CRANBERRY GIRDLER

If you actively monitor pheromone traps for Cranberry Girdler, you may have noticed increased flight numbers during 1995. Those of us who keep our pheromone traps in the same location year after year tend have noticed trends in the peak flight numbers over time. During 1995 many locations had increased flight levels, meaning there was significantly more adults found in the traps than during previous years.

Questions have always been raised about the accuracy of using trap numbers as an indicator of infestation level. Although using these numbers as indicators may be highly speculative, I feel they have some validity if the pheromone trap is place in the same location for many years (the southwest side of a large block of cranberries) and the same type of pheromone lure is used each year. At an IPM consultants meeting this winter, a number of consultants agreed that girdler flight levels greater than 65 cause concern. Although this infestation level is perhaps an arbitrary number, I feel in may be accurate. When numbers of girdler moths in traps approach 65, the ability to damage on a property is much greater.

When flight numbers approach 65, it is necessary to physically scout the entire property for girdler activity. As written in the Cranberry Pest Control fact sheet titled “The cranberry girdler”, the larvae feeds on the bark and wood in the leaf litter on the floor of the bed. Damage can be seen either in later fall or spring. Beds which have localized dead spots should be inspected for girdler damage. In the spring, the pupae are found (with difficulty) on the floor of the bed. The adults emerge from June through July. Larvae emerge in August and feed throughout the late summer and fall.

If you do not yet have the fact sheets from the University of Wisconsin-Extension, call 608-262-3346 and order bulletin A3188. Al of the cranberry fact sheets are a necessity for the cranberry grower who cannot identify, or does not thoroughly understand insect morphology.

Jonathan Smith, Northland Cranberries

Inside:	Page

PESTICIDE UPDATE

D*Z*N Diazinon AG600 WBC, a new water-based liquid concentrate insecticide is now registered in Wisconsin for use on cranberry. The main advantage of this water based product is the claimed reduction in potential vine injury sometimes caused by petroleum based solvents. With the elimination of the petroleum solvent base the new formulation is non-flammable and may increase handler safety compared to Diazinon AG500 and 4EC which contain petroleum based solvents.

Similar to the existing AG500 formulation, Diazinon AG600 WBC carries blackheaded fireworm, cranberry fruitworms, and cranberry tipworm on the label. Due to a higher

concentration of active ingredient in AG600 WBC, the amount of formulated material per acre has been changed. Labeled rates of AG600 WBC for fireworm and tipworm are 54.5 fluid oz./acre while fruitworm applications range from 54.5-82 fluid oz./acre (about 1.7 -2.5 quarts/acre). A maximum of only 4 applications per growing season is permitted for the 82 fluid oz./acre rate while a maximum of six applications per growing season is allowed for the 54.5 fluid oz./acre rate. **DO NOT** apply more than a total of 328 fluid oz. of product per acre per growing season. Also, allow a minimum of 14 days between applications and a minimum of 7 days between the last application and harvest (7 day PHI).

Diazinon AG600 WBC being sold only by Ciba during the 1996 growing season is a **restricted use** pesticide so you must be a certified pesticide applicator to use this product. It can be applied to cranberries via ground, aerial or sprinkler application methods. For ground applications apply the product in a minimum of 15 gallons of water/acre, aerial a minimum of 5 gallons of water/acre (unlike Diazinon AG500 which requires 20 gallons of water/acre by air) and chemigation up to 400 gallons of water/acre. The restricted entry interval (REI) is 24 hours. If you plan to enter the treated area prior to 24 hours after application, be sure to wear the proper personal protective equipment (PPE) as outlined on the label under the Worker Protection Standards. Also, be sure to read and adhere to all environmental precautions as stated on the label. Remember, the label is the law!

Biosys, producers of the nematode labeled for control of cranberry girdler has changed the name of their product from BioSafe-N to BioVector for the 1996 growing season. The active ingredient (20% *Steinernema carpocapsae* nematodes), rates (2 billion/acre for girdler), formulation (water dispersible granules) and packaging (4 billion/case) remain unchanged. BioVector, which was previously labeled only for mint now carries both cranberries and mint on the label.

In Wisconsin, BioVector is being distributed by Cole Grower Service, a United Ag Products company. Cole recently build storage facilities in Plover, WI where the nematodes will be housed and shipped. The cost of he product will be the same as last year ($280/case of 4 billion), or if you're treating for cranberry girdler at the recommended rate of 2 billion/A, $140/A.

Label changes for both Casoron 4G (UniRoyal) and Norosac 4G (PBI Gordon) were approved by EPA on February 6 and April 9, 1996 respectively. The changed section of the labels that pertains to cranberries now states: "Multiple applications may be made as needed. Allow an interval of 3 to 6 weeks between treatments. **Do Not** exceed 100 lbs/A in any twelve month period". Again, although the 1996 products have already been packaged with the old label, any old labeled materials can be used according to the new label provided you have the new label in your possession. Be sure to ask you local agrichemical distributor for the new label.

Tim Dittl, Ocean Spray Cranberries, Inc.

GYPSY MOTH COUNTS

Gypsy moth traps for 1995 make me very nervous 104,918 male moths were caught in Wisconsin in 995 and only 10,336 in 1994.

The hatching of gypsy moth eggs coincides with budding of most hardwood trees. Larvae emerge from egg masses from early spring through mid-May. Gypsy moth larvae prefer hardwood trees, but have bee known to slip into our beds and feed on cranberry vines. The first instar chew small holes in the leaves, the second and third instar feed from the outer edge of a leaf toward the center. They can defoliate trees when the numbers are high.

This pest gets it's nickname from its habits of laying its eggs on cars, trucks and other mobile objects, thus wandering far and wide like a gypsy. If you are vacationing to areas that have

high populations of male moths (like Door, Kewaunee, Brown, Oconto and Outagamie counties) check to see if you are carrying egg masses back with you. It has been suggested that one can scrape the egg masses off and then burn or soak it in soapy water. One egg mass can produce 500 to 1000 larvae!

In a conversation with Christopher Batio, (USDA Forest Service) I find that there is an area of 970 acres in Portage and Wood County that is being treated this year. (This is getting close to Cranberry land.) How does one decide if specific acres need to be treated? Once a trapper finds 4-5 male moths in a trap, an egg mass survey is conducted in that area. The egg mass survey is from September to December. Keep in mind that 500 to 1000 larvae come from one mass and if multiple masses are found the area is an excellent candidate for treatment. Near lake Wazeecha numerous egg masses were found, thus 90 acres are being treated.

Should you need more information concerning Gypsy Moth activity or fact sheets on this pest, please feel free to call 800-642-MOTH or let me know. I have some fact sheet that I would be willing to mail to you.

Jayne Sojka, Lady Bug IPM

SPRAY ADJUVANTS

During the past couple of growing seasons we have seen an increase in the number of growers using adjuvants when making fertilizer and pesticide applications. Adjuvants are materials that are added to spray solutions in order to enhance or modify their performance. There are a number of spray adjuvants currently being used in cranberries. Adjuvants can be: surfactants, crop oils, fertilizers, dyes, exciters, stickers, scent masking agents, pH buffers, anti-foaming agents, soaps, etc. Most of these adjuvants work well when used according to label specifications. However, there are times when they do not work well. Always consult pesticide labels before adding any adjuvants. In most cases if the pesticide label does not specify a particular adjuvant you probably don't need one.

If you decide to add an adjuvant it is always recommended to perform a small jar compatibility test to ensure that your spray adjuvants are compatible with your spray solution. This simple test can easily save countless hours of cleaning plugged sprayers and wasting chemicals because of incompatible mixtures of pesticides and adjuvants. Be aware that there is always the chance that an addition of any adjuvant can cause synergistic chemical reactions that may damage your crop. A test on a small area of crop, under expected conditions of your application, is appropriate to test for harmful effects.

Remember that chemical companies may not be legally liable for any injury to your crop in the advent that you use an adjuvant that is not labeled for use with their product. Also, remember that some adjuvants may extend the life of pesticides which could result in possible pesticide residue concerns at harvest.

Cranberry herbicides are probably the greatest group of pesticides that will benefit from the use of adjuvants. Many cranberry herbicide labels recommend surfactants, crop oils or fertilizers to be added to enhance product performance. Below are some characteristics and general uses of different classes of adjuvants.

Surfactants are spray additives that can enhance or facilitate the dispersing, spreading or wetting properties of liquids. The most common surfactants are non-ionic and anionic. The products have special properties that help them interact will with plant surfaces, pesticides and water. Cranberry growers commonly use non-ionic surfactants with Fusilade, Poast and Prism. Surfactants help reduce the surface tension of spray solutions and allow intimate contact between the plant surface and the spray droplet. Greater contact between droplets and the plant leaf increases the chance that the active

ingredient will be absorbed into the plant. Surfactants increase herbicide absorption by:

1. Causing a uniform spreading of the spray solution and increased wetting of a plant's surfaces.
2. Help spray droplets bind to plant surfaces, reducing runoff risk.
3. Ensure that the droplets actually come in contact with the plant surface and are not hung up on hairs, scales or other plant appendages.
4. Assist in the partial breakdown of the plant cuticle lipids (fats).

There are a number of surfactants available because most major chemical manufacturers make or recommend their own brands to be used with their pesticides. Ask your agri-dealer for more information.

Emulsifiable crop oils are another type of adjuvant that cranberry growers may use. Crop oils usually contain 80-90% nonphytotoxic oils and about 10-20% surfactants. Most oils are derived from plant seeds and perform similarly to petroleum oils. Crop oils often have better plant penetration abilities than surfactants. The surfactant portion of crop oil concentrates tends to help lower the surface tension of spray solutions. It is possible that crop oils may soon replace water as the carrier of many new post-emergent herbicides. This would be an advantage because many herbicides are difficult to formulate in water. Crop oils are commonly used with Poast and Prism on cranberries.

Fertilizers are another adjuvant that some growers are beginning to add to their post-emergent herbicides. Ammonium sulfate or urea with ammonium nitrate are often added to spray solutions of glyphosate (Roundup) to enhance weed control. The exact mode of action is still unclear, however, it is possible that the fertilizer prevents the herbicides from crystallizing on the plant surface and allows it to be more readily absorbed.

There are several other adjuvants you may consider using with herbicides. Adjuvants can be useful tools in cranberry management. They can help control problem weeds that may have been difficult in the past. Be sure to read labels on pesticides and on adjuvants. Remember to use adjuvants wisely and watch for plant phytotoxic effects.

Leroy Kummer, Ocean Spray Cranberries.

OMITE CANCELLATION WILL NOT AFFECT WISCONSIN GROWERS

Use of the miticide propargite (brand name Omite, produced by Uniroyal) has been canceled on many crops, including cranberry. Omite has been used by cranberry growers on the East Coast for control of southern red mite, which can be a serious pest in Massachusetts and New Jersey. Spider mites have never been a problem in Wisconsin cranberry production and this loss of registration will not affect Wisconsin growers.

Omite has been very important for controlling mites on other Wisconsin fruit crops. Twospotted spider mite is a pest of tree fruits, strawberry, and raspberry. European red mite is another species which is a serious pest of tree fruits. These species have never been documented to damage cranberry under field conditions. The loss of Omite to Wisconsin orchardists in particular is a serious matter.

Dan Mahr, Department of Entomology

Place me behind prison walls ever so high, ever so thick, ever so strong, yet in some way, at some time, I may escape; but draw a chalk line around me and have me give my word of honor not to cross it, can I ever escape? No, never! I die first!

Karl G. Measer

WHERE IS CCM?

We have had several questions about the status of Cranberry Crop Manager, the computer software being developed by UW Extension. In retrospect, I suppose I was overly optimistic about having CCM ready for release by the beginning of the growing season. Being optimistic is not something I need confess to very often; indeed, my wife Susan is convinced that, after my eventual demise, my obituary will read, "He long suffered from terminal pessimism." Those who know me well will concur. I can only claim that the affliction has environmental, rather than genetic causes. Anyway, I digress.

CCM is mostly done. But the last 5% is not coming easy. Our programmer, Paul Kaarakka, has done as fine of job as possible developing such sophisticated software on only a part-time basis. We distributed a "beta" version to a half dozen cooperators (mostly growers in the Cranmoor area) in April and asked them to test it for a couple weeks. Paul and I then spent two days meeting with the evaluators and getting comments. The feedback, both good and bad, was excellent and very much needed. Some of the growers found serious bugs and glitches that obviously needed fixing. More common than the needed fixes, though, were suggestions for additions and changes. Paul has spent the past couple weeks working on both the corrections and some of the other suggestions. We are making progress.

Of a greater concern to me, however, are some inconsistencies in the pest management models that CCM was developed to run. In just the past couple of days I've heard that some of our predictions (such as blackheaded fireworm egg hatch) are WAY off. I need to fully follow up on these, and also contact the other evaluators to see if the problems are universal. This situation is somewhat perplexing because the same model has been tested in another form by a few growers for a few years, and has generally been quite accurate.

Anyway, I will not release CCM until I know it is running smoothly. I want to distribute a quality product; therefore I willingly take full responsibilities for the delays. So when WILL CCM be released? Paul and I are now looking at "sometime in June". But then, I don't want to be accused of being optimistic twice in a row. We will keep you informed through this newsletter.

Dan Mahr, Department of Entomology

CRANBERRY MINI-CLINICS PLANNED

Two mini-clinics are planned for Wisconsin cranberry growers in June. Mini-clinics are informal gatherings where growers and University faculty can gather at a farm to discuss areas of current interest. Each session will last about 2 hours. Dan Mahr, Patty McManus and Teryl Roper will be at each session and will give short presentations followed by time to ask questions, examine samples and perhaps tour part of the marsh. The dates and times are:

Tuesday June 18

10:00 am Rocky Run Cranberry Marsh
Host: Jerry Laux

Wednesday June 19

2:00 pm Warrens area
Host: To be determined

Please put these dates on your calendar and plan to attend the session in your area. No registration is required. We'll get more information about the clinics to you as the date approaches.

I don't know who my grandfather was; I am much more concerned to know what his grandson will be.

Abraham Lincoln

Wisconsin Cranberry Crop Management Newsletter
Department of Horticulture
1575 Linden Drive
Madison, WI 53706-1590

Nonprofit Org.
U.S. Postage
PAID
Madison, WI
Permit No. 658