

PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

AUGUST 12, 1998



Just as the Purslane Population is about to Die Off...

Rick VanVranken, Atlantic County Agricultural Agent

....Here comes another story touting its health benefits. Channel 6 News out of Philadelphia reported last week (8/4/98) that researchers from Tennessee, working with cooperators from Venezuela, tested a diet of purslane on rabbits. They found that the rabbits on the purslane diet had lower incidence of heart disease, and suspect the health benefits may work for humans too. They will be reporting their findings at the Annual Meetings of the Ecological Society in Baltimore, Maryland this week.

Of course you already knew this because it was reported here (at least in Atlantic County) eleven years ago. The following article from the 6/87 Atlantic County Vegetable News indicates the reason why purslane is so good for the heart, and more recent work at the USDA has also confirmed its benefits.

FOOD FOR THE HEART! One "weed" that is probably causing you headaches now may be better packaged and sold (Yes, I know you would like to be able to do that with all of them).

At the recent "1st International Symposium on Horticulture and Human Health: Contributions of Fruits and Vegetables" sponsored by the American Society for Horticultural Science, Artemis Simopoulos indicated that PURSLANE is the richest vegetable source of *omega-3 fatty acids*.

What has this got to do with anything? Omega-3 fatty acids happen to be the latest craze in health and nutrition circles in that they help reduce cholesterol in the blood stream and thus help reduce the risk of heart disease. THE best source of omega 3's is oily fish, but why can't we jump on the bandwagon and start promoting purslane soups and salads. According to *JOY of Cooking*, this weed was Ghandi's favorite vegetable and he certainly made it to a ripe old age. Besides, if you are not worrying about how to control this pest, you will be reducing your stress levels which will be even more beneficial for your heart.

So, for your heart's sake, eat a weed today. Purslane can be eaten raw in salads, cooked as greens, or look at pages 185 and 186 of *JOY of Cooking* for a couple of Cream of Purslane Soup recipes. Here's to your health!

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PURSLANE FROM PAGE 1

Sources: "ASHS Newsletter" 111(6), 6/87, JOY of Cooking, Rombauer & Becker, Bobbs-Merrill Co., and World Vegetables, Yamaguchi, AVI Publishing Co.

If you're interested in growing purslane for market, a couple of seed companies sell a garden or salad type which has a more upright growth and light green stems compared to the prostrate, red-stemmed common purslane weed in your fields. The cultivated variety does, however, get the same leaf spotting disease/insect damage that can destroy the crop in mid-/late summer. And no one has established harvesting and handling procedures, so some experimenting will be in order.

Now if we can only find some health benefits in galinsoga...! ☐

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Meeting Calendar

August 17, 1998 - Vegetable & Medicinal Herb Twilight Meeting, Rutgers Agricultural Research & Extension Center, Upper Deerfield, NJ. Contact Dr. Steve Garrison at 609-455-3100.

August 18, 1998, 6:30 p.m. - Direct Marketing Twilight Meeting, Monmouth County, Atlantic Farms, 1506 Atlantic Avenue, Wall Township (Rt. 524), NJ 08736. Contact Ramu Govindasamy at (732) 932-9171 ext. 25.

September 24 - 26, 1998 - The International Lettuce and Leafy Vegetables Workshop, Holiday Inn Boardwalk in Atlantic City, NJ Contact Dr. Wes Kline at (609) 451-2800, or write to International Lettuce Workshop, 291 Morton Ave., Millville, NJ 08332.

Pest Notes

Gerald M. Ghidui, Ph.D., Vegetable Entomology

✓ **Beans:** Lima beans have high populations of **spider mites** on them, and damage appears as chlorotic leaves with white or yellow stippling along the veins, followed by heavy bronzing and finally a browning of the leaves as it dries out. Look for **mites** or webbing on the undersides of the leaves. Dimethoate and Kelthane are labeled for control of **spider mites** on lima and snap beans. It is recommended that you treat that portion of the field where there are 20 **mites** per leaflet or more. Thorough spray coverage is important for effective **spider mite** reduction.

Also, some lima bean growers report increasing numbers of **Mexican bean beetle** larvae and adults. This pest can cause significant yield reduction if the population reaches a high enough level to cause 10% defoliation during podding. Monitor the defoliation and population level to determine damage and to determine if the population is increasing. Management materials include Asana, Lannate, Orthene, Penncap-M or Sevin. For lima beans, these materials have a 0-3 day preharvest interval. *Consult label for all rates and restrictions.*

✓ **Corn (Sweet):** **Moths of fall armyworm, European corn borer** and **corn earworm** are being caught in the blacklight trap at Rutgers Agricultural Research and Extension Center (RAREC). Corn in the ear stage will need pesticide sprays to keep the ears clean and free from infestation by these pests. Keeping the ears clean and undamaged will reduce the attraction to **corn sap beetles**, another serious pest of sweet corn. Preliminary research results at RAREC and other research centers indicate that sprays of the new pyrethroids (Baythroid, Warrior) may be applied less frequently than the older materials and still be just as effective.

✓ **Cucurbits:** **Spider mites** have been increasing in some cucurbit fields. Monitor the **spider mite** population by looking at the leaf undersides for **mites** and/or their webbing. If 50% of the terminal leaves are infested at this time of year, an application of AgriMek or Kelthane is warranted. Thorough spray coverage is important for effective **mite** reduction. *Consult label for all rates and restrictions* because they vary depending on cucurbit crop treated.

✓ **Pepper:** **European corn borer moths** are being caught in the blacklight traps in increasing numbers, indicating that **moths** are active in the area. Pepper fruit need weekly applications of an effective management material to prevent fruit infestation. Consult page 114-115 of the 1998 Commercial Vegetable Production Recommendations for complete information on when to spray and what to use. Consult label for all rates and restrictions.

✓ **Tomato:** Some varieties of tomato are very susceptible to **spider mites**, and have large populations of **mites** while more resistant varieties have virtually no **mites**, even when plants are placed side by side. Monitor **mite** population on your tomatoes to determine if there is a noticeable **mite** population and if damage is present. Look on the leaf undersides for **mites** or webbing. Begin looking at the field edges or windbreaks and move along the edge first, then towards the field center. Agri-Mek and Kelthane are labeled for **spider mite** control on tomatoes. Thorough spray coverage is important for **mite** management. **Note:** use of dimethoate for **aphids** and/or **leafminers** will also reduce the **mite** population. ☐

Vegetable Crops Diseases

Stephen A. Johnston, Ph.D., Plant Pathology

✓ **Asparagus:** Apply mancozeb as a foliar spray beginning in mid-August and repeat 3-4 times at 7-10 day intervals for the control of **rust**.

✓ **Beans (snap):** Observe fields for the presence of **rust**. Once observed, apply Bravo as a foliar spray and repeat every 7 days for control.

✓ **Cole crops:** Maintain applications of maneb or Bravo every 7-10 days for the control of **Alternaria leaf spot** and **downy mildew**. On new seedlings, apply Ridomil Gold 4E in 7-inch band over the row for control of **damping-off** and early season control of **downy mildew**.

✓ **Cucumber:** **Angular leaf spot** is present in some fields at this time. Infected leaves have numerous, rectangular shaped, tan lesions that coalesce together. The underside of lesions usually have a water-soaked appearance. Avoid working in the fields while the foliage is wet, and apply a combination of a copper fungicide + mancozeb as a foliar spray every 7-10 days for control.

✓ **Eggplant:** Maintain foliar applications of a copper fungicide + maneb + a sticker every 7-10 days for control of **Phomopsis & Phytophthora fruit rot**.

✓ **Leek:** Maintain foliar applications of Bravo every 10 days for control of **purple blotch**.

✓ **Lettuce:** Apply Ridomil Gold 4E in a 7-inch band over the row after seeding for control of **damping-off**. Apply Ronilan or Rovral as a directed spray to the base of the plants and surrounding soil shortly after thinning, 10 and 20 days later for control of **drop**.

✓ **Pepper:** Maintain foliar applications of maneb + a copper fungicide + a spreader sticker for control of **bacterial leaf spot & Phytophthora blight**.

✓ **Pumpkin & winter squash:** Maintain applications of Bravo + a copper fungicide every 7-10 days for control of **foliar diseases**. Be sure to apply fungicides with good coverage in order to effectively control diseases.

✓ **Spinach:** Apply Ridomil Gold 4E in a 7-inch band over the row immediately after seeding for control of **damping-off** and early season control of **blue mold & white rust**.

✓ **Squash (summer):** Maintain applications of Ridomil Gold/Bravo as a foliar spray every 14 days for control of **Phytophthora blight**.

✓ **Tomato:** Maintain applications of chlorothalonil (Bravo or Terranil) as a foliar spray every 7 days for control of **foliar & fruit diseases**. In areas where there are no apple trees, Quadris can be alternated with chlorothalonil.

✓ **Watermelon:** Maintain foliar applications of Bravo + Benlate or Topsin M every 7 days for the control of **anthracnose & gummy stem blight**. □

Weekly Weather Summary

Keith Arnesen, Agricultural Meteorologist

Temperatures averaged near normal. Extremes were 92 degrees at Flemington on the 9th, and 51 degrees at Toms River on the 4th. Weekly rainfall averaged 0.00 inches north, 0.00 inches central, and 0.02 inches south. The heaviest 24 hour total was 0.08 inches at DOWNTOWN on the 4th to the 5th. Estimated soil moisture, in percent of field capacity, this past week averaged 64 percent north, 65 percent central and 62 percent south. Four inch soil temperatures averaged 71 degrees north, 72 degrees central and 72 degrees south.

Weather Summary for the Week Ending 8 a.m. Monday 8/10/98										
WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	.00	26.29	5.16	90	56	75.	3	2000	219	58
CANOE BROOK	.00	26.69	4.46	90	58	75.	2	2294	512	61
CHARLOTTEBURG	.00	28.25	5.82	89	52	71.	1	1764	363	49
FLEMINGTON	.00	24.58	3.09	92	57	76.	3	1953	125	61
LONG VALLEY	.00	25.74	2.64	85	55	72.	2	1788	208	56
FREEHOLD	.00	27.31	6.43	88	58	75.	1	2129	175	63
LONG BRANCH	.00	30.73	9.82	82	60	73.	-1	2019	144	48
NEW BRUNSWICK	.00	26.39	5.45	89	59	75.	1	2200	161	64
PEMBERTON	.00	21.55	.43	90	57	75.	1	2354	359	42
TOMS RIVER	.00	33.70	12.19	90	51	73.	1	2252	382	48
CAPE MAY COURT HOUSE	.00	20.07	1.53	82	58	72.	-3	2246	243	28
DOWNTOWN	.08	20.71	1.11	88	54	73.	-2	2345	205	53
HAMMONTON	.00	18.85	-1.77	89	53	73.	-2	2309	194	28
POMONA	.02	23.23	4.47	86	56	73.	-1	2282	308	26
SEABROOK	.00	23.19	4.31	89	59	76.	1	2481	334	34
ATLANTIC CITY MARINA	.00	24.41	6.42	84	57	75.	1	2258	369	27
WOODSTOWN	.00	20.49	-0.13	90	54	74	NA	2504	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW	Last Week	222	(Ending 8/3/98)	This Week	232	(Ending 8/10/98)				

Vegetable IPM Update

Kristian E. Holmstrom and Sally Walker, Program Associates in Vegetable IPM

Beans

European corn borers (ECB) are a threat to snap bean plantings at this time. Target sprays to the bud-early bloom stage and the late bloom-early pin stage for borer control. Based on the blacklight trap catches in the southern counties, a 7-day spray schedule is warranted from the pin stage through harvest.

The Delaware IPM Program is reporting that **corn earworm (CEW)** larvae are being found in lima beans in Delaware this week. Begin regularly scouting fields for the presence of larvae.

Cole Crops

In recent days there has been a significant increase in the number of cabbage loopers (**CL**) found in plantings of cabbage, broccoli, cauliflower and greens. These pests can cause serious defoliation on cole crops, and are particularly damaging to newly transplanted fields and heading plants. Cole crops should be monitored weekly from the date of transplanting to detect the presence of CL, **imported cabbageworm (ICW)** and **diamondback moth (DBM)**. Treat fields when 20% or more plants are infested with any larvae prior to heading, and when 5% or more plants are infested if heads are present. For leafy greens, treat when 12% or more plants are infested with any larvae. On new transplants and direct-seeded cole crops, check weekly for the presence of **flea beetles**. Treat when beetles are present on most plants and damage is occurring.

Peppers

ECB adult counts are increasing again and larvae are being found in fruit from both unsprayed test plots and in sprayed commercial fields. In addition, in Cumberland County, another surge of **fall armyworm (FAW)** adults was registered in pheromone traps located in peppers, and larvae were found in fruit in a field in Atlantic County. Treatments for pepper fruit in the southern counties should target both **ECB** and **FAW** at this time.

Beet armyworm (BAW) adult counts have dropped since last week, and no new larval infestations are being seen. However, larvae from last week's activity were found in fields in Cumberland and Atlantic counties. Damage is sporadic, and the larvae are now mainly found in fruit.

Stinkbug damage was seen at low levels on fruit in one field in Atlantic County. Stinkbug activity has been increasing in tomatoes, and these insects can also be a problem for peppers.

Tomatoes

Stinkbugs continue to be a potential problem for

fresh market tomatoes. Both adult catches in the blacklight traps and fruit damage in our unsprayed and sprayed test plots in Cumberland County have increased since last week. **CEW** counts remain low in most of the blacklight traps, although a big increase in the pheromone traps in peppers in Cumberland County was recorded this week. Low numbers of **BAW** were found on fruit in Mercer County.

Sweet Corn

Adult **ECB** counts have rebounded somewhat within the last 4 to 5 days in central counties and in parts of the southern region. In other parts of the state, adult **ECB** activity seems to be holding steady at moderate levels. This pest continues to be a threat to sweet corn plantings. Treat whorl and pretassel sweet corn when 12% or more plants are infested with **ECB** alone or in combination with **FAW**. Initiate silk schedules at first silk to eliminate borers moving down from the tassels.

The highest average nightly **ECB** blacklight trap catches are as follows:

Woodstown	21	Little York	6
Ellisdale1	7	Georgetown	5
Allentown	12	Centerton	4
Shirley	12	Hackettstown	4
Crosswicks	10	Belvidere	3
Manville	8	Pedricktown	3

Adult **CEW** activity remains moderate in central and southern counties. In northern counties blacklight traps are registering only sporadic catches. This situation may worsen in the event of a southerly weather pattern.

The highest average nightly **CEW** blacklight trap catches are as follows

East Vineland	3	Flanders	1
Cedarville	2	Green Creek	1
Ellisdale	2	Lawrenceville	1
Hancocks Bridge2		Manville	1
Cranbury	1	Medford	1
Farmingdale	1	Tabernacle	1

Larval infestations of **FAW** have risen to over 70% in parts of Burlington and Camden counties. It is not uncommon to have whorl stage sweet corn plantings with 30% to 40% of plants infested at this time. It is essential that whorl and seedling stage sweet corn be scouted weekly for the presence of this pest. Treat when 12% or more plants are infested and continue scouting weekly as reinfestation is occurring in all areas.

Two spotted spider mites were seen in fields in Atlantic and Burlington counties. The damage may be confused with fertility problems. Damage looks like white streaks and speckling, and in heavy populations, brown streaks on the tops of the leaves and on the ears. Numerous pinhead size mites should be easily found moving around on the undersides of the leaves. As soon as possible after harvest, plow down plantings with mites to reduce the spread through other plantings.

SEE IPM ON PAGE 5

General Sweet Corn Spray Schedule

Silking stage: North 6 day *
 Central 3 to 4 days*
 South 3 days*

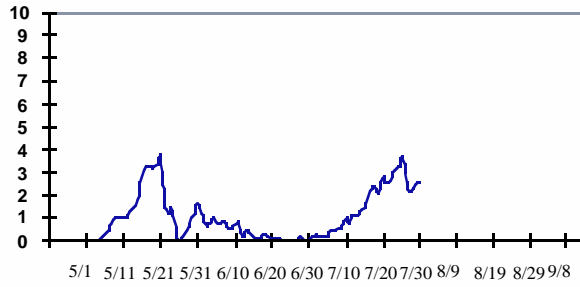
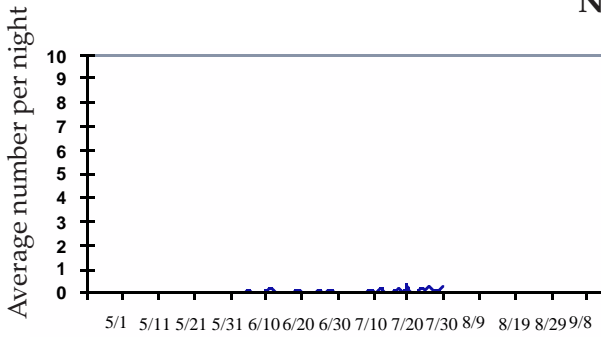
*These are general spray recommendations for large areas of the state. Growers can increase or decrease the intervals based on their own local situations.

Blacklight Trap Catches

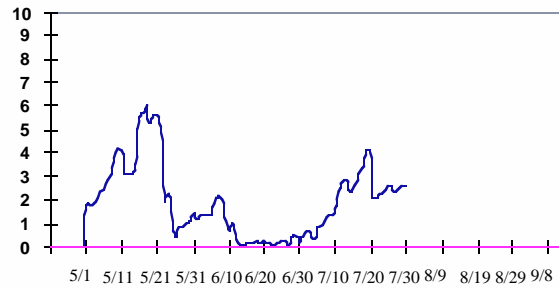
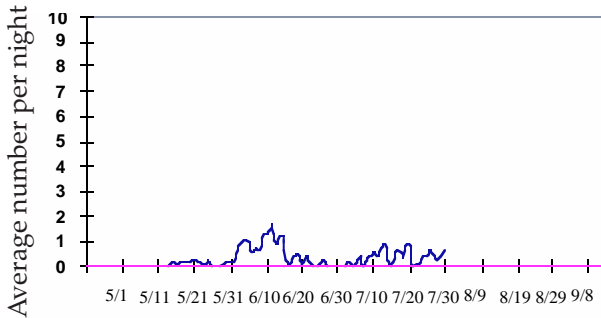
Corn Earworm

European Corn Borer

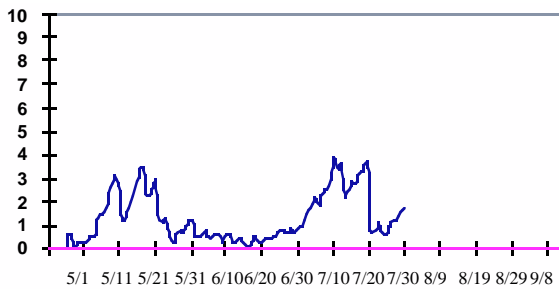
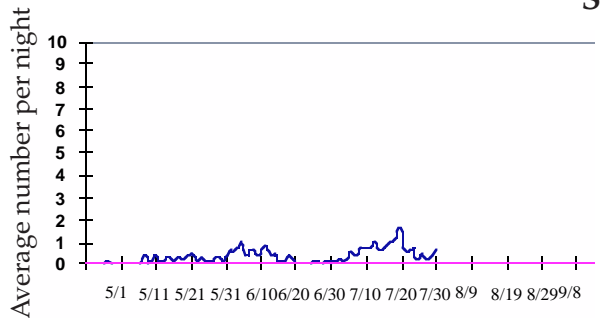
Northern Region



Central Region



Southern Region



Date

Date

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PLANT & PEST ADVISORY

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