrients required from time to time by plants in small amounts. Introduced by TerraLink for Agro-K in 2016, Top-Set D.L. is intended for use mainly as a foliar applied fertilizer, it can also be applied as a soil application, or even metered through an irrigation system. It is labeled for all three methods. As boron is important in the fall to ensure maximum set of fruit buds for the next growing season, it can be supplied using Top-Set D.L. onto blueberries between 0.25 to 2 L per acre.

TerraLink Horticulture Inc., 464 Riverside Road, Abbotsford, BC, V2S 7M1
Toll Free: 1-800-661-4559 Fax: 604-864-8418 **www.tlhort.com**

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