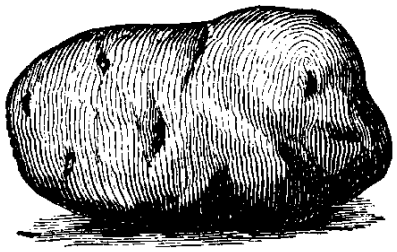
RUTGERS COOPERATIVE EXTENSION AT THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION $1.50 MAY 13, 1998



INSIDE

Tools for Determining Vegetable Prices on the Internet 1
Pest Notes 2
Wet Weather and Loss of Soil Nitrogen 2
Veg Crops Diseases 3
Twilight Meeting 3
Weed Control 4
Vegetable IPM Update 5
Weekly Weather Summary 5

Tools for Determining Vegetable Prices on the Internet

Rick VanVranken, Atlantic County Agricultural Agent

A variety of tools and information is used to determine the prices you need to receive in order to make a vegetable crop profitable. Market trends, costs of production, and "what the market will bear" all influence how you set your price.

With recent management decisions at the Vineland Cooperative, and the end of the AERDI Web project, farmers have been asking if market prices are still available somewhere on the Internet. They sure are! Point your web browser to:

http:/www.ams.usda.gov/marketnews.htm

Pick Fruits, Vegetables and Specialty Crops, then Individual Daily Reports. The page you end on lists USDA Ag Marketing Service's Market News Reports. Terminal and shipping point trends reports are listed in the first section. If you scroll to the bottom of the page, you'll find "Farmers Market and Auction Reports". In that latter menu, Bridgeton, NJ is listed. Those are the Vineland Auction price reports.

If you would like to estimate your costs of production before determining your prices, a good place to start is the Rutgers Cooperative Extension Farm Management web site at:

http://aesop.rutgers.edu/~farmmgmt/

The third item on the list is Crop Production Budgets. The unique feature of this site is the option to review production budgets under three production management systems: conventional, IPM, and organic. Take your pick of the production method on the next page, and then choose your crop. The production budgets summarize a couple of years of research to give an estimate of current costs. You can print a copy and modify the numbers off-line to fit your actual production costs, if they are greatly different. From there you can figure a percentage increase or profit margin and set your minimum price accordingly.

Unfortunately, we know that supply and demand on any given day dictates "what the market will bear", so looking at these two sites before you head to market each day will give you a target price, but there are no guarantees. ❑

Pest Notes

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

✔ **General:** Monsanto Company purchased two seed companies: both DeKalb Genetics Corporation (DeKalb, Illinois) and Delta & Pine Land Company (Scott, Mississippi). These acquisitions will broaden the availability of agronomic traits and give farmers in the US and around the world access to yield and productivity benefits of crops enhanced through this technology.

The current rain and warm temperatures will certainly favor the development of **maggots** in various root crops, such as beans, cucurbits, cabbages, radish, onions, leeks, etc. A **maggot** seed treatment or a soil application of an insecticide at planting for **maggot** control should still be effective. If a **maggot** treatment was not used, adult **flies** can be reduced by foliar sprays of Ambush, Warrior, malathion, and others. Foliar sprays for adult **fly** control will reduce the adult **fly** population, but damage to the crop may still occur, and the effectiveness of this management tactic is not consistent. Another alternative in some crops is to apply a post-planting application of diazinon, but diazinon will likely result in limited control of **maggots** because of insecticide resistance. A seed treatment at planting (such as Trigard ST, Lorsban SL, or one using diazinon or Thimet seed coating) will effectively reduce **maggot** damage. Or, an in-furrow application of Lorsban 15G or 4EC is also very effective in protecting crops on the label from **maggot** damage. Consult label for all rates, use patterns, crops, and restrictions before application.

✔ **Corn:** Closely monitor corn for black **cutworm** damage, especially in the seedling stage. Corn in the 1 to 4 leaf stage is very susceptible to **cutworm** damage. The wet, cool weather will likely result in a higher **cutworm** population in many crops, so scouting should begin at plant emergence. Check at least 20 plants in 5 or more locations for leaf feeding, cut plants, **cutworm**-chewed plants, or even wilted plants (dig at the base of wilted plants to determine cause of damage), and apply a rescue insecticide treatment if 3% or more of the plants are cut or damaged.

✔ **Potato: European corn borer** activity has started, but will likely be delayed because of the rain. As it dries out, **moth** catches will again increase and oviposition and **borer** development will continue on schedule. Monitor fields for "flagging" of the leaves where small **borers** entered the terminal stem and the entire terminal begins to wilt. Be cautious not to confuse this damage with a disease such as verticillium wilt or early dying.

✔ **Radish and other crops:** Radish trials at the research farm have suffered from **flea beetle** attack. These pests chew small round holes in the leaves, and the holes increase in size as the leaves mature. Heavy populations can cause serious damage. As soon as it warms up this week, growers should monitor very closely for **flea beetle** populations and damage. It is likely that **flea beetle** populations will be very high this spring because of the relatively mild 1997-98 winter. If damage is noted, or high numbers of **flea beetles** are observed, consult the 1998 Commercial Vegetable Production Recommendations for NJ for information concerning flea beetle control in a specific crop (many materials are labeled for **flea beetle** control in various crops, and all the recommended materials are effective).

Spinach: Leafminer damage has been high in several spinach fields throughout New Jersey. Permethrin (Ambush 2EC, Pounce 3.2EC) and Trigard 75WP are labeled for **leafminer** control in spinach. Permethrin has a 1-day-to-harvest restriction, and Trigard has a 7-day-to-harvest restriction, so plan the application accordingly. ❑

Wet Weather and Loss of Soil Nitrogen

Joseph R. Heckman, Ph.D., Soil Fertility

Extremely wet weather this spring has likely caused significant losses of soil nitrogen (N) and N from applied fertilizers. The degree of N loss depends on a combination of soil type, rainfall amount, and management practices. Pathways of N loss include soil erosion, leaching, and denitrification. Nitrogen is most vulnerable to leaching in highly permeable sandy soils. Denitrification occurs when nitrate N is converted by soil microorganisms to gaseous forms of N which are lost to the atmosphere. Losses of N via denitrification can be very large when soils remain saturated with water for long periods.

Early plantings of vegetable and field crops that were fertilized with N before the recent heavy rains may become N deficient due to losses of applied N. Another factor that limits soil N availability to crops this spring is that cold wet soils are slower to release N that normally becomes available from decomposition of organic matter. For soil organic matter to release and supply significant amounts of N to crops the soil needs to be *warm* and moist and have good aeration.

If additional sidedressing or topdressing of N is planned, it is advisable to apply this N on an earlier schedule to prevent the development of crop N deficiency. Smaller and more frequent applications of N fertilizer are better than applying a large single application. ❑

Losses of N via denitrification can be very large when soils remain saturated with water for long periods.

Vegetable Crops Diseases

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

✔ **General:** The recent extended period of high humidity (6 days+) has resulted in plants in the field having a much reduced cuticle (waxy layer on the leaf surface). The forecast for bright, sunny weather with temperatures in the eighties is likely to result in some burning of foliage of many vegetables, particularly leafy greens, because the cuticle is not thick enough to reduce evaporation, etc. Burning of foliage in these crops should not be viewed as a disease, but rather an **environmental stress**.

✔ **Beet:** The recent rainy period has favored the development of **leaf spot**. Apply a copper fungicide as a foliar spray every 7-10 days for prevention of **leaf spot**.

✔ **Cole crops:** Some seedlings still in the greenhouse are exhibiting elongated, straplike leaves. This is the result of early season **cold injury**, and is not due to a disease. In some fields, cabbage plants have yellow lower leaves. This is the result of **nitrogen deficiency**, and supplemental nitrogen needs to be sidedressed onto the field. Maintain foliar applications of maneb or Bravo every 7-10 days for protection against **Alternaria leaf spot** and **downy mildew**.

✔ **Cucumber:** Shortly after transplanting apply Ridomil Gold in a 7-inch band over the row for control of **damping-off**. Maintain control of **cucumber beetles** for prevention of transmission of **bacterial wilt**.

✔ **Eggplant:** Be sure to transplant onto raised beds in well-drained fields, and apply Ridomil Gold in a 12-16 inch band over the row after transplanting to assist in control of **Phytophthora blight**.

✔ **Lettuce:** The recent extended high rainfall period is likely to promote the development of **tipburn** on plants close to harvest. **Tipburn** results in the marginal burn of leaf margins of rapidly expanding inner leaves. **Tipburn** is generally considered to be the result of a calcium-related disorder. Conditions that result in the rapid growth of lettuce cause calcium levels in the plant tissues to be low. Foliar applications of calcium salts can reduce **tipburn** in partially or opened butterhead, leaf, and romaine types of lettuce, but are ineffective on crisphead lettuce types. Some fields of lettuce types are exhibiting marginal necrosis on the older leaves. This is the result of **moisture and wind stress** prior to the rain period resulting in wilting of older leaves. Apply maneb as a foliar spray to protect foliage against **leaf spots** and **downy mildew**. Repeat in 7-10 days.

✔ **Muskmelon:** Apply Ridomil Gold in a 7-inch band over the row after transplanting or seeding for control of **damping-off**. Control **cucumber beetles** to prevent transmission of **bacterial wilt**.

✔ **Parsley & Cilantro: Bacterial leaf spot** is present in some fields at this time. Infected plants have small, black lesions scattered over the leaves. Avoid working in fields while the foliage is wet to reduce spread.

Regional Vegetable Twilight Meeting

Monday, May 18, 1998
7:30-9:30 p.m.
Muzzarelli Farm
Oak Road, East Vineland, NJ

Rutgers specialists and agents will discuss current pest and crop status. Bring your questions. Pesticide recertification credits will be available. Last meeting until fall.

Questions? Call Rick VanVranken at Rutgers Cooperative Extension of Atlantic County, 609-625-0056.

Hope to see you there!

✔ **Pepper:** Transplant peppers on raised beds in well-drained fields. When using plastic mulch culture, be sure to fill in the depression around the base of the plant with soil following transplanting. Apply Ridomil Gold in a 12-16 inch band over the row after transplanting or inject via drip irrigation as soon as possible. All of the above procedures are designed to assist in protection against **Phytophthora blight**. Apply a foliar spray of a copper fungicide + maneb shortly after transplanting and 7-10 days later for prevention of **bacterial leaf spot**.

✔ **Potato (White):** The recent wet weather has been optimal for the development of **late blight**. Apply mancozeb as a foliar spray to fields as soon as possible and continue on a 7-day schedule. Observe fields for the presence of tubers. Once tubers are nickel size, apply Ridomil Gold MZ as a foliar spray and repeat in 14 days for control of **pink rot**.

✔ **Spinach:** Apply Kocide 4.5F as a foliar spray for prevention of **white rust** in fields with plants greater than a half dollar size, or apply Aliette as foliar spray in fields close to harvest.

✔ **Tomato: Early blight** is present on some seedlings in greenhouses at this time. Infected plants have brown circular lesions on the leaves, and in some cases girdling lesions on the stems. Apply a Termil bomb (chlorothalonil) in the greenhouse for control. Plants with stem lesions should be discarded. Some transplants being stored on wagons prior to transplanting are exhibiting necrotic spots over the majority of the leaves. This is the result of **environmental stress** and is not a disease. Once transplanted into fields with ample soil fertility or starter solution used at transplanting, plants will produce new leaves free of the symptoms. For plants still in the greenhouse, continue to apply streptomycin every 5-7 days, and once transplanted to the field, apply a copper fungicide + mancozeb as a foliar spray and repeat in 7 days for control of **bacterial leaf spot**. ❑

Weed Control in Vegetables

Bradley A. Majek, Ph.D., Weed Science

✔ **Cabbage:** Dual and Dual 8E have received special state labels for use to control weeds in **cabbage**. The manufacturer, Ciba Geigy, requires growers to sign an indemnification agreement that must be notarized and recorded by the Vegetable Growers Association of New Jersey (VGANJ) for the label to be valid. Read the agreement thoroughly and fill out completely before mailing to the VGANJ for validation. Copies of the indemnification agreement are available from VGANJ or your county agent.

Use Dual or Dual 8E to control **annual grasses** and certain **broadleaf weeds**. Weeds that Dual suppresses or controls that could not be controlled with other labeled herbicides include **yellow nutsedge**, **galinsoga**, and **nightshade**.

In transplanted cabbage, apply Dual at 0.75 to 2.0 pints per acre (0.75 to 2.0 lb ai/a) pretransplant or posttransplant within 48 hours of planting. Do *not* incorporate pretransplant applications. Use Dual with caution. Some temporary stunting may occur that could delay maturity.

In direct-seeded cabbage, do *not* apply Dual at planting. Use other labeled herbicides to control weeds as the cabbage emerges. Apply Dual at 0.75 to 2.0 pints per acre (0.75 to 2.0 lb ai/a) after the cabbage has developed 3 to 4 leaves to control weeds for the remainder of the season. Control emerged weeds by cultivation and hoeing or with postemergence herbicides before applying Dual. Use Dual with caution. Some temporary stunting may occur that could delay maturity.

The label, validated through the VGANJ, is effective for this growing season, and expires at the end of the year.

✔ **Pepper:** Recent cold weather may result in abnormal growth of peppers during the next few weeks. Tiny leaves in the growing points can be injured by low temperatures. When these leaves grow out in a few weeks, they may exhibit a variety of epinastic responses that resemble virus or 2,4-D drift injury. Leaves make be crinkled, stretched, the mid-vein may be shortened, and/or the leaves may appear otherwise abnormal. The response can be very variable. The plant will outgrow the problem in time.

Dual and Dual 8E have special state labels for use to control weeds in **bell peppers**. The label is valid only in New Jersey. The manufacturer, Ciba Geigy, requires growers to sign an indemnification agreement that must be notarized and recorded by the Vegetable Growers Association of New Jersey for the label to be valid. Read the agreement thoroughly and fill out completely before mailing to the VGANJ for validation. Copies of the indemnification agreement are available from VGANJ or your county agent.

Use Dual or Dual 8E to control **annual grasses** and certain **broadleaf weeds**. Weeds that Dual suppresses or controls that could not be controlled with other labeled herbicides include **yellow nutsedge**, **galinsoga**, and **nightshade**.

Apply Dual at 1.0 to 2.0 pints per acre (1.0 to 2.0 lb ai/a) pretransplant or posttransplant as a basal-directed spray. Read and follow all label instructions and restrictions.

- Do *not* incorporate pretransplant applications.
- Do *not* spray posttransplant applications "over the top" of peppers.
- Do *not* apply within 60 days of harvest.

The label, validated through the VGANJ, is effective for this growing season, and expires at the end of the year.

✔ **Potato (Sweet):** Command 4EC has a 24-C **Special Local Needs** label for weed control in sweet potatoes. Apply 0.75 to 1.5 pints per acre (0.375 to .75 lb ai/a) and incorporate immediately to prevent vapor drift from damaging adjacent vegetation. Command will suppress or control many **annual grass** and **broadleaf weeds**, but will not control **pigweed**, **carpetweed** or **yellow nutsedge**.

Apply Command 4EC when the humidity is low, winds are light, and blowing in a safe direction (away from sensitive vegetation). Do *not* spray in windy weather to avoid spray drift injury, or during calm periods when the humidity is high. Incorporate before a period of calm wind and near 100% humidity occurs to reduce the risk of vapor drift. Read and follow all label warnings and restrictions.

✔ **Pumpkin:** Use Command 4EC for weed control in pumpkins in New Jersey. Apply 0.25 to 0.5 lb ai/a (8 to 16 fl oz/a) preplant incorporated or preemergence. Command will suppress or control many **annual grasses** and **broadleaf weeds**, but will not control **pigweed** or **carpetweed**. Tank-mix with Prefar to improve the control of these weeds.

Preplant incorporate *only one inch* deep *or less* and place seed below treated soil, or apply preemergence. Deeper incorporation may result in crop injury and reduce weed control! Use a rotary hoe, rolling basket cultivators, or similar shallow cultivation equipment immediately after preemergence applications are sprayed to eliminate the risk of vapor drift injury to adjacent sensitive vegetation.

Apply Command 4EC when the humidity is low and when winds are light and blowing in a safe direction (away from sensitive vegetation). Do *not* spray in windy weather to avoid spray drift injury, or during calm periods when the humidity is high. Incorporate Command shallowly after application and before a period of calm wind and near 100% humidity to reduce the risk of vapor drift. Read and follow all label warnings and restrictions. ❑

Vegetable IPM Update

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

Sweet Corn

At the end of last week, in Cumberland and Salem counties, there was a burst of **European corn borer** (**ECB**) activity (see counts below). However, **ECB** catches dropped off significantly in the early part of this week due to the cooler wet weather. Most of the counts for the same locations listed below dropped to 0 or 1 at the beginning of this week. Adult counts should increase again as temperatures increase. By the end of next week, early plantings, (especially those grown under plastic) should begin to be scouted for the presence of **corn borer** damage. The main scouting concern at this time is still **flea beetles** (see last week's newsletter for more information).

The highest average nightly **ECB** blacklight trap catches from 5/7 to 5/12 are:

Cohansey	5	Elmer	2	Medford	1
Sheppards Mill	5	Shiloh	2	Tabernacle	1
Centerton	3	Elm	1	Indian Mills	1
Mullica Hill	1	Shirley	3	Cinnaminson	1

The first **corn earworm** (**CEW**) adults have been caught in Cumberland and Gloucester counties, indicating that we will likely have a good overwintered population of **CEW** to contend with this spring. Southern New Jersey is a borderline area for overwintering by corn earworms, and the success of overwintering is dependent on the severity of the winter temperatures. As a result of the moderate winter, we may see higher populations of **CEW** this season.

The highest average nightly **CEW** blacklight trap catches from 5/7 to 5/12 are:

Shiloh	1	Mullica Hill	1

White Potato

At the end of last week, there was a small burst of **European corn borer** (**ECB**) activity (see counts above) in Cumberland and Salem counties. However**, ECB** catches dropped off significantly in the early part of this week due to the cooler wet weather, and the higher counts last week are still below the threshold for potential infestation problems (20/night is the guideline). However, as **ECB** counts increase again, begin to scout early plantings for the presence of **corn borer** infestation. Check five terminals in 10 locations in the field and examine for flagging (wilting of the terminals) and other evidence of **corn borer** damage (small discolored entry holes on the stems and terminals). The threshold for treatment is 25% terminal infestation. ❑

Weekly Weather Summary

Keith Arnesen, Agricultural Meteorologist

Temperatures averaged slightly below normal. Extremes were 77 degrees at Seabrook on the 8th, and 43 degrees at Freehold on the 5th. Weekly rainfall averaged 4.17 inches north, 4.87 inches central, and 2.83 inches south. The heaviest 24 hour total was 2.60 inches at Toms River on the 8th to 9th. Estimated soil moisture, in percent of field capacity, this past week averaged 99 percent north, 97 percent central and 79 percent south. Four inch soil temperatures averaged 60 degrees north, 60 degrees central and 61 degrees south.

Weather Summary for the Week Ending 8 Am Monday 5/11/98

	RAINFALL			TEMPERATURE				GDD	BASE50	MON
WEATHER STATIONS	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	4.70	17.36	8.29	73	52	59.	1	254	146	100
CANOE BROOK	3.59	15.86	5.87	72	52	59.	1	363	271	100
CHARLOTTEBURG	5.12	17.51	7.67	71	48	56.	1	229	184	100
FLEMINGTON	3.90	17.68	8.15	74	53	59.	1	296	196	100
LONG VALLEY	3.55	16.14	5.94	68	54	58.	2	224	160	100
NEWTON	MISSING									
FREEHOLD	5.40	17.92	8.46	69	43	57.	-2	335	199	100
LONG BRANCH	5.85	21.95	12.17	64	52	57.	-1	238	126	100
NEW BRUNSWICK	3.96	17.26	8.07	72	53	58.	-2	313	153	100
PEMBERTON	3.43	14.47	5.41	75	52	60.	0	445	289	100
TOMS RIVER	6.99	23.29	13.78	72	48	58.	-2	372	251	100
TRENTON	3.58	16.79	8.22	71	52	58.	-3	310	127	100
CAPE MAY CRT HOUSE	1.68	12.09	3.78	68	52	59.	-1	322	163	100
DOWNSTOWN	2.63	13.07	4.51	76	53	61.	0	398	205	100
GLASSBORO	3.03	11.92	2.87	74	52	60.	-1	384	201	100
HAMMONTON	3.33	13.34	4.53	75	52	60.	0	362	186	100
POMONA	4.37	17.55	9.23	72	51	59.	0	338	199	100
SEABROOK	2.09	14.14	6.41	77	52	61.	0	404	208	100
ATLANTIC CITY MARINA	2.69	17.38	9.52	67	52	58.	0	270	131	100
WOODSTOWN	2.47	10.69	2.38	76	55	62	NA	433	NA	NA

WES KLINE — GDD BASE 40 PINEY HOLLOW Last Week 124 (Ending 5/4/98) This Week 149 (Ending 5/11/98)

Rutgers Cooperative Extension - NJAES
U.S. DEPARTMENT OF AGRICULTURE
Rutgers -The State University of New Jersey

88 Lipman Drive
Cook College
New Brunswick, N.J. 08901-8525

PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION CONTRIBUTORS

Rutgers Cooperative Extension Specialists
Joseph A. Fiola, Ph.D., Small Fruit & Viticulture
Stephen A. Garrison, Ph.D. Vegetable Crops
Gerald M. Ghidiu, Ph.D. Vegetable Entomology
George Hamilton, Ph.D., Pest Management
Joseph R. Heckman, Ph.D., Soil Fertility
Stephen A. Johnston, Ph.D. Plant Pathology
Bradley A. Majek, Ph.D. Weed Science
Craig A. Storlie, Ph.D. Agricultural Engineering
Rutgers Cooperative Extension County Agricultural Agents, Assistants and Program Associates
Atlantic, Richard W. VanVranken (609-625-0056)
Burlington, Raymond J. Samulis (609-265-5050)
Cape May, Larry E. Newbold (609-465-5115)
Cumberland, Wesley Kline, Ph.D. (609-451-2800)
Gloucester, Michelle Infante (609-863-0110)
Hunterdon, Winfred P. Cowgill, Jr. (908-788-1338)
Mercer, Daniel Kluchinski (609-989-6830)
Middlesex, William T. Hlubik (732-745-3443)
Monmouth, Richard G. Obal (732-431-7260)
Morris, Peter J. Nitzsche (973-285-8300)
Salem, Peter R. Probasco (609-769-0090)
Somerset, Betsey Saul, Agricultural Assistant (908-526-6293)
Warren, William H. Tietjen (908-475-6505)
Kristian E. Holmstrom, IPM Program Associate
Sarah Walker, IPM Program Associate
Newsletter Production
Jack Rabin, Assistant Director, NJAES
Cindy Rovins, Editor and Designer

Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The user is reponsible for the proper use of pesticides, residues on crops, storage and disposal, as well as damages caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact Rutgers Cooperative Extension of your County.

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