

PLANT & PEST ADVISORY

CRANBERRY EDITION \$1.50

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Cranberry Fruit Rot Control

Peter Oudemans, Ph.D., Plant Pathology

The time for the first fruit rot application is drawing near. There has been much discussion on the timing and order of fungicide applications. At present four compounds are registered. These compounds are sold in various formulations and are manufactured by one or more companies (see below). Most of these formulations are similar in activity and can be used interchangeably. Registration depends on the active ingredient and the amount of active material applied per acre. You can determine which compound you are using by looking for the active ingredient on the label.

- | | |
|-------------------|--|
| 1. Chlorothalonil | Bravo Weather Stik, Bravo Ultrex, Ensign 720, Supanil 720, Terranil 6L, Terranil 90DF |
| 2. Mancozeb | Dithane DF, Dithane F45, Dithane M45, Dithane DF, Manzate 80WP, Manzate DF, Manex II, Penncozeb DF or Penncozeb WP |
| 3. Maneb | Maneb DF |
| 4. Ferbam | Ferbam 76WP |

There is limited evidence that chlorothalonil (i.e. Bravo) can cause reduced fruit set when applied during the bloom period. It has also been shown that mancozeb (i.e. manzate) can reduce color development in mature fruit. No information is available for ferbam or maneb.

For these reasons an optimum schedule for fruit rot control would be as follows:

1. Ferbam or maneb at scattered bloom, the mancozeb label indicates 50% bloom as the earliest application time.
2. A second application of mancozeb, maneb or ferbam should be made 7-14 days later.
3. The third and fourth applications with chlorothalonil can be used on a 14-day schedule (2 applications suggested, 3 applications maximum).

Remember: Re-entry for all of these fungicides is 24 hr except chlorothalonil which is 48 hr. The PHI for chlorothalonil is 50 days. The PHI for maneb and mancozeb is 30 days and for ferbam is 28 days post mid-bloom (effectively 50 days). □

Cranberry Disease Notes

Peter Oudemans, Ph.D., Plant Pathology

✓ **Upright dieback:** Much of the vine and upright dieback that was observed earlier this season has disappeared or is masked by new vine growth. If the disease, upright dieback, was diagnosed in your beds the best strategy now is to follow the recommendations for fruit rot control. The control strategy for this disease is pre-bloom fungicide applications using Bravo, Maneb or Champ.

✓ **Root rot:** As vine growth increases with warmer weather Phytophthora root rot will become quite easy to spot. The disease appears as an irregular area of dead vines. In severe cases the area can be quite large. There are other possible causes of vine dieback including root grubs and herbicide injury. If you believe root rot is present on your beds get it diagnosed before beginning treatment. Root rot generally occurs in association with areas of the bed with poor drainage.

✓ **Fruit rot:** Most of the cranberry beds are nearing bloom. For fruit rot control, fungicide treatment should begin within 7-10 days of scattered bloom (i.e. between 10%-40% bloom). Our results from last season indicate that the best fruit rot control is obtained with sprays beginning near 25% bloom and using three to four fungicide applications (see article on fruit rot in this issue).

✓ **Fairy Ring:** This is a difficult disease to diagnose and there is no accurate lab test. The symptoms generally appear as an arc of dead vines along a ditch or as a circle or series of interlocking circles of dead vines in the bed. Fairy ring treatments can be made during the months of June and July. More on this in future issues. □

Insect Update

Sridhar Polavarapu, Ph.D., Entomology and IPM

✓ **Spotted fireworm:** Most larvae are in sixth instar and pre-pupal stages. Most of the population will reach pupal stage in the following 7-day period. Moth emergence is expected to begin around June 12.

✓ **Sparganothis fruitworm:** Most of the larval population is currently in fourth instar stage. Sparganothis fruitworm pass through five larval instars before reaching pupal stage. The bulk of the larval population will reach pupal stage in the following 10-day period.

✓ **Cranberry rootworm:** This insect is reported from several new locations this year. Most of the grub population is in the final larval instar and pre-pupal stages. Less than 10% of the population has reached the pupal stage at this time. Adults are expected to emerge after the second week of June. The grubs of this insect feed on fine roots as well as the bark of larger roots and runners that are in contact with the ground. Infestations are very spotty and appear as brown irregular circular patches. Damaged vines can be easily pulled and rolled back like a mat.

The grub is about 5/16 of an inch long, yellowish-white with a light brown head. Most grubs are found in the soil, 2-4 inches deep under the vines. The adult is about 1/5 of an inch long, dark brown and shiny. Adults also feed on the cranberry foliage and cause the vines to turn brown, similar to fireworm damage. Eggs are laid singly or in masses on bog trash and in surface soil in June and July. They hatch in about a week, and the young grubs continue to feed on roots until October. This insect overwinters as a grub in the soil and generally has a one-year life cycle, but a few grubs may take more than one season to mature.

Growers should inspect for the presence of adults in suspected areas. Adults can be easily found on the foliage as well as in the bog trash. Currently, chemical controls targeting the grub stage are not available. However, application of Sevin XLR Plus targeting adults may reduce grub populations in the following generation. Sevin XLR Plus should be applied in late evening hours when bee activity is minimal. If possible, remove hives from the immediate vicinity of treated areas. For effective control of adults, 2-3 sprays of Sevin XLR Plus at 4-6 day intervals are required. For more information on honey bee hazard due to Sevin XLR Plus, please read the label carefully and follow all instructions. □

D*z*n diazinon AG600 WBC for use on Cranberries in NJ

Sridhar Polavarapu, Ph.D., Entomology and IPM

D*z*n diazinon AG600 WBC, a new water-based formulation of diazinon has recently been approved for use on cranberries and several other crops in New Jersey. The major difference between the new water-based formulation and the old liquid formulations (AG500 and 4E) is the elimination of petroleum-based solvents that are present in the old formulations. With the removal of the petroleum solvent base, the new water-based formulation is claimed to have significantly less odor, fewer volatile organic compounds, and im-

See AG600 on page 3

Weather Summary for Week Ending 5/26/97

Keith Arnesen, Agricultural Meteorologist

Temperatures averaged much below normal. Extremes were 92 degrees at Toms River on the 20th and 30 degrees at Long Valley on the 22nd. Weekly rainfall averaged 0.83 inches North, 2.08 inches Central, and 1.21 inches South. The heaviest 24 hour total was 2.50 inches at Long Branch on the 25th to 26th. Estimated soil moisture, in percent of field capacity, this past week averaged 82 percent North, 62 percent Central and 60 percent South. Four inch soil temperatures averaged 54 degrees North, 59 degrees Central and 60 degrees South.

The following table contains meteorological information since the start of the growing season March 1st. The table is updated each Monday and the following is an explanation for each column.

Week=total rainfall for the previous 7 days ending Monday morning

Total=total rainfall since March 1st

Dep=departure from normal of rainfall since March 1st. A negative sign indicates below normal and no sign indicates above normal.

Mx=highest temperature for that 7 day period

Mn=lowest temperature for that 7 day period

Avg=average temperature for that 7 day period

Dep=departure from normal of the average temperature for that 7 day period

Total=total number of growing degree units since March 1st

Dep=departure from normal of growing degree units

%FC=percent of field capacity (soil moisture)

Weather Summary for the Week Ending 8 a.m. Monday 5/26/97										
WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	1.04	9.38	-1.42	78	43	58.	-4	179	-88	89
CANOE BROOK	1.41	10.26	-1.67	85	43	60.	-2	299	57	94
CHARLOTTEBURG	.84	12.66	.91	79	40	57.	-3	161	2	80
FLEMINGTON	.61	10.87	-.44	69	34	53.	-10	194	-63	80
LONG VALLEY	.72	11.35	-.82	70	30	51.	-9	161	-30	87
NEWTON	.38	9.51	-.95	66	36	51.	-10	97	-98	77
FREEHOLD	.00	.00	.00	0	99	0.	0	0	0	0
LONG BRANCH	2.50	11.70	.06	88	44	61.	-2	300	28	100
NEW BRUNSWICK	2.09	13.03	1.95	86	43	59.	-5	288	-55	100
PEMBERTON	2.15	12.27	1.54	89	40	62.	-2	414	75	100
TOMS RIVER	1.72	10.78	-.48	92	40	60.	-3	295	0	100
TRENTON	1.95	12.13	1.93	85	38	59.	-6	289	-91	100
BRIDGETON	.00	.00	.00	0	99	0.	0	0	0	0
CAPE MAY COURT HOUSE	1.06	10.44	.55	89	43	63.	-1	367	30	66
DOWNSTOWN	.84	10.96	.81	89	42	61.	-4	335	-58	68
GLASSBORO	1.54	13.81	3.02	86	44	62.	-3	374	-3	100
HAMMONTON	1.79	11.99	1.49	90	42	61.	-4	329	-40	100
POMONA	1.55	11.90	2.09	91	39	62.	-2	350	37	100
SEABROOK	.63	12.45	3.16	88	46	63.	-2	369	-29	61
ATLANTIC CITY MARINA	1.05	8.28	-.99	79	47	62.	-1	339	41	80
WOODSTOWN	0.26	11.03	.46	90	40	63.	NA	388	NA	NA

AG600 from page 2

proved handler and crop safety. The new formulation is classified as non-flammable. Due to a higher content of active ingredient in the AG600 formulation, the amount of formulated material required per acre has been reduced.

The Diazinon AG600 WBC label has undergone several revisions in the past year. It is more than likely that the label you have on the product is not the revised label. As per the revised label, the recommended rate is 51 fl. oz /acre for the control of Blackheaded fireworms and Cranberry tipworms and 51- 76.5 fl. oz per acre for Cranberry fruitworm control. Application of a maximum of 306 fl. oz of formulated product is permitted per acre

per season. This allows for a maximum of 6 applications per season at the lower rate and 4 applications at the higher rate. The Restricted Entry Interval (REI) and Pre-harvest Interval (PHI) on cranberries has remained unchanged in the new formulation at 1- and 7- days, respectively.

D*z*n diazinon AG600 WBC can be applied to cranberries via ground, aerial, or sprinkler irrigation. For aerial application, **a minimum of 5 gal.** of water per acre should be used. For ground application, a minimum of 15 gal. of spray volume per acre should be used. □

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Use of Trade Names: Trade names are used in this publication with the understanding that no discrimination is intended and no endorsement is implied. In some instances a compound may be sold under different trade names, which may vary as to label clearances.