Washington State University • Long Beach
Cooperative Extension
2907 Pioneer Road
Long Beach WA 98631

CRANBERRY VINE

NOVEMBER 2003

New insecticide registration.

A new insecticide with the trade name Admire has received a 24c label for use in the PNW for the control of Blackvine Weevil larvae in cranberry beds. The registrant is Bayer and their new label is attached. Based on our research in the past 3 years, this product should provide excellent control of weevil. Admire, however, has some unique properties and, as a consequence, you should pay close attention to the application details laid out in the label if you want to be assured of efficacy.

The following information provides more detail on the use of Admire in cranberries.

Why use Admire compared to other control options?

Flooding – This method works, but many growers in the PNW don't have the ability to flood or hold water long enough in the fall to provide efficacy.

Nematodes – These have never been shown to provide adequate control, work at the soil temperatures common in the coastal climates, be consistently available (good quality from a reliable source year after year), and have not been affordable.

Entomopathogenic fungus (*Metarhizium* and *Beauveria* spp.) - These have never been shown to provide reliable consistent control and/or are not commercially available.

Orthene and traditional OP's – These at best only provide temporary knockdown on adult weevils.

Cryolite bait – This product does a reasonably good job of suppressing new adult weevils, but growers don't like using it, because it is expensive, difficult to apply and very sensitive to the wet, damp climate (it doesn't work once it gets wet). In addition, the registrant has required a large order before it will manufacture it. Thus, for all intents and purposes, it is not available.

What is Admire and how does it work? Admire is the trade name of a systemic insecticide called imidacloprid. It is a new class of insecticide called a neonicotinoid, which is modeled after nicotine. The nicotinoids act on the central nervous system of insects, causing irreversible blockage of postsynaptic nicotinergic acetylcholine receptors. In contrast to sprays that kill on contact, this chemical is applied to the leaf and root system of the plant where it enters the plant's vascular system and actively kills any insect that sucks on the plant, or kills several types of insects that chew on the root system. Imidacloprid has been around since 1992 and has recently become a popular topical flea control treatment on domestic pets.

What else will it control? We don't know. It is usually not very active on *Lepidoptera* insects like fireworm or cranberry girdler. There have been a few exceptions. To date, we have not shown any really significant effects on girdler, Admire may have some incidental control of tipworm, but because of spray timing restrictions it would not be useful for tipworm control.

Are there any problems with using Admire? Growers should be aware of several things. 1) Although I am very confident of my data, it was done on small-scale research plots. We have to make the assumption that what worked for me will work under your application conditions. However, growers need to proceed with the caveat that there is a learning curve to using any new pesticide.

2) The systemic qualities that make Admire a good insecticide also make it problematic for bees. French sunflower growers have complained that this insecticide interferes with bee behavior, causing disorientation of bees and eventual collapse of the colony.

This has been dubbed "mad bee disease". To assure that there are no problems with pollination, Admire can only be used between November and March 1, and after bloom (but before 45 days PHI). These timing restrictions should be more than adequate to assure no pollination problems. We plan on gathering data to this effect in 2004 just to make sure.

3) Admire rapidly degrades in sunlight, especially under moist conditions. Under these conditions, the half-life can be less than 3 hours. It must therefore be immediately incorporated into the duff/soil layer with irrigation or rainfall. Once incorporated, the product is quite stable. My experience has shown that, even in the winter, when we put out Admire without rainfall or irrigation we get zero control actively.

What type of control can you expect? We have put out four experiments. The control was usually 100% of the larvae. In sites that we infested with very high numbers (33 larvae per meter square), we reduced the count down to 3. There is not likely to be any control of over-wintering adults.

What is the ideal timing and condition for using Admire? Our best results occurred when we targeted full size larvae from November to April, prior to them pupating in the winter or spring. We don't have enough data to suggest that one time within that period is better that the other. However, I suspect warmer soil temperatures would mean more larvae feeding and therefore greater control.

With that in mind, November might be slightly better. Early instars larvae are also likely to be controlled (mid-July to early August), but I don't have any data for that application window. Also, because the product must be incorporated into the duff /root layer, I would avoid applications when there was standing water in the field. Therefore, an application to a well-drained field in November, during or just prior to a moderate rainfall, would be ideal.

Sh*ould you chemigate or broadcast an entire field or make spot applications?* This depends on your how bad an infestation you have and your pocketbook. To save money, I would consider spot application of a field that has an infestation confined to small areas of the bed. I would treat the infested area and a twenty-foot radius around that infested area.

How do I know it worked? It is very important that growers sample for larvae in their fields prior to and six weeks after an application. This can be easily done by pulling back a section of bed that was damaged.

Count number of larvae in several square foot sections. Flag those sections and recount in six weeks. If you didn't get good control, let me know. It will help us understand the conditions in which it works best.

Bayer CropScience

Bayer CropScience LP
P.O. Box 12014
2 T.W. Alexander Drive
Research Triangle Park, North Carolina 27709
1-866-99BAYER (1-866-992-2937)
http://www.bayercropscienceus.com

Admire® 2 Flowable Insecticide
For Post-Harvest Dormant Treatment Use on Cranberry to control Black vine weevil
EPA Reg. No. 264-758
EPA SLN. No. WA-030034

24(c) Supplemental Label

FOR DISTRIBUTION AND USE ONLY WITHIN THE STATE OF WASHINGTON

Admire® 2 Flowable Insecticide

ACTIVE INGREDIENT:

Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]-*N*-nitro-2-imidazolidinimine	21.4%
OTHER INGREDIENTS:	78.6%
Contains 2 pounds of imidacloprid per gallon.	100.0%

SHAKE WELL BEFORE USING

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This label must be in the possession of the user at the time of pesticide application. Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the EPA registered label.

This label for Admire® 2 Flowable Insecticide expires and must not be distributed or used in accordance with this SLN registration after December 31, 2008.

CRANBERRY

Pests Controlled	Rate fluid ounces/Acre
Black vine weevil	16.0

Post-Harvest or Dormant Spray: Apply specified rate of Admire® 2 Flowable Insecticide to moist soil in one of the following methods:

1. As a broadcast soil spray (ground application only) or spot-spray directed to the infested bed area using a minimum of 20 gal of water per acre followed **immediately** by 0.1 to 0.3 inches of rain or irrigation water.
2. As a chemigation application with 600 to 1000 gal water followed by 0.1 to 0.3 inches of irrigation water.

For best control of black vine weevil, application timing should target the larval stages and should be made when crop is dormant (November 1 to March 1). If needed, a second application of Admire 2 Flowable may be applied post-bloom.

RESTRICTIONS

- Do not apply during bloom.
- Do not apply within 30 days of harvest.
- Do not apply more than a total of 0.50 lb active ingredient (32 fluid ounces) of Admire® 2 per acre per season as a soil or chemigation application.
- Do not apply more than two applications of Admire® 2 Flowable Insecticide per acre per year.

NOTE: Admire® 2 Flowable Insecticide has not been tested for crop response in tank mixes with other registered cranberry fungicides or insecticides. If tank mixing is desired, premix a sample of the Admire® 2 and the desired fungicide or insecticide partner at labeled rates and apply to a small area. Evaluate crop response within 48 hours and for at least two weeks prior to utilizing the tank mix on larger acreage. If crop injury results from the premix test, do not apply the tank mix to larger acreage.

NOTE: Follow these and all other Use Directions and Precautions on the package label.

This product is toxic to wildlife and highly toxic to aquatic invertebrates. Admire® 2 Flowable Insecticide should not be used under this SLN label where impact on listed threatened or endangered species is likely. You may contact the Washington Department of Fish & Wildlife, National Marine Fisheries Service or US Fish & Wildlife Service for information on listed threatened or endangered species. Consult the federal label for additional restrictions and precautions to protect aquatic organisms.

CONTAINER DISPOSAL GUIDANCE: Pesticide containers must be properly cleaned prior to disposal. The best time to clean empty pesticide containers is during mixing and loading, because residue can be difficult to remove after it dries. Triple rinse (or pressure rinse) the pesticide container, empty all pesticide rinse water into the spray tank, and apply to a labeled crop or site. Recycling cleaned containers is the best method of container disposal. Information regarding the recycling of empty and cleaned plastic pesticide containers in Washington is available on the internet from WSU at http://pep.wsu.edu/waste/wd.html or from WSDA at http://agr.wa.gov/PestFert/Pesticides/WastePesticide.htm. Cleaned containers may also be disposed of in a sanitary landfill, if permitted by the county. Burning is not a legal method of container disposal in Washington.

WSU Cooperative extension provides educational opportunities in agriculture and natural resources, family living, youth and community development in cooperation with the USDA. Extension helps you put knowledge to work.

Cooperative Extension programs and policies are consistent with federal and state laws and regulations on nondiscrimination regarding race, color, gender, national origin, religion, age, disability, and sexual orientation. Evidence of noncompliance may be reported through your local cooperative extension office. We welcome your suggestions to improve educational programs offered through this division of WSU.

COOPERATIVE EXTENSION
WASHINGTON STATE UNIVERSITY

Long Beach Research and Extension Unit

Dr. Kim Patten, Associate Horticulturist
Email: pattenk@cahe.wsu.edu
Phone and fax: 360-642-2031
Mobile phone: 503-396-0048

WSU-Long Beach Research & Ext. Unit
2907 Pioneer Road
Long Beach, WA 98631

NON-PROFIT ORG.
U.S. POSTAGE PAID
LONG BEACH WA
PERMIT NO 24