CROP FORECAST BUD COUNTS & DENSITY PROFILE

In early May buds have been analyzed for the 1993 growing season. On thirty separate properties, uprights were clipped and taken to our lab for analysis. A table showing a comparison from the 1991, 1992 and 1993 growing seasons is at the end of this article.

Counting buds is **very** time consuming, but I believe that it is an excellent tool indicating the crop potential for the growing season. This year, THE LADY BUGS have gone a step further. We have numerous plots on our marshes where buds are tagged. Each tag indicates something different. For example one tag may tell us that the bud should be reproductive, another vegetative, and yet another may be questionable because of a noticeable stress or double budding. We are taking notes weekly on these plots in hopes of answering numerous questions that have come from counting buds. Perhaps in the near future we may be able to shed some light on potential verses actual harvested fruit.

Date	Cultivar	# of Sites	Upright density (#. sq ft)	Mean % reproductive
5/6/91	Searles	18	230-481	48
5/4/92		22	259-440	53
5/3/93		26	296-491	44
5/6/91	Stevens	26	132-392	66
5/4/92		28	70-430	59
5/3/93		30	156-456	61
5/6/91	Ben Lear	14	148-497	68
5/4/92		14	125-391	47
5/3/93		16	294-490	52
5/6/91	Crowley	4	234-295	66
5/4/92		8	220-306	54
5/3/93		8	210-301	45
5/6/91	McFarlin	4	277-389	66
5/4/92		6	206-397	57
5/3/93		10	240-335	57

Jayne Sojka, Lady Bug IPM

1992 VINE DIEBACK

The 1992 growing season showered us with many challenges. One such phenomenon was an irregular die-back that caught the eye because of the reddish-brown and almost black spots that developed on leaves and the burnt cast that tips showed. These particular signs were most obvious toward the end of the growing season. Upon a

closer look at this upright discoloration we could **NOT** find a distinct pattern. In the process of elimination we found that it was not just around sprinkler heads, or in puddle areas, or in areas that did not appear to have any apparent reason for development. We sent samples to the Lab for analysis. The isolations showed Phyllosticta, which is defined as being an early rot (scald) of cranberry and blast of blossoms and young fruit by Dr. Don Boone. Some refer to it as bullseye. (Specific details are available in UW-Extension bulletin A3352 *Early rot (scald) of cranberry and blast of blossoms and young fruit.*)

It has been found in new plantings as well as some well established beds so we will be sending in additional samples for analysis this spring.

Keep an eye on your own marsh. Remember that each growing season presents its very own challenges so don't be afraid to send in samples to a lab for an analysis. This will assist you in identifying a potential problem and guide you in the best management practice that is available for your use.

Jayne Sojka, Lady Bug IPM

THOUGHTS ON FROST

Sometimes despite our best efforts to prevent frost injury we still have some areas that suffer from frost. This usually appears as damaged upright tips. The terminal buds and new growth are most susceptible to frost and are most likely to be damaged during a spotty, unprotected frost. If the bud or new growth is completely killed new growth will likely come from axillary buds on the one-year-old stems. These buds are found where leaves connect to the stem. Since flower buds are found only in the terminal buds, growth from these lateral, axillary buds will never bear fruit. (If someone can show me an exception I would like to see it!)

Should these frosted areas be managed any different than other areas? It is my opinion that management would be very similar. Without fruit growth, vine growth may easily be stimulated, so applications of nitrogen should be made cautiously to prevent excessive vine growth. Diseases and insects must still be managed to prevent the spread of pests from these to other areas. If you have some frosted areas, all is not lost, but you will have to wait a year for a crop.

Teryl Roper, UW Dept.of Horticulture

NORTHWEST NOTES

This year's news now includes information from one marsh in the Northwest District. Our weather here has been cold and wet, with temperatures well below normal (for the first time in four years, I've been scouting in a winter jacket, long johns and insulated boots!). Area marshes flooded from 5/14 - 5/17 to protect from freezing with marshes further south and west sprinkling for frost protection. Plant growth is about 2-3 weeks behind, with buds mainly in the cabbage head stage and growth along ditches varying from 1/8" to 2".

Blackheaded Fireworm were first swept in Rusk county the week of 5/17 and in Oneida county the week of 5/24. An occasional larva has been swept in Vilas county, but widespread hatch doesn't seem to have occurred yet. Size varies from newly hatched to very young larvae. I've also been sweeping a few very young False Armyworm & Green and Brown Spanworm. The first tipworm larva was observed on May 29. When going over last year's reports, I found that peak Tipworm activity in our area occurred June 9-12 and July 14-21, with the most adult female flies being swept during the July period.

At this time, the only weeds in bloom are Leatherleaf, Bog Rosemary and Bog Laurel. Sensitive fern is beginning to shoot up as well as dewberry. Creeping sedge is beginning to flower and other grasses are up. I've found an excellent book on grass identification titled, Grasses - An Identification Guide, by Lauren Brown, published by the Houghton-Mifflin Company. I recommend this book to anyone in the scouting/consulting business.

Ann Merriam, BioCran IPM

PEST PROFILE

Cranberry Tipworm *Dasineura oxycoccana* (Johnson) [Diptera: Cecidomyiidae] belongs to the Gall midge or Gall gnat family of flies. Gall midge adults are tiny delicate flies 1/16 inch long with characteristic long legs and antennae in comparison to their body size. The adult female also has a bright reddish-orange abdomen that can easily be detected in the sweep net. Males are dark in coloration, therefore making identification more difficult. Adult flight normally begins during the last week of May in southern Wisconsin. The number of generations per year is not exactly known, however field data show approximately three to five overlapping flight periods each year in Wisconsin. Adults live approximately two to five days.

The eggs are translucent, elongate and slightly curved. Eggs are laid in the new, lush terminal growth of the upright. Larvae appear to go through three color stages; clear, white and orange as they mature. The larvae are legless segmented maggots that feed with a vertical mouth hook. The rasping of the mouth hood on the cranberry leaf tissue causes the plant to form a "gall or cupping" around the area where feeding occurs. The characteristic cupping of the terminal growth indicated larval feeding damage. Larvae take about 2-3 weeks to complete their development. The exact nature and long term effects of tipworm injury has long been debated and further studies are needed to fully understand the impact of tipworm on cranberry production.

Monitoring for tipworm adults can be accomplished with a sweep net. However, larval activity is best observed by inspecting cupped uprights under a microscope or by using a 10X hand lens. During the week of May 31 adult flight had been frequently observed on southern marshes. Our first signs of egg laying began on May 28.

Tim Dittl, Ocean Spray Cranberries.

FIELD NOTES

Central Wisconsin

The central Wisconsin area has seen many growers treat for spanworms, blackheaded fireworm and sparganothis fruitworm. I believe most marshes probably have reached 100% blackheaded fireworm egg hatch by now. Growers may still be able to find larval activity ranging from 3rd to 5th instars with some larvae possibly already pupating. The larvae will begin webbing when they reach 3rd instar and their webbing should be found easily along bed edges.

Sparganothis fruitworm generally lags about 7 to 10 days behind fireworm as far as development. We are seeing larvae ranging in size from 3rd to 5th instars and doing a lot of webbing. If you have had problems with sparganothis fruitworm in the past, you should be able to find them webbing along bed edges at this time.

Spanworms have been a problem on a few marshes in central Wisconsin. Green Spanworm, Rannoch Loopers, and several miscellaneous spanworms have bee the usual culprits. Growers may be able to find small to large size larvae in their sweep nets. Large larvae tend to cling to vines tighter and may be more difficult to sweep. Spanworms may concentrate in circular patches and feed on the cranberry plant's new growth. Growers should watch for any of these areas.

As of June 2, 1993 we have no caught any adult fireworm, girdler or sparganothis in our pheromone traps in central Wisconsin.

Northern Wisconsin

Blackheaded Fireworm, false armyworm and spanworms are beginning to show up on several marshes in the northern section of the state. We have bee finding some 2nd to 4th instar blackheaded fireworm and some small to medium spanworms and false armyworm.

Insect activity and plant growth in this area appear to be about 7 to 10 days behind the southern part of the state. I suspect many growers will be treating within the next week.

Leroy Kummer, Ocean Spray Cranberries

MARSH RECORD KEEPING

From time to time growers ask me odd questions. A manager called me a while back (I'll bet he thinks I forgot about this) to ask if growers were keeping their marsh records on computer and if so, how were they going about it. I know that many marshes have computers and the computers are used for a variety of tasks, but I had never thought about how growers might keep marsh records on computer. If you keep marsh records on computer how do **you** go about it? What software do you use. Have you developed your own templates? If so, are you willing to share templates (not data)? Please write or call and let me know and I will share what I learn will all.

Marsh records could be kept on a variety of software packages. Database programs are designed for precisely this task. In these programs you create a matrix record. The matrices can be very large. You can think of it as a very large sheet of graph paper with adjustable line spacing. Usually, you have columns with headings along the top. Categories could include pesticide applications, fertilizer applications, yield, color ratings, pest pressure, scouting information, insect trap results, sanding, weeds found, hours frost protected, soil pH, tissue test data, etc. The other axis could be year, month, day, bed, or any other suitable delineation.

Some popular databases include Paradox, D-Base, PFS: File, Q&A, MS Access, PC File and Foxpro. In addition, some integrated packages such as MS Works, WordPerfect Office, Lotus Works, or PFS: Works have a built-in database component that may also be suitable. Some spreadsheets such as Lotus 123, MS Excel, or Quattro Pro can be used as a simple database, but are not as easy to use in this way.

If you are using a computer to keep track of your marsh records, I would be interested in hearing from you. Call me at (608) 262-9751 or write to the return address on the newsletter.

Teryl Roper, UW Dept. of Horticulture.

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UPLAND PLANTINGS

On June 1 and 2 Tod Planer and I visited a number of new upland marshes in central Wisconsin. Some were new marshes being planted by those already in the business. Others are being established by newcomers to the industry. I plan to write more about our observations and some opinions about things that have been done right and wrong. For now let me give some estimates. We estimate that in central Wisconsin somewhere between 300 and 400 acres of upland beds will be planted in 1993. These acres belong to some 20+ properties. The layout and engineering of the beds appears outstanding. During this wet year water is everywhere, but what about in dry years? We have no estimates on wetland beds planted this year.

There is a great diversity of opinion as to what needs to be done and planned for early and what can wait until later. Since we have very little experience with upland plantings, time will tell whose guesses were right and wrong.

Teryl Roper, UW-Extension Horticulturist

Weather

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