

PLANT & PEST ADVISORY

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Section 18 Granted for Admire 2F for Cranberry Rootworm in Cranberries

Sridhar Polavarapu, Ph.D., Entomology and IPM

The US EPA has granted, under the provisions of Section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act, the use of **Admire 2F** (imidacloprid) in cranberries for managing **cranberry rootworm** in New Jersey. This product can be applied by ground application at a minimum of 20 gallons per acre or by chemigation. This product cannot be applied by air. Recommended use rate of Admire 2F is 16-32 fl.oz/acre. Research conducted during 1998 indicated that the 16 fl.oz rate is as effective as the 32 fl.oz rate. No more than 32 fl.oz of Admire 2F can be applied per acre per season. This means at the lower rate a maximum of two applications can be made.

Previous research has also shown that Admire 2F targeted against the younger grub stages of **cranberry rootworm** is more effective than Admire 2F applied against the mature last instar grubs. Therefore, the most effective timing for managing **cranberry rootworm** with Admire 2F is post-bloom immediately after bees are removed, targeting the early instar grub stages. This product is toxic to bees and therefore should not be applied during bloom or 21 days prior to bloom. The pre-harvest interval is 30 days and the restricted entry interval is 12 hours. Admire 2F is sensitive to UV degradation and therefore should be applied in the evening hours to minimize UV exposure. To enable better absorption of the product, it is recommended to irrigate the bog for one hour immediately prior to and after the application of Admire 2F.

Growers must have the Section 18 Supplemental label in their possession at the time of using of this product. Supplemental labels are available from Ray Samulis, Burlington County Agriculture Agent (609-265-5050), at the Research Station (609-726-1590 Ex.12), or from Rutgers Cooperative Extension's fax-back system, FaxInfoLine (732-932-6767) as document 3022. You should call Ray Samulis' office and register if you intend to use this product. The use of Admire 2F is limited to a maximum of 500 acres during the 1999 season; approved on a first-come first-served basis and need for the use of Admire 2F. If you have any questions, please call my office at 609-726-1590 Ex.12. □

Insect Update

Sridhar Polavarapu, Ph.D., Entomology and IPM

✓ **Blackheaded fireworm:** Pheromone traps have been capturing the males of Blackheaded fireworm for the past few days at the Research Center (drawn March 30). We expect that adult flight in most bogs should begin in the next 4-7 days. Trap catches will peak after the first week of June. If populations are high and require an insecticide application, you should consider applying Confirm 2F at 16 oz/acre. Confirm 2F is safe to honey bees and other native pollinators. This insecticide now has a regular Section 3 registration. If you need the supplemental Section 3 label, please call Ray Samulis' office or the Research Station.

The recommended timing for managing blackheaded fireworm with Confirm 2F has changed slightly from last year. The first application should be made 8-10 days following biofix. Biofix is defined as capture of a total of 5 moths in three traps in the previous 7-day period. This means if the pheromone trap count exceeds 5 moths in three traps over a 7-day period, you should apply the first Confirm 2F spray 8-10 days after this date. A second spray should follow 7-10 days after the first application. A spreader sticker such as Latron B-1956 is recommended with Confirm 2F. Please follow the instructions on the Latron B-1956 label regarding dosage. Confirm 2F is most effective when applied before the larvae are webbed-up.

✓ **Spotted fireworm:** Larvae are mostly in the fifth and sixth instar stages. Spotted fireworm passes through six larval instars before reaching pupal stage. Adult flight is not expected for another 7-10 days. Parasites are emerging from larvae at this time. Organophosphate applications made at this time would do more harm than good by destroying the parasites.

✓ **Sparganothis fruitworm:** Most of the larval population is currently in the third and fourth instars. Sparganothis fruitworm has five larval instars. The bulk of the larval population will reach pupal stage in the following 10-day period. It is too late to use organophosphate insecticides to control Sparganothis fruitworm or Spotted fireworm at this time. □

New Jersey Cranberry Field Notes

Dan Schiffhauer, Ocean Spray Cranberries, Inc.

Plant phenology is very staggered across the state. Cranberry beds with predominantly muck or peat soils are typically slow developing during cool springs. Some of the muck beds that I have seen are just now at budbreak. Beds with high sand content are much farther along; I have seen some open bloom on Early Black beds that were sanded during the winter. A longer than normal bloom period will probably be the result of the cool spring unless a prolonged hot spell ensues.

Several growers have commented on the amount of side shooting that appeared this year. Terminal buds remained swollen, but closed, while vegetative side shoots appeared just below the terminal. The question posed by growers is whether or not side shoots indicate that the buds were damaged by early season cold, but not enough to kill bud tissue outright. I don't believe that is so. I have been on beds exhibiting side shooting that were late drawn and therefore missed the very cold nights of early spring. If the side-shooting phenomenon is caused by cold then it may be that the damage occurred last fall. The terminal buds on the uprights with side shoots appear to be fine but it remains to be seen if they open, flower, and set fruit.

Insect pressure has been low to moderate this season. Insect hatch, being synched with plant phenology, has been staggered. Sweep net sampling has been finding **spotted fireworm**, **false armyworm**, **gypsy moth**, **Sparganothis** and to a lesser extent **pyramid worm** and **blossom worm**. A few **spanworm** are just beginning to show up. There has been no sign, as yet, of the **spotted cutworm** that caused damage in 1998. A few **cranberry weevil** have also been found, but in low numbers. **Blackheaded fireworm** have been very scarce. Pheromone traps for **blackheaded fireworm** probably should go out in the next week. The most common cutworm has been **false armyworm**, but levels have been below threshold (4.5/sweep set) in most instances. Sweep sampling has appeared to be working well to date, but in a few instances night sweeping is finding some discrepancies. Growers should conduct some night sweeps *before* we get into bloom. This is the best insurance against nasty surprises from cutworms. □

Waterfowl Damage Continues in Cranberries

Raymond J. Samulis, Burlington County Agricultural Agent

Wildlife damage to crops has recently increased throughout Burlington County at an alarming rate. Most of the attention is focused on deer damage, but for cranberry growers as well as some field crop growers, geese and other waterfowl are taking front stage. Just this past week, I observed severe damage to a newly planted bog. The damage was not discovered until the water was removed from the bog. Over the winter, swans and/or geese caused literally thousands of depressions ranging from one to two feet wide and eight to ten inches deep. Nesting instincts of the birds along with possible feeding on select weeds made a laser-leveled field into something resembling an artillery projectile range. Upon evaluation of corrective actions, there was little recourse except re-leveling and replanting. Having a crew hand-fill the holes would be very time consuming, expensive, and still result in serious unevenness in the field.

The issue of migratory bird damage to crops is not new. The Burlington County Board of Agriculture has for the past few years debated and attempted to deal with the problem. There are however, many extenuating circumstances that make this difficult. First, there is a formal international treaty between the US and Canada to protect this migratory species. Many farmers feel we can change our state laws to permit hunting, but that does not deal with the larger, international issues. Second, we are in constant debate with officials defining the difference between migratory and resident flocks. It is difficult, if not impossible, to tell which are which. Many local farms have flocks that don't leave in the winter, yet there is disagreement whether these are resident flocks or migratory flocks. There is also scientific evidence that shows the number of mating pairs that reach the northern nesting grounds is dangerously low. Theories on the causes of this are varied, ranging from global warming, over-hunting, and the negative impacts of pollution.

Where do we go from here? Special permits can be obtained to limit these damaging fowl. But the process is long and difficult, as you might expect. There is one farmer we know of who successfully



Photos by Raymond J. Samulis

completed the process, which took over six months and continuous intervention. The permit allows the farmer to carry a gun and shoot limited numbers of birds as a deterrent. The Animal Damage Control Center in Atlantic City can assist in getting the federal permits. Mr. Boggs, who can be contacted at (609) 485-6015, is there to assist with waterfowl damage control. □

Mating Disruption for Sparganothis Fruitworm

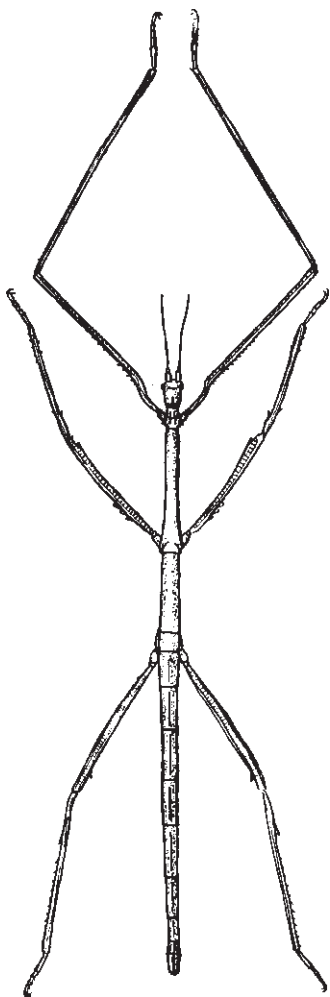
Sridhar Polavarapu, Ph.D., Entomology and IPM

After several years of research funded by the New Jersey Blueberry and Cranberry Research Council, Ocean Spray Cranberries, Cranberry Institute, Wisconsin Cranberry Board, and several programs of USDA, we finally have a product available for the first time this season for disrupting the mating of Sparganothis fruitworm. This product, manufactured by 3M Canada Corporation, is exempt from the EPA tolerance requirement because of its non-toxic nature. The 3M technology uses a proprietary process to microencapsulate the major component of the sex pheromone of Sparganothis. The encapsulation process allows the slow release of the pheromone over the duration of adult flight. The presence of pheromone in the treated area is expected to reduce female mating and thereby decrease the number of larvae during the following generation. During the 1998 season, in our field trials, pheromone application was as effective as the conventional organophosphate application for Sparganothis fruitworm management.

The recommended use rate for this product, based on extensive research conducted in New Jersey, is 2-2.5 fl.oz per application applied twice per adult flight. The first application should be made around the beginning of the first adult captures in the pheromone traps. A second application should follow 10-14 days after the first application. The microencapsulated pheromone can be applied by air or through the chemigation system.

Mating disruption for Sparganothis fruitworm and use of Confirm 2F during bloom can be combined to provide an effective IPM program to manage Sparganothis fruitworm and Spotted fireworm, the two most important fruit feeding pests in New Jersey. In addition to the two applications of the pheromone (at 2-2.5 fl.oz/application/acre), you may have to apply Confirm 2F in the last week of June followed by a second application at 7-10 day interval. If Sparganothis fruitworm and Spotted fireworm are the only major pests you have, this program should provide adequate control of these two pests and replace the old organophosphate (Lorsban/Guthion/Diazinon) application immediately after the removal of honey bees. Confirm 2F has no effect on insects other than caterpillars and mating disruption with the Sparganothis fruitworm will affect only Sparganothis fruitworm populations. The advantages of this new program are 1) selective control of target pests leaving the insects' natural enemies and pollinator species unaffected, 2) non-toxic to agricultural workers and has only a 4-hour restricted reentry interval, 3) no food residue problems or other concerns typical of organophosphates, 4) enhanced environmental safety. The disadvantages are 1) higher cost compared to conventional organophosphate applications, 2) lack of control of minor pests such as tipworm, blunt nosed leafhopper, flea beetle etc.

The microencapsulated pheromone product (3M sprayable pheromone for Sparganothis fruitworm) can be purchased from AG-CHEM INC (Ed Gunther, 609-694-0120). AG-CHEM INC. is the sole supplier of this product for New Jersey. I suggest that you try this program on a small scale and compare it with conventional organophosphate use. After all, we may not have the organophosphates forever. □



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