

PLANT & PEST ADVISORY

CRANBERRY EDITION \$1.50

JULY 21, 2004



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Reduced-risk and Conventional Insecticides

James D. Barry, Ph.D., Post-Doctoral Research Associate

This year we are finishing a two-year study comparing the ability of organophosphate (e.g., Lorsban, Guthion) and non-organophosphate (e.g., SpinTor, Intrepid, Confirm) insecticides to manage insect pests on cranberry bogs. The evaluation is being conducted on four pairs of bogs, with each pair having one bog managed with OP's (but not exclusively) and the other with only non-OP's. A variety of sampling methods have been used to quantify insect presence, including: sweep-netting, berry damage, visual inspection, pheromone traps, and pitfall traps. Natural enemies, such as parasitoid wasps, spiders, and ground beetles, are also recorded for some of the sampling techniques.

In this bulletin we report on bogs in our study that were each visually inspected for 20 minutes between 16-19 July 2004. All damaged berries were opened to determine presence and identity of caterpillar pests. A total of 74 caterpillars were found, which were identified as: 47 *Sparganothis* fruitworm, 26 cranberry fruitworm, and 1 spotted fireworm. The average number of larvae and berry damage for each spray program are listed in Table 1. Approximately one third of the damaged berries had contained larvae. It is too early to determine if there are any significant differences between spray programs.

Table 1. Number of Damaged Berries and Larvae in Visual Inspections

Spray Program	Damaged berries	Larvae			
		Total	Cranberry Fruitworm	<i>Sparganothis</i>	Spotted Fireworm
OP	34.5	11.25	4.5	6.5	0.25
Non-OP	28.5	7.25	2	5.25	0

Numbers represent averages for four bogs

Managing caterpillars at this time is difficult because larvae spend most of their time inside berries; however, caterpillars moving between berries may get exposed to insecticide. Another insecticide spray may be warranted if larvae are present in significant numbers.

✓ **Cranberry Fruitworm** – Larvae are often greenish and feed inside the cranberry, filling it with frass. This damage often causes berries to turn red prematurely. One larva commonly feeds on 3-8 berries during development. Small and medium-sized larvae are being found, but these caterpillars are not present on all bogs. Unlike *Sparganothis* fruitworm, small cranberry fruitworm larvae always construct a silken door over its

See Cranberry Fruitworm on page 2

Presidential Major Disaster Declaration

On July 16, 2004, President Bush declared a Presidential Major disaster in New Jersey due to damages and losses caused by severe storms and flooding that occurred from July 12, 2004, and continuing. The Presidential Major disaster declaration number is M1530. As a result of this major disaster, Burlington and Camden Counties were declared eligible for Federal disaster assistance, including Farm Service Agency (FSA) emergency (EM) loans for eligible family farmers.

In addition to the two declared counties named above, five other New Jersey counties are named as contiguous counties where eligible family farmers may qualify for FSA EM loan assistance, pursuant to section 321(a) of the Consolidated Farm and Rural Development Act. Those counties are:

Atlantic
Gloucester
Mercer
Monmouth
Ocean

Also, in accordance with section 321(a) of the Consolidated Farm and Rural Development Act, Bucks and Philadelphia Counties in the adjacent State of Pennsylvania are named as contiguous disaster areas where eligible family farmers may qualify for FSA EM loan assistance.

EM loan application will be received through March 16, 2005, for physical and production losses. For the purpose of determining loan security values for these loan applications, the beginning date of the incidence period is July 12, 2004. □

Out in the Field

Raymond J. Samulis, Burlington County Agricultural Agent

In comparison to the recent horror movie by Steven King, "The Storm of the Century", Burlington County farmers and residents literally experienced a 'storm of the century' when over 13 inches of rain fell in a short period of time. Needless to say damage to crops and to structures was considerable. Friday of last week, I spent time showing local damage to New Jersey's Secretary of Agriculture Charles Kuperus and his staff. Secretary Kuperus committed his full support toward helping farmers get needed funding to rebuild. Rutgers Cooperative Extension is also committed to getting farmers the needed help. Severe economic losses occurred to almost all crops in the Medford, Tabernacle, Vincentown, and Pemberton areas. Damaged crops include cranberries, sweet corn, tomatoes, melons, green beans, nursery stock, and others.

Television, newspaper and radio interviews destined for local and national release were conducted to assist in making the public aware of the effect of the storm on the agricultural community.

Cranberries were particularly hard hit in the core areas of the storm. While the effect of the sand washing and other physical injury will be on rot control still remains to be seen. The largest concern is from structural damage to the farms and the ability to water harvest. Oxygen deficiency damage to growing vines and frost might occur; however, water rapidly subsiding from the bog areas was observed.

Farm Service Agency has been designated as the lead organization for both current programs and any future programs that may be established. I have also been working with crop insurance adjusters in establishing the basis for crop losses for cranberries. Be sure to contact FSA so that crop and structural damage can be documented. I am also available to do the same.

I will keep growers posted as to new developments regarding any disaster programs that arise. □

Cranberry Fruitworm from page 1

entrance to the berry. There is a single generation each year. Highbush blueberry is also host.

✓ **Sparganothis Fruitworm** – Early instar *Sparganothis* are similar to cranberry fruitworm in that they both feed inside the berry and fill it with frass. This feeding damage causes the berry to turn red prematurely. However, later instars of *Sparganothis* remove frass from inside of the berries, which allows differentiation from cranberry fruitworm (which continues to put frass inside of the berry). *Sparganothis* can also feed on the berry surface and cranberry foliage, unlike cranberry fruitworm which feeds only on the berry. Most of the *Sparganothis* larvae found in the visual inspections were in the third instar. There are two generations per year.

✓ **Blunt-nosed Leafhopper** – Several bogs have high numbers of blunt-nosed leafhopper. This insect vectors the phytoplasma that causes cranberry false blossom. Intrepid, Confirm, and SpinTor will not control these leafhoppers, instead organophosphates are needed (e.g., Lorsban, Guthion). □

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged below normal, averaging 68 degrees north, 71 degrees central and 73 degrees south. Extremes were 89 degrees at Canoe Brook on the 18th, and 56 degrees at Charlotteburg and Freehold on the 13th and 17th. Weekly rainfall averaged 4.12 inches north, 3.78 inches central, and 4.42 inches south. The heaviest 24 hour total reported was 5.85 inches at Glassboro on the 12th to 13th. Estimated soil moisture, in percent of field capacity, this past week averaged 96 percent north, 93 percent central and 91 percent south. Four inch soil temperatures averaged 71 degrees north, 73 degrees central and 75 degrees south.

Weather Summary for the Week Ending 8 am Monday 7/19/ 4

WEATHER STATIONS	R A I N F A L L			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	3.40	16.86	-1.04	85	60	69.	-4	1514	254	100
CANOE BROOK	3.27	20.19	1.20	89	59	70.	-4	1660	396	99
CHARLOTTEBURG	4.56	20.82	1.65	81	56	67.	-4	1403	381	100
FLEMINGTON	7.43	25.05	6.73	85	60	69.	-5	1568	264	100
LONG VALLEY	3.29	18.50	-1.11	80	58	66.	-5	1346	248	100
NEWTON	2.77	17.95	.46	83	59	68.	-4	1426	302	100
FREEHOLD	3.26	20.44	2.61	88	56	70.	-5	1703	296	95
LONG BRANCH	3.46	18.18	.42	84	63	71.	-3	1516	186	83
NEW BRUNSWICK	3.88	20.53	2.87	87	62	71.	-4	1663	176	100
TOMS RIVER	4.49	20.92	2.82	85	61	72.	-2	1743	403	69
TRENTON	3.79	17.10	.33	87	62	71.	-5	1734	185	79
CAPE MAY COURT HOUSE	3.18	16.46	.72	85	61	73.	-3	1658	229	78
DOWNSTOWN	3.71	18.59	2.15	87	61	72.	-4	1806	244	100
GLASSBORO	7.22	27.80	10.31	87	65	73.	-3	1917	376	100
HAMMONTON	3.16	19.99	2.61	88	61	73.	-3	1868	332	100
POMONA	3.92	16.63	.96	86	62	73.	-2	1775	350	74
SEABROOK	5.32	22.93	7.05	86	64	74.	-2	2015	446	100
SOUTH HARRISON	2.87	22.07	4.43	86	63	72	NA	1911	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week 253 (Ending 7/12/04)										
This Week 222 (Ending 7/19/04)										

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