



THE TENDER FRUIT GRAPE VINE



A Newsletter for Commercial Fruit Growers

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Preparing Grape Vines for Winter

Ken Slingerland, Tender Fruit and Grape Specialist, OMAFRA

By now, most growers have hilled up or even buried vines in preparation for winter. Growers should not be fooled into a false sense of security with the mild winter of 2005-06. This is also a good opportunity to look at other grape growing areas similar to Ontario and investigate their “winter protection” experience. Both Michigan and New York have excellent newsletters that growers can access through the internet.

There are two good articles in the Finger Lakes Vineyard Notes Newsletter #12, November 24, 2006.

- The Construction of Equipment for Hilling-Up and Taking-Out Soil Around Grafted Grape Vines – Tom Zabadal, Gary VanEe, Gaylord Brunke, Richard Ledebuhr, Brian Hauch and Dave Francis, Southwest Michigan Research and Extension Centre, Michigan State University
http://www.maes.msu.edu/swmrec/publications/older/SWMRECON-lineReports/hilling_takeout%20equip/sp%20rpt%2023/doc2652.html
- Burying Canes in the Finger Lakes: Impact on Buds and Canes - Martin Goffinet and Mary Jean Welser, Department of Horticultural Sciences, Geneva, Cornell University

The 5 page article on Burying Canes appeared first in the Wine East September/October 2006 issue.

Commercial growers can also subscribe to the Finger Lakes Vineyard Notes by downloading a subscription form at:
<http://flg.cce.cornell.edu/grape%20subscription.pdf>



How to Use GF-120 NF Naturalyte Fruit Fly Bait for Cherry Fruit Flies

Neil Carter, Tender Fruit and Grape IPM Specialist, OMAFRA

The Product:

GF-120 NF Naturalyte Fruit Fly Bait (spinosad) is a bait formulation for control of cherry fruit flies. Spinosad is the same active ingredient as in Success 480 SC, which is registered for leafrollers in stone and pome fruit. However, there is a big difference between the two products! GF-120 has a much lower amount of spinosad in it and is formulated for use as a “bait” – so rates, procedures and application equipment are very different.

Spinosad is an insect control product derived from a soil bacterium (*Saccharopolyspora spinosa*) and some formulations are approved for use in organic production (OMRI listed) including GF-120. The bait formulation is a mixture of feeding attractant and a very low rate of spinosad. So GF-120 is a product that vastly decreases the per hectare rate of an already “reduced risk” product while still providing control of fruit flies. Re-entry interval (REI) for GF-120 is when residues have dried and there is a 0 days pre-harvest interval (PHI).

Application:

Since GF-120 is formulated as a bait, large droplet size is very important; 4-6 mm droplets are recommended. Large droplets allow the product to last longer in the orchard and be more effective. Standard airblast sprayers are not suitable for this kind of application but a simple ultra-low volume application set-up can be built relatively cheaply and used on an ATV.

Unlike just about all other pest control products, uniform coverage is not critical. Following the application instructions should produce around 80 droplets per square meter, which is plenty as fruit flies forage aggressively and will be attracted to the bait droplets from several meters away.

It is very important not to over-dilute this product! The label rate is 1.5L/ha of GF-120, which is then diluted by 1.5X (concentrated application) to 5X (dilute application). Consult the product label for

full mixing instructions. Concentrated application is preferred if equipment permits as the concentrated bait will last longer in the orchard and be more rainfast.

It’s best to premix the product with warm water before filling the small sprayer tank. An electric drill with a paint mixer attachment works well but be careful of creating plastic shards if the mixer attachment has metal blades and you’re mixing in a plastic container. Rinse the tank and equipment thoroughly after use.

Determining the speed to travel once your application equipment is built (see below) will require a bit of math and a lot of trial and error. Determine the nozzle flow rate and a safe ground speed. With those numbers and your dilution factor, you can determine the anticipated application volume of product per acre. Then a few trial runs with a measured volume over a known area (say 1 or 2 acres) will show whether you need to travel faster or slower to achieve the desired rate of application.

Applications of GF-120 should begin as soon as monitoring traps indicate fruit flies are active or 2 to 3 weeks before fruit begins to ripen. The bait droplets resist wash off to some extent, but will be less effective if rain (or overhead irrigation) occurs. Definitely repeat application of GF-120 if it rains as the maximum number of applications allowed per season is 10. Apply GF-120 after harvest as well – there’s no point allowing the tail end of the fruit fly population to have a banquet on the remaining fruit and increase their numbers after harvest.

Application Equipment:

Mount a 15 gallon (60 L) plastic tank (available at auto parts stores) with a 12 volt pump on an ATV. For the nozzle and boom parts a sample parts list is below, but you can configure this anyway that is practical.

Keep in mind as you design and build:

- Swivel nozzles are needed so you can adjust for different sized trees. Aim the spray stream at the bulk of the tree for small trees and upwards at the top third of the tree for larger trees

- The pump should provide 45 to 60 psi so that a stream of spray can travel 5 to 7 meters
- Independent shut-off valves for each nozzle are needed so you can treat outer rows without wasting product
- Keep the main shut-off valve easily accessible for when turning at row ends
- Tim Smith at WSU recommends a D1.5 nozzle but you'll have to experiment to find which works best for you
- Try hollow cone nozzles without screens or discs without core; also remove screen from siphon tube in tank to ensure better flow

Rather than describe the construction of these units in painful detail, I'm including some pictures that give the general idea of what the unit should look like. I'm grateful to B.C. cherry grower Greg Norton for some of the pictures as well as some handy tips from his practical experience with GF-120. I've also received useful information on GF-120 from Howard Thistlewood and Hugh Philip who have worked with the product in B.C. More information on this bait and pictures of application equipment can be found on-line at a page written by Tim Smith at Washington State University: www.ncw.wsu.edu/treefruit/BAITAPPLICATION.htm

Labels, MSDS sheets and factsheets on GF-120 can also be accessed on Dow AgroSciences' website at www.dowagro.ca



Ultra low-volume application equipment for GF-120. The frame is built from 1" PVC pipe. Photo: WSU website listed in article.



B.C. cherry grower Greg Norton's version of the same equipment. Note the independent shut-off valves for each nozzle.

Photo: Chris Norton.



Close up of one nozzle. The swivel feature is critical to be able to properly treat different sized trees. Photo: Chris Norton.

Suggested Parts List:

- 2 D1, D1.5, or D2 spray disc
- 2 1325 brass caps
- 2 6471 brass elbows
- 2 1/4" brass pipe nipples
- 2 V20M brass quarter-turn valves
- 2 5540 – 1/4TT brass swivels
- 1 TSSS 333 - 1/4" nylon T-nipple
- 2 1" round boom clamp
- 5 6203 5/16"-7/8" hose clamps
- 1 5032 large hose clamp (2" – 3")
- 1 On-off switch for handlebars
- 1 15 gal. spray tank with 45 or 60 psi electric pump