RAINFALL RECITAL

Has this spring seemed wet to you? Have you pumped more water out of the marsh than you ever hoped to? The National Weather Service reports that rainfall since April 1, 1993 has been roughly double the 30 year average. The following table shows rainfall totals and 30 year means by district. Actual rainfall amounts will vary widely within districts due to local conditions.

District	**Last week** *(June 21)*	**Since April 1**	**Normal since April 1**
NW	0.6	15.2	9.7
NC	1.0	17.7	9.6
NE	1.1	15.2	9.6
WC	0.6	18.8	10.5
C	0.8	18.9	10.0
EC	1.4	17.3	9.1
SW	1.5	19.2	10.1
SC	0.9	17.6	10.0
SE	0.6	17.1	9.5

Temperatures are also cooler than normal, about the same as 1992. Remember, 1992 was a record cool year. See the weather data on the back page. Bill Bland assures me the temperature data are accurate. He checked the original data.

Teryl Roper, UW-Horticulture

PEST PROFILE

Cranberry Fruitworm, *Acrobasis Vaccinii* Riley (Lepidoptera: Pyralidae) belongs to the Snout or Grass Moth Family. This family of moths is the second largest in the order Lepidoptera and includes other well known species of insects such as Cranberry Girdler, European Corn Borer, Sod Webworms and Wax Moths. As you can see, members of this family exhibit a great deal of variation in appearance and habits.

As cranberry plants began to bloom, you may have noticed an increase in moth ("miller") activity on your marsh mainly due to Cranberry Girdler flight (besides some spanworms, fireworm and Sparganothis) but on occasion you can kick up a fruitworm moth. The fruitworm moth is nocturnal and during the daytime adults normally hide down among the vines unless disturbed [sort of like teenagers]. Their flight is very short and quick with jerky motions. Adults are approximately one-half inch long with distinct patches of white and dark brown (almost black in appearance) scales on their wings. As we discovered during the 1992 growing season (using an experimental pheromone) flight begins around the first of June and continues through at least the end of July. Peak flight coincided with peak bloom or during the first week of July in 1992. Only one generation occurs each year in Wisconsin.

Egg laying begins as berries start to set and grow and may continue until August. Eggs are deposited singly under on of the lobes at the blossom end (calyx end) of the berry. Eggs appear clear when first laid, then turn yellowish as they develop prior to hatching. Hatch is said to occur in about three to five days depending upon temperatures.

Newly hatched larvae are pale yellow-green with an amber head. Larvae chew small entrance holes usually near the stem end which they close with a silken window. As larvae mature in late August and September, then about an inch in length, they become bright green with a reddish tinge along the tops of their bodies.

Larvae consume the seed cavity and pulp of five to seven berries leaving them filled with frass (waste

material). The injured berries turn red prematurely, with and often drop from the vine.

Since fruitworm development closely parallels that of the cranberry plant, control measures can be best timed by monitoring the plant phenology. When the plant reaches fifty percent out-of-bloom (i.e. when fifty percent of the fruit has been set) an insecticide application is suggested seven to nine days later. A second application may be necessary seven to ten days after the first depending upon fruitworm levels. However, as many of you are aware, timing for your first spray can often times be hindered by the presence of pollinators.

Tim Dittl, Ocean Spray Cranberries

NORTHEAST NOTES

At this date, most insect populations are under control. BHFW in Vilas County didn't heat up until the week of June 7, with treatment being delayed due to wet weather. I have found that the six growers (out of nine) that flooded for protection from freezing in May have relatively lower insect populations than those who did not, especially where BHFW is concerned. Pheromone trap counts are picking up. Girdler moths were first trapped the week of June 21, BHFW moths the week of June 28 and no Sparg moths have been trapped yet.

Tipworm are mainly in cocoons at this point, although orange larvae are still being found. One grower treated for Tipworm using Guthion with poor results despite perfect timing and weather conditions. It would seem that the Tipworm larvae are cupped too tightly in the leaves for control to occur.

Several different weeds are in bloom such as Tufted Loosestrife, Yellow Loosestrife, Bedstraw, Purple Cinquefoil, Iris and Cottongrass. Most sedges and grasses are beginning to flower. Weeds that are just coming up are Marsh St. Johnswort, Goldenrod, Joe-Pye-Weed, Water Horehound and Water Hemlock. Sensitive and Marsh Fern are also both up.

Some diseases have also been making an appearance over the past several weeks including Phythophthora root rot (June 14) and Tipblight (June 21).

Plant growth in the Northeast and on one marsh in the Northwest varies from early to mid-bloom with the first blossoms opening the week of June 14.

Ann Merriam, BioCran IPM

NEWS CLIPS FROM THE LADY BUG REGION

The frosted mantels of conidia of tip blight was first discovered in mid June. This cotton ball disease seems to be popping up in a variety of cultivars.

Red leaf spot was observed the week of June 28 in Ben Lear variety.

On June 28, in a BHFW **hot spot** we were seeing heavy flight activity. Upon a closer look, eggs were readily found and, unfortunately, the first 2nd generation larvae was also discovered.

With this wonderfully warm weather and "*sunshine*" we are making up for lost time. We have witnessed the Ben Lear and Stevens varieties exploding! They have gone from early hooks to pinheads and peas within ten days. What a **BEAUTIFUL** sight!

We are pleased to share that we will be actively involved in studies with BT products during the second infestation. We encourage anyone using a BT to use it when the larvae are young. Apply early and be prepared to apply a second time. Remember our goal is to keep the bees working as long as possible without real economic loss to our crop.

The cranberry fragrance is obvious this year. Take time from your busy schedule to . . . STOP AND SMELL THE CRANBERRY!

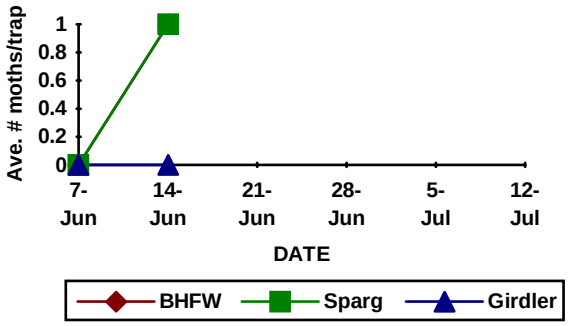
Jayne Sojka, Lady Bug IPM

1993 PHEROMONE TRAP COUNTS

Cranmoor area includes:	Wood, Portage and Adams
Warrens area includes:	Jackson, Monroe, and Juneau
Northeast area includes:	Vilas, Forest, Oneida, Lincoln and Price
Northwest area includes:	Douglas, Burnett, Washburn, Sawyer, Barron and Rusk

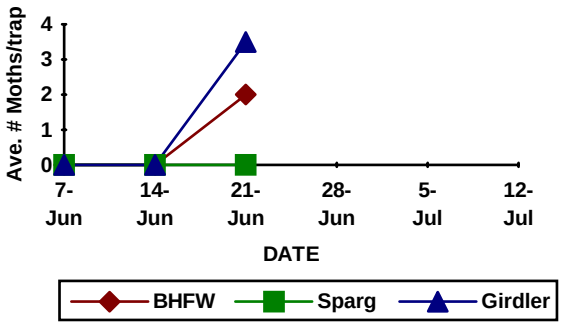
Please note that different regions may have different scales on the left axis. Doing this allows greater accuracy in determining actual values within a region. However, comparisons between regions are more difficult. Please use caution in making comparisons of these averages to trap counts on your marsh.

Northwest Area



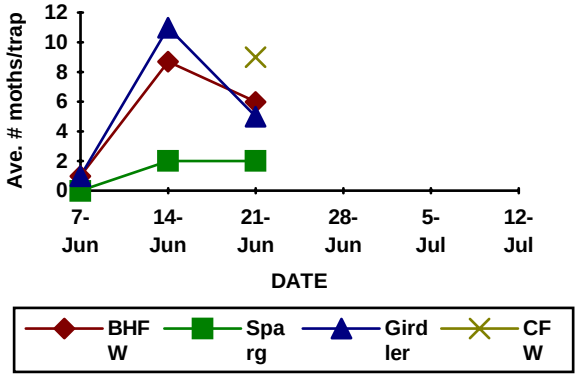
Means from 7 growers

Northeast Area



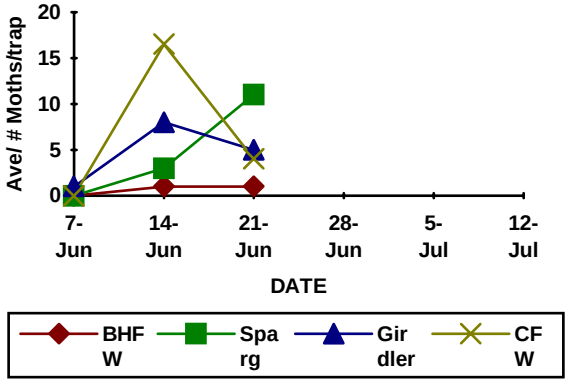
Means from 8 growers

Warrens Area



Means from18 growers
CFW=Cranberry Fruitworm

Cranmoor Area



Means from 33 growers

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