Integrated Cranberry Crop Management for Wisconsin

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Cranberry

Crop Management Newsletter

Contents:

White Grub/June Beetles

In 2003 the Lady Bug Team started a 3-year study on White Grub flight (Phyllaphaga). We have used to different types of lures (one a bubble lure and the other a septa lure). These two traps have been placed 20 yards apart within the same cranberry beds. Every week we rotated the traps/lures to document any significant differences in location and lure type.

See the beetle numbers and compare the (b) bubble lure and the (s) septa lure. (Figure 1)

We started this experiment because of the damage we see in some of our cranberry beds from the undermining grub. When we see vine loss and large areas of crop destroyed it always raises a red flag. It is unfortunate that, like the girdler, it is quite difficult to detect the presence of the pest until we see vine stress. To further understand the infestation we need to conduct this study for three full years, as the insects have a 3-year life cycle. All three stages are present at the same time.

It is our hope that by doing this research we can better understand which lure will serve us better. We feel that early detection is necessary, and if we do this type of research early we can have a monitoring tool in place that will assist us in knowing if there is a White Grub problem before we see the damage. It will also assist us in knowing the kind of pressure that we would be dealing with.

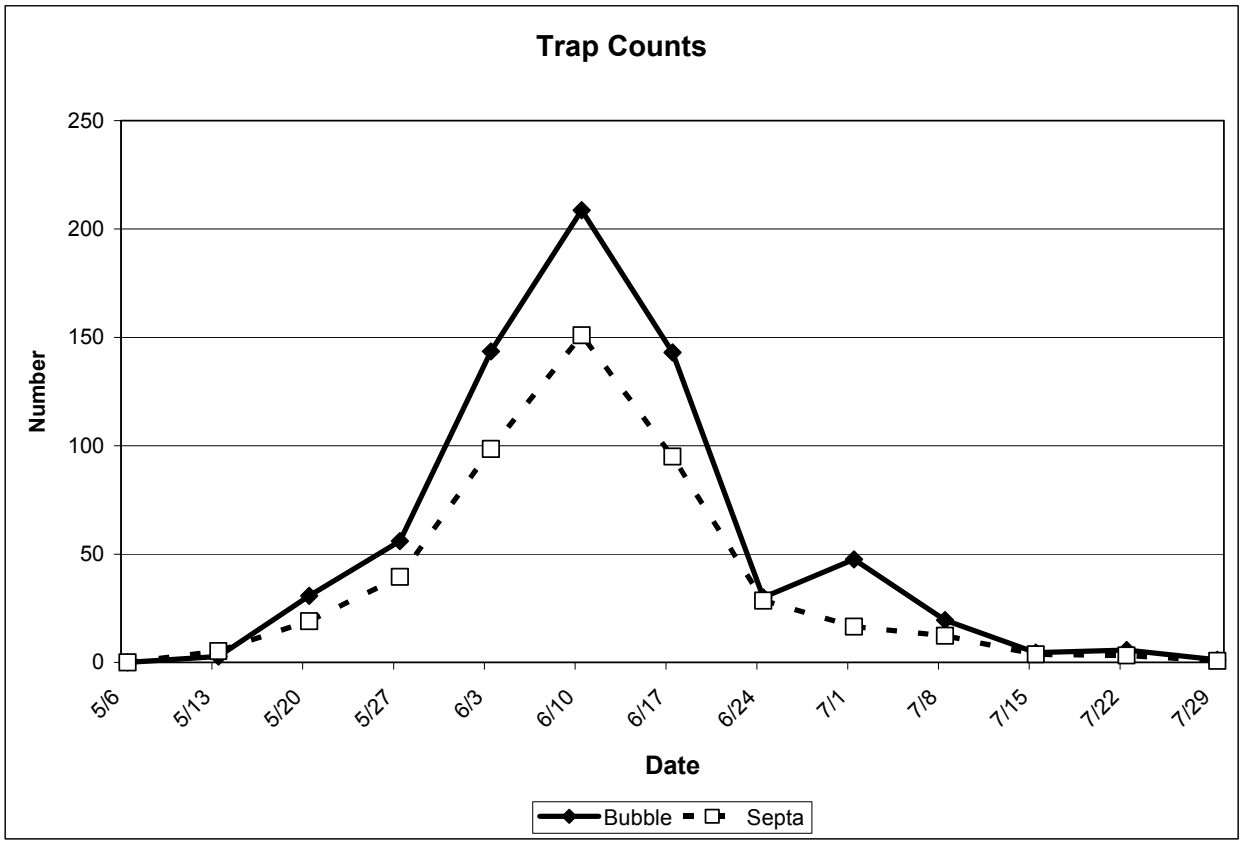
At the present time the only known control is flooding from mid-May through mid-July. By doing this one can expect 90% control of White Grub, but guess what? It always takes the crop with the flood!

I understand that research is being conducted this year on White Grub control, so we may have another means of fighting the battle of this pest in the near future.

Jayne Sojka and the Lady Bug IPM Team

The very abundance of books in our days—a stupefying and terrifying abundance—has made it more important to know how to choose. The first piece of advice I will venture to give you is this: Read only the best books. Let not an hour be wasted on third-rate or second-rate stuff if first-rate stuff can be had.

James Byce



CRANBERRY STEM GALL

For the past few years my research group has studied cranberry stem gall, otherwise known as canker. We've written about it in Cranberry School Proceedings and newsletters, so I won't go into a lot of detail here. A bulletin is being produced and should be ready by mid summer.

To sum up our findings, we believe that bacteria that produce the plant growth hormone IAA are responsible for stem gall. We do not know why the problem is rampant in some years and absent in other years. Clearly there's a huge environmental influence, and it appears that injury (at harvest or during winter) is part of the picture. The graduate student who was focusing on the project has graduated, and we have no one specifically studying stem gall at this time. However, many questions remain unanswered, and I am still very much interested in the problem. Therefore, if you come across cases of stem gall, I'd be interested in hearing about it. I may or may not have time to visit the site and see it first hand. But if you think you can relate the problem to some cultural practice or specific environmental influences, I'd like to hear from you.

Patty McManus, UW-Madison Extension Plant Pathologist

COTTONBALL CONTROL

Orbit—Times Up!

Just a reminder that the 2004 Section 18 for Orbit expired on June 15. The intent of the Section 18 was to allow growers to use it for shoot elongation sprays. I realize that in northern Wisconsin shoots are still elongating on this date, but EPA was reluctant to use only the wording "before bloom." Based on Orbit use forms submitted by growers in previous years, it looked like most "before bloom" sprays were done by June 15. Hence, the deadline of June 15. Later this summer I'll distribute a form for you to report your Orbit use. Please, don't anyone tell me that you used it past June 15!

Abound

The bloom period is the most effective time to control cottonball. In fact, most growers who have cottonball have levels low enough that they can spray once or twice during bloom and keep the disease well below economically significant levels. With Orbit no longer permitted during bloom, we have two fungicide choices for controlling cottonball during bloom: Abound (azoxystrobin) and Bravo (chlorothalonil). There are other fungicides (copper, mancozeb), but these are not effective against cottonball. My research trials have been plagued with low disease pressure—even when I set them up where cottonball has been a regular problem. Therefore, the data on Abound and Bravo are limited. However, the data we have say that Abound and Bravo are as good as Orbit *when they are applied at early and full bloom (i.e., about 10-20% in bloom and 50% in bloom)*. There are several anecdotal reports and some research suggesting that Bravo reduces fruit set and yield when applied to flowers, especially during early bloom. The worst cases are where Bravo is applied in low gallons/acre (e.g., less than 30) and therefore is quite concentrated when it hits the fruit. Given this significant drawback, Abound is the fungicide of choice for cottonball bloom sprays. I do not have good data on the efficacy of lower vs. higher rates. If you are considering just one spray during bloom, lean toward early bloom—those flowers are more likely to produce fruit and therefore are the ones you want to protect. In any case, after fruit are set, you can no longer control cottonball. The fungus is deep within the developing ovary and no spray will eradicate it at that point.

Patty McManus, UW-Madison Extension Plant Pathologist

FRUIT ROT CONSIDERATIONS

At the 2004 Cranberry School I talked about managing fruit rot. Please see the article in the proceedings for more details. Below I will just highlight some points that you should keep in mind when decide when, if, and with what to treat for fruit rot control

1. **To spray or not to spray?** If your level of fruit rot at harvest in 2003 was about 10% or less, you're at about par for Wisconsin. I would say to just take your chances in 2004, because fungicides are not likely to pay for themselves at that level. However, if rot was 15% or greater, and especially if you had specific

pathogens identified in the fruit, then fungicides are probably justified in 2004.

2. **Fungicides.** The available fungicides have their pros and cons.
   - Bravo (chlorothalonil). This is the most effective fruit rot fungicide, but it can be phytotoxic, especially if applied during bloom.
   - Abound (azoxystrobin). This has been so-so in trials, sometimes doing as well as Bravo, other times not. It is not phytotoxic and is safe to bees, birds, and mammals. However, it is toxic to fish. Read the label carefully.
   - Dithane, Penncozeb, others (mancozeb). Mancozeb has been only fair in controlling fruit rot, and it reduces fruit color if applied during bloom or to young fruit.
   - Kocide, COCS, Champ, others (copper). Coppers are among the weakest of the fruit rot fungicides. In the eastern US where fruit rot exceeds 50% in untreated checks, copper certainly helps. But in Wisconsin, where rot in trials has been 3-10%, copper has never done better than the untreated check.
3. **When to spray what?** Bravo has the proven track record *if sprays are started during full to late bloom.* If you wait until after bloom, the efficacy of Bravo drops off quickly. For example, in one trial, applying Bravo once at 50% out of bloom and a second time 10 days later at 80% out of bloom resulted in 8% rot at harvest, whereas applying Bravo at 10 and 20 days after bloom resulted in 42% rot at harvest. Abound is safe during bloom, but it has not been as consistently effective as Bravo. A compromise that I think would work for most situations in Wisconsin would be to use Abound at full bloom (50-60%) and then Bravo about 10 days later. This should protect fruit but minimize phytotoxicity. In general, Bravo has been tested at rates of 4 to 5.5 pints/acre (with higher rates doing slightly better than lower rates) and Abound at 15 to 15.3 fl oz per acre. Because Abound results have been inconsistent even at these high rates, researchers have not included half rates in their trials.

Patty McManus, UW-Madison Extension Plant Pathologist

IN MEMORIAM

As many of you are probably aware, on Friday May 7 Dr. Sridhar Polavarapu passed away at the age of forty two after battling pancreatic cancer. He is survived by his wife Madhavi, and his two young children—daughter Sameera (7) and son Vinay (3). Sridhar was employed as an entomologist at Rutgers University for a period of about 10 years, and although his career was relatively short, Sridhar managed to accomplish more at the University than many would during a life-long career.

Through Sridhar's competitiveness and scientific excellence he has brought hundreds of thousands of dollars to our industry as a direct result of competitive grants and gifts of aid granted him. Sridhar has left behind a substantial endowment that he has asked be used for entomological research towards the blueberry and cranberry industries. Sridhar, through this

endowment of about $300,000, will continue to provide our industries with research funding. This situation of financial support greatly differs from the one that Sridhar's family is faced with as prior to his death he had not yet purchased life insurance.

The Blueberry and Cranberry Research Council (NJ) along with Sridhar's colleagues, are seeking funds to be donated to Sridhar's wife for the support and well being of their children. The funds are slated to be placed in a 529 college education fund selected by Madhavi toward higher learning, although not necessarily to be limited to their education if other needs arise.

Thos interested in making a donation should please make their checks payable to "Sridhar's Children's Fund", and should send their checks to:

NJ Blueberry Cranberry Research Council, Inc.
Attn: Kathleen Phelan
3432A Route 563
Chatsworth, NJ 08019

The distribution of funds to Madhavi Polavarapu will include a list of donors. If your donation is to remain anonymous, please indicate such a wish when you send your check to Kathleen. Thank you very much to anyone who is able to help.

Joe Darlington, Arthur Galletta
Bill Haines, Abbott Lee, Denny Doyle, Paul Macrie, Dave Berger, Ed Stepler

HISTORY IN THE MAKING

In the April 2004 issue of National Geographic the crane migration story caught my eye. I was especially interested in reading about the whooping cranes as I have had the privilege of watching them on some of our marshes in Central Wisconsin. The Necedah Wildlife refuge has been raising some chicks and they have been traveling around our area. In the article, crane biologist, Richard Urbanek explains that the chicks have been raised in captivity but have never heard a human voice nor seen a human form except in crane costumes. As part of an experimental program to reintroduce a wild migratory population of whooping crane to the Eastern half of North America these chick have been fed and tended by crane costumed people for 2 months.

These yearlings have been described as 5 feet tall, snow white plumage and elegant black wing tips that spread like fingers when they fly. From the long trachea coiled in their breastbones may come a wild singing whoop, harsh and thrilling that gives their tribe its name.

In this 2 month period of time the crane clad biologists teach the habits of the crane ancestors with modern techniques provided by OPERATION MIGRATION, an organization devoted to helping endangered birds learn traditional migratory routes. An ultralight plane flown by a pilot in crane costume guides them from the refuge 1200 miles across 7 states to Florida.

Two Cohorts have already made such trips and returned on their own. After three years of such ultralight - led migrations the populations are now 36 birds which include the yearlings and the chicks. I understand that the success of this effort is leading the way for a more ambitious project half a world away in the northern reaches of Russia.

Perhaps you will be a witness to history in the making on or around your marsh this summer. Keep an eye to the sky.

Enjoying the fringe benefits of working in and around cranberry marshes,

Jayne Sojka and the Lady Bug Team

Extension Specialists in Central Wisconsin

The fruit crop Extension team will be in central Wisconsin on Wednesday July 7. Rather than hold small group meetings we are soliciting invitations to visit with you on your marsh. If you have something that you would like us to see or be aware of we would like to hear from you. Please contact Teryl Roper (608-262-9751, trroper@wisc.edu) and describe your situation and he'll work the itinerary to visit as many properties in one area as we can. While we can't promise that we'll make it to every marsh that contacts us, we'll do the best we can. If there is sufficient interest we'll make arrangements to do this on a second day and in future years.

Cranberry Field Day

The annual Wisconsin Cranberry Summer Field Day will be held on Wednesday August 4 at the Prairie Vista Cranberry Company on Hwy 73 between Wisconsin Rapids and Plainfield. More information will be made available in this newsletter as well as in the WSCGA newsletter. The summer field day is sponsored jointly by the WSCGA and the University of Wisconsin-Extension. Put this date on your calendar now and plan to attend.