

Berry Advisor

TerraLink Horticulture Inc.

Weed Control

Chateau Herbicide

New last spring, **Chateau WDG**® herbicide has proven to be a very effective weed control product in blueberries and strawberries. A Group 14 product that represented new chemistry when it was introduced, Chateau WDG provides seasonal residual control of many broadleaf weeds. Growers soon found that Chateau WDG is effective, forming a “barrier”, activated by rain or irrigation of 1/4 to 1/2 cm of water. They also found it does not affect established weeds, but can be mixed with glyphosate to control existing weeds for the first application. It must not come in contact with crop fruit, green bark or foliage, and should not be used on very young plants. If necessary use a shrouded sprayer to avoid hitting foliage or green bark. The active ingredient flumioxazin is a photosynthesis inhibitor, preventing target plants from making chlorophyll by

inhibiting an essential enzyme (the enzyme is called protoporphyrinogen oxidase, for those interested in unpronounceable names). It can be used effectively on coarse and medium textured soils, but residual effects of Chateau WDG are reduced on soils with very fine texture or high organic matter. Chateau WDG herbicide is only broken down by microbial activity as it does not leach or break down by photodegradation.

In blueberries, two applications per year at least 30 days apart are recommended, up to bud break. It can be applied up to 7 days to harvest (PHI). If it is mixed with glyphosate on the first application the PHI must be 30 days, as that is the required delay time for glyphosate. In strawberries, application of Chateau WDG can be applied as a broadcast spray to dormant plants, or in the wheel tracks only for a non-dormant planting.

The photo (below) of a tree fruit planting shows a comparison of an application of Chateau WDG on the left, versus Touchdown (glyphosate) treatment on the right.



Disease Control

Mummy Berry Choices



Mummified berries and apothecia.

Plantings up and down the Fraser Valley are at different stages of development of Mummy Berry. Some fields have just passed the primary infection, whereas most fields have not passed the secondary infection. A variety of control methods are available. Don't forget cultural controls that might disrupt the mummies or damage the growing apothecia. The Production Guide suggests raking, light rotovating or harrowing that can damage or bury the apothecia. For chemical controls, **Funginex DC** is still the most effective product. **Topas 250 E** is also a very good product. For both, do not apply within 60 days of harvest. **Allegro 500** and **Serenade Max** are relatively new chemicals that provide suppression of mummy berry. Above all, timing of sprays is most important.

SPECIAL OFFER

To assist with the cost of **Funginex DC** and **Topas 250 E**, Engage Agro is offering a “Match Your Purchase” program. The registration form is enclosed with this advisor. NOTE: the sign-up date has been extended to October 1st. Fill in the form included and send it to Engage Agro at their address on the front of the form.

A New Pest

Spotted Wing *Drosophila* Fruit Fly

Although several articles have been written about Spotted Wing *Drosophila* (SWD) and a presentation was made on it at the LMHIA Short Course in January, we're going to repeat the information here again. It won't hurt to hear it all again, this has to be understood – this new pest could be very damaging and difficult to control.

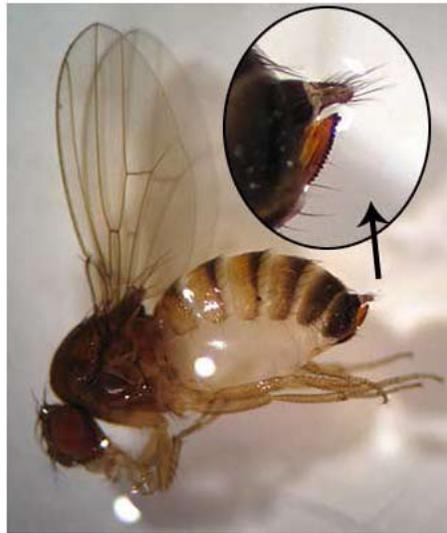
SWD (*Drosophila suzukii*) is native to Southeast Asia, preferring warm temperatures and therefore going through many more life cycles per year than the regular fruit fly we are all familiar with. Unlike the regular fruit fly which only infests fallen, over-ripe or decaying fruit, SWD lays eggs in harvestable fruit while still on the bush. While the regular fruit fly is only annoying, SWD will cause crop loss. No one wants to bite into a blueberry and find a maggot in it. All types of berry crops are subject to infestation.



Spotted Wing *Drosophila* Adult Male with wing spots

Because the adult flies are quite small and look similar to other fruit fly species, really the only way to confirm the presence of SWD will be to take captive adult flies, or fruit that is possibly infested, to the BCMAL Plant Diagnostic Laboratory in Abbotsford. In the Okanagan, another contact is Susanna Acheampong, Entomologist at BCMAL at the Kelowna office. For those with good eyes and in possession of a magnifying glass, the photos with this article show the distinguishing features of SWD adults (photos from Dr. Sheila Fitzpatrick, Agriculture & Agri-Food Canada at Pacific Agri-Food Research Centre in Agassiz).

Much work has been done by government so far, and plans are set to develop surveillance and management plans to determine when SWD first appears in the spring and in which crops. At this time, cultural and chemical controls have not been established. These will be announced in a subsequent agri advisor.



Spotted Wing *Drosophila* Adult Female. Inset shows ovipositor.

To find out more about SWD, call BCMAL in Abbotsford or Kelowna or visit their web page at <http://www.al.gov.bc.ca/cropprot/swd.htm>, or call the TerraLink Sales Desk at 1-800-661-4559 or 604-864-9044.

Introducing a New Program!

Advanced Agronomy

We are adding to and improving our offering of agronomic services with TerraLink Advanced Agronomy. With this program, growers will be able to enter data on a per-field basis, including soil test results, crop information, field scouting reports, application information of crop inputs, weather information, cultural events, and much more. Yield, expenses and other parameters can be tracked and reports generated for use in business plans, food industry audits and other uses.



- Web-based data capture and record-keeping system on a per field basis.
- All data is kept private and confidential.
- Track field histories of nutrient status, crop inputs like fertilizer, pest controls and water use.
- Will tie in all parameters associated with the operation on a historical basis – nutrients, pests and controls, field scouting reports, cultivation events, irrigation, weather, and others.
- Fields are geo-referenced.
- Reporting ability – expenses, nutrient use and management practices, GAP, due diligence, cost of production, manure management plus many other possibilities.

New Registrations

What's New in Pest Control

Echo 720

This product has the same active ingredient as Bravo 500 with the same label registrations. It is a stronger concentration, 720 g/L as opposed to 500 g/L for Bravo 500. Echo 720 costs about the same amount per acre as Bravo 500. It is available in a 9.46 L jug or a 450 L mini tote.

Poast Ultra

This diverse grass control product was already registered on highbush blueberries. In late winter it gained a label expansion to include other berries in Crop Group 7, including black currant, red currant, saskatoons, lingonberry, sea buckthorn and some other small fruit crops we have never heard of.

Fulfill – Emergency Registration

Good from April 1st to September 30th, 2010, Fulfill has received an emergency registration for control of aphids on blueberries. It is meant to be applied at 78 grams per acre during pre-bloom or post harvest only. The Pre-harvest interval is 60 days.

Assail 70 WP – Strawberries and Blueberries

On strawberries, Assail 70 WP has been given a label expansion for aphids, tarnished plant bugs and leafhoppers. It cannot be applied during bloom and not more than twice per season.

On blueberries, Assail 70 WP has been fully registered for aphids and blueberry maggot. Do not apply during bloom and not more than 4 applications per year. This registration extends to bushberries (crop sub-group 13-01B) and includes red and black currants, gooseberry and huckleberry.

Admire 240

This versatile insecticide now has a full registration on strawberries for control of strawberry aphid. Only one application per season is allowed, as a soil drench with a PHI of 30 days.





Control Slugs Safely

Slugs Could be a Problem

If the cool wet weather continues, the potential for slug damage in strawberries and other crops could be high. Slugs overwinter in the soil or under other protective layers of mulch or leaves. Two chemical options are available, Deadline M-Ps and Sluggo. Deadline M-Ps is a metaldehyde product in a rainfast mini pellet. Sluggo is an OMRI-listed rainfast pellet as well, and can be safely spread in the crop area close to harvest, without any fear of accidental poisoning. Sluggo can also be safely blended in custom fertilizer mixes, saving application time and cost, as well as getting very even distribution when topdressed.

Fertigation

Terralink's New Drip Fertilizer Program

After several years of development, TerraLink has launched a three-stage series of liquid fertilizers for fertigation in young blueberries. The three products are meant to be used in succession, one following the other to supply the correct nutrients in the correct ratios and in the correct order. Although any fertigation program should be complemented with granular fertilizers and other fertigation products to keep cost to a minimum, the use of TerraLink's Stage I, Stage II and Stage III products will supply many critical nutrients just when your plants need them.

- **Stage I "Starter" 10-32-0:**
two to three applications up until bloom.
- **Stage II "Xcelerator" 20-5-0:**
every two weeks until mid July.
- **Stage III "Greenfruit" 9-0-15:**
one application before mid August.

For information and rates, ask the sales desk for a crop program.

Pollination

Give Your Crop a Boost

In 2008, the April edition of Fruit & Vegetable Magazine contained a small article (page 4) on the use of *Osmia aglaia*, a small bee and a possible substitute to the honeybee we are familiar with, *Apis mellifera*. Similar to the Osmia Bee or Blue Mason Bee referred to in the BCMAL Production Guide, *O. aglaia* was studied by USDA entomologist James Cane as a supplement or substitute to the honey bee in raspberries and blackberries. Cane found that *O. aglaia* bees were just as efficient at visiting raspberry flowers as honeybees.

Research like that referred to in the article is important because of the threat of colony collapse disorder that has been reported in North America. Although raspberries are self-pollinating, maximum berry size is only achieved with the help of pollinating insects. In the future, bees like *Osmia* may be valuable to the berry industry. In the meantime, growers must do everything possible to maximize pollination, regardless of which crop. One of the most obvious things to do is to ensure the right number of good quality hives are placed in the field at the right time. Generally, two hives per acre are appropriate for both raspberries and blueberries. Make sure you work with a reputable beekeeper who will guarantee a high number of bees per hive.

In blueberries, an important tool that can be used during cool, cloudy weather is Pollen Boost, or another formulation of Queen Mandibular Pheromone (QMP). Growers will remember this product under its old name, "Fruit Boost". Pollen Boost increases the number of honey bees working in the crop by attracting and holding the bees to sprayed blossoms. Extensively tested in crops such as pears, apples and blueberries, Pollen Boost is applied at 100 mL per acre. Experience has shown that Pollen Boost is most effective when it is cool and cloudy, conditions that are not conducive to foraging by honeybees. Care should be taken not to inadvertently pull bees from the neighbor's field, and therefore should only be used to supplement activity of hives in your own field.

Bugs in Action

Biological Control in Raspberries

You may have noticed a very oddly outfitted ATV humming up and down raspberry rows in June and July last year or so. What you have seen is TerraLink's Bug Blower in action. Introduced in 2002, it is a service offered to apply biological controls in raspberries. Most of the time the service applies a parasitic wasp for control of Oblique Banded Leaf Roller (OBLR) and other lepidopteran insect pests, but can also be used to apply a predatory mite



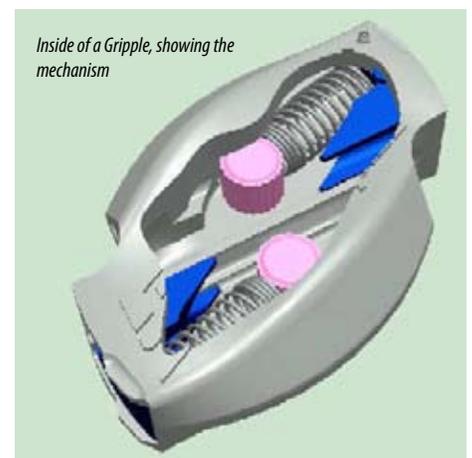
The Bug Blower

for control of two spotted mite. In both cases, the Bug Blower works by precisely distributing predators evenly into the crop foliage. The predators take it from there, gaining control of pest populations. For control of OBLR, the parasitic wasp is *Trichogramma minutum*, distributed into the raspberry foliage in pre-parasitized eggs. When the eggs hatch, the wasp moves around the raspberry canopy in search of caterpillar eggs in which it will lay its eggs. Don't worry though, these wasps are very tiny and no danger at all to workers and won't contaminate fruit. Also, this method of control is of no greater than chemical control. If you are interested you must book the program early so we can give the insectary time to build up its populations. If the customers who buy your berries are interested in less chemicals, think about using this IPM-friendly program.

Gripples

Wire Trellising Made Easy

Gripples are the fastest way to attach or repair any size wire or cable up to 5/16 diameter. The gripples are spliced on to the wire and then tensioned with the special gripple tool. The tool can be set to apply the same tension to every attachment in much the same way you use a torque wrench on a bolt. Trellis wires under full load of a crop can be spliced in a matter of seconds. Best of all Gripples are reusable! For a demonstration call your sales rep or come in to the TerraLink Store.



Inside of a Gripple, showing the mechanism



Put **Power** in Your Crop

A unique formulation designed for superior uptake and availability, **TigerClaw** Liquid Fertilizers provide producers with the necessary tools to address plant nutritional needs based on physiology and peak nutrient demand.

TigerClaw products enhance crop quality and return on investment.

TigerClaw products are available exclusively at:

TerraLink

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