RUTGERS COOPERATIVE EXTENSION AT THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION $1.50 MAY 14, 2003

INSIDE

Heritage Crops - Central Asian Vegetables

Thomas J. Orton, Ph.D., Specialist in Vegetables

The RCE Vegetable Working Group is constantly exploring ways to improve profitability for New Jersey growers. One example is the ongoing work in the evaluation of niche/specialty crops and varieties for markets that will deliver higher net profits as compared to current/commodity alternatives. RCE Agents and Specialists have been evaluating varieties from all over the world for production economics and demand from local ethnic populations that are familiar with these heritage varieties.

One such program has targeted these heritage vegetable varieties from Central Asia. This geographical region was isolated from the rest of the world until the breakup of the former Soviet Union in 1991. Thereafter, a large wave of immigrants from that region came to the U.S., a large proportion of which settled in the greater New York City area. Not surprisingly, the types and varieties of food crops typically consumed by these recent immigrants are quite unique. Fruits and vegetables that these immigrants are accustomed to are not generally available in conventional markets and, in many cases, not at all. Demographically, a high percentage of immigrants from Central Asia are relatively affluent, having qualified under highly stringent INS economic criteria. Preliminary marketing studies in 2000 and 2001 showed that theses groups were willing and able to pay more for fresh, local, high quality fruits and vegetables with heritage characteristics from the "old country".

During the 2002 growing season, an ambitious program was developed in conjunction with New Jersey Farm Bureau to produce selected Central Asian melon, tomato, and pepper cultivars in cooperation with commercial vegetable growers in southern New Jersey. Eight melon cultivars in three type classes were grown (early, late, and storage) along with one each of pepper and tomato. All of these cultivars are clearly different from those produced and/or available within the U.S. Transplants were produced and provided to six chosen growers with costs covered by a USDA/NJDA grant. Approximately 8 total acres were grown and were harvested and packed using conventional methods and materials; smaller (5/9 bu) for the tomatoes and peppers to maximize quality. Harvests and product sales commenced in early August and continued to early November. To determine market potential, we took packed products directly to small markets in areas of high concentration

SEE CENTRAL ASIAN VEGS ON PAGE 2

Addition to Cooperative Marketing Associations in New Jersey

In the April 30, 2003 issue of the Plant and Pest Advisory Vegetable Crops Edition, an article listing the Cooperative Marketing Associations in New Jersey was printed. The older version of this list was inadvertantlyused, with some outdated information. Please note that some of the managers may have changed, and the Tomato Council cooperative is no longer operative. An addition to this list includes the Landisville Produce Cooperative Association, Inc. The information is listed below:

Landisville Produce Cooperative Association, Inc.
PO Box 303 Railroad Blvd. Landisville, NJ 08326
Phone: 856-697-2271
Fax: 856-697-8908
Date established: 1913
Manager: Lawrence Marandino
Date of Opening: open all year round
Facilities/Service Offered: ordering produce from farmers, selling produce to brokers, packing sweet potatoes and cucumbers, selling supplies, ice, twist ties, containers, cartons, etc.
Commodities sold: basil, beans, beets, broccoli, cabbages (green, red, savoy, China), cilantro, collards, cucumbers, dandelion, dill, eggplants, endive, escarole, leeks, lettuces, melons, parsley, peppers, pickles, radishes, scallions, spinach, sweet potatoes, Swiss chards, tomatoes, turnips, winter squashes, yams, etc. ❑

CENTRAL ASIAN VEGS FROM PAGE 1

of Central Asian immigrants and negotiated wholesale prices directly with owners/buyers. Average negotiated prices were then compared with same-time wholesale prices for the closest equivalent commodity products as reported by USDA Agricultural Marketing Service FOB Philadelphia (closest shipping point).

For the pepper product, a premium wholesale price was realized at the front end of availability (August 12) of 134% ($6.51 vs. $2.78 per unit) over commodity. This price advantage diminished slowly but progressively over time until, by mid-September, little or no added value was evident. A comparison of wholesale prices from early August through October showed an average 33% premium for Central Asian versus commodity (mixed medium bell) peppers. Feedback from retail market buyers indicated that the Central Asian peppers we offered were excellent in quality and market demand, but were not distinct from similar products in the myriad of other emerging pepper categories, for example, Italian frying types. Moreover, retail pepper consumers appeared to be more price- than category- driven. This applied particularly in periods of over-supply, conditions that were evident during mid-September through October. Despite some early season disease problems, the field performance of this cultivar was regarded as very acceptable.

The Central Asian tomato cultivar, however, commanded sustained wholesale premium prices of up to 212% ($11.31 vs. $3.62 per unit) over the course of the entire production season, despite the perceived quality issues voiced by buyers (size disparity within lots, blemishes, misshapen fruit). The average premium realized from late August through late October was 74%. This is clearly indicative of the acceptance of "old world" products by recent immigrants, and that they are willing to accept superficial quality problems. In the field, overall performance of these heritage tomatoes was promising.

Garnering of premium wholesale prices was highly inconsistent for Central Asian melons. A premium of up to 61% ($12.88 vs. $8.00 per unit) was realized in mid season when the "late" types were prevalent, consistent with the demand for these types voiced by buyers. Over the whole season, an average premium of only 3% was obtained for the melons, but this figure also combines the three types together. It was generally concluded from interactions with buyers that the "early" and "storage" categories were marginal or unsuccessful with consumers, but the "late" (mid-season elongated) types were highly successful. Despite robust vine growth, overall fruit yields were low to modest, and higher wholesale prices did not necessarily compensate for these yield losses.

A survey of owners/buyers was conducted at the conclusion of the season, and results were overwhelmingly positive with regard to the commercial promise of these unique products in the marketplace.

The results to date from grower experiences and this and other programs point to the following crucial and recurring areas that need to be addressed for the successful commercialization of specialty-heritage vegetable cultivars. ❑

New Fungicides for Tomato Disease Control

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

Dr. Johnston provided this information at a grower meeting on April 1, 2003.

Standard broad-spectrum fungicides for tomato disease control primarily consists of chlorothalonil (Bravo, Echo, Equus) and mancozeb (Dithane, Manex II, Manzate, Penncozeb). These fungicides continue to be effective disease control agents for tomato production in New Jersey. Within the past few years several additional fungicides have received federal Registration for use on tomatoes for disease control. Acrobat 50W, Actigard 50WG, Cabrio 20EG, Flint 50WDG, Gavel 75DF, Nova 40W and Quadris 2F can now be used to supplement chlorothalonil and mancozeb in tomato disease management programs.

Actigard 50WG is a selective, systemic compound used for the control of **bacterial leaf spot** of tomatoes. It is an inducer of host plant resistance, and exhibits a unique mode of action that mimics the natural systemic activated resistance response found in tomatoes. Actigard 50WDG has no direct activity against target pathogens. Actigard 50DWG is to be applied at 0.33 oz/A as a foliar spray shortly after transplanting tomatoes. Up to 5 additional applications should be made at weekly intervals at the same rate for control of bacterial leaf spot on tomatoes.

Cabrio 20EG, Flint 50WDG, and Quadris 2F all belong to the same class of fungicides known as the strobilurins. These fungicides are broad spectrum, preventative compounds with systemic and curative properties. They are extremely effective in the control of **early blight**, **gray leaf spot**, **Septoria leaf spot**, **late blight**, **powdery mildew** and **anthracose**. There is a possibility of the development of resistant strains of pathogens controlled with strobilurin fungicides; therefore, all of them should be used in alternation with chlorothalonil or mancozeb. None of the strobilurin fungicides should be used exclusively in a tomato disease control program, and strobilurins should not be alternated with each other. The following program has been effective in controlling foliar and fruit diseases on both processing and fresh market tomatoes for the past few years:

When crown fruit are one-third their final size, apply chlorothalonil (3pt/A). One week later apply Quadris (6.2 fl.oz/A). Repeat the above program for a total of 6-7 applications. Cabrio 20EG or Flint 50WDG can be substituted for Quadris in the above program, but they cannot be substituted for chlorothalonil.

Gavel 75DF is a combination of a new fungicide, zoximide, and mancozeb. Zoximide has specific activity against diseases caused by **Phytophthora** species, such as, **late blight** and **buckeye rot**. Essentially, Gavel 75DF is an enhanced mancozeb, and should be used for the control of late blight and buckeye rot. The addition of surfactants to spray solutions containing Gavel will improve performance. Gavel 75DF should be applied at 1.5-2lb/A when the threat of blight is in the area. Gavel should also be used when crown fruit are one third their final size and repeated in 14 days for the control of buckeye rot in fields with a history of the disease.

Acrobat 50W is a preventive fungicide containing the active compound dimethomorph. It is to be used in a preventative program for the management of late blight in tomatoes. It must always be used in a tank mix with another fungicide. The most likely fungicides to tank mix with Acrobat 50W are chlorothalonil or mancozeb. When the threat of late blight is in the area, apply Acrobat 50W at 6.4 oz/A plus either chlorothalonil (3 pt/A) or mancozeb (3 lb/A) to assist in control.

Nova 40W is a systemic, protectant and curative fungicide containing the active ingredient myclobutanil. Nova 40W is registered for the control of **powdery mildew** on tomatoes. Powdery mildew generally does not occur in commercial tomato fields if a regular fungicide program has been followed. Powdery mildew appears as a whitish, oppressed growth on the leaf surface. At the first sign of powdery mildew on tomato leaves, apply Nova 40W at 2.5-4oz/A and repeat at 14 day intervals.

Submitted by Michelle Infante-Casella, Gloucester County Agricultural Agent. ❑

Vegetable Integrated Crop Management Twilight Meeting Series

Tuesday, May 27, 2003
7:00 PM
DiBella Bros. Farm
693 Russell Mill Road
Woolwich Twp. (Swedesboro), NJ

The Rutgers Cooperative Extension Agricultural Agents from Atlantic, Cumberland, and Gloucester Counties invite you to the third twilight meeting in this year's series. This is an ongoing activity at growers' request and will continue with your support.

If you have any plant, insect, disease, or weed samples bring them to the meeting so they can be identified and discussed (please bring samples in sealed plastic bags).

AGENDA

- Summer insect pest control for vegetables, Dr. Gerald Ghidiu, RAREC
- Weed management in asparagus, cucurbit and solanaceous crops, Dr. Bradley Majek, RAREC
- Update on Vegetable IPM Programs and Sweet Potato Pests, Joe Mahar, Vegetable IPM Coordinator
- Update on Worker Protection Standards and Pesticide Application Records, Michelle Infante-Casella, Agricultural Agent
- Update on Food Safety Issues and Worker Sanitation, Wes Kline, Agricultural Agent
- Discussion of your spring and summer season production issues, RCE Agents and Specialists

Pesticide Recertification Credits have been requested for this meeting. Hope to see you there!

For further information or directions, call Michelle Infante-Casella of RCE of Gloucester County at 856- 307-6450, Wesley Kline of RCE of Cumberland County at 856-451-2800 or Rick VanVranken of RCE of Atlantic County at 609-625-0056. ❑

Pest Notes

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

✔ **Beans:** Cool, wet weather is ideal for **seed maggot** development. It is best to apply a seed treatment (planter box application) for maggot control, or use commercially available treated seed, or use an at-plant treatment of Di-syston 15G or Thimet 20G. Consult the label for all rates, restrictions and directions for seed maggot control.

✔ **Cole Crops: Flea beetles** have continued to emerge from overwintering sites, and early damage will be seen as small, round holes in the foliage. High populations can cause excessive leaf damage, and is more severe to small transplants. An at-plant or side-dressing of Di-syston can be used for flea beetle and **aphid** control. Foliar sprays of Ammo, Asana, Capture, Danitol, Fury, Mustang, Provado, Sevin, Thionex (old name = Thiodan), or Warrior.

Also, the pale green, velvet appearing caterpillar on the foliage of cole crops is the **imported cabbageworm** caterpillar. This pest is the larval stage of the common, white butterfly seen fluttering around cabbage fields during the past several weeks. Many materials are labeled for this pest, and all are equally effective. Comparisons of all available materials were conducted in Long Island recently, and there were no differences among any of the materials tested. Consult page F14 of the *2003 Commercial Vegetable Production Recommendations for New Jersey* for more information on suggested management practices.

✔ **Cucurbit:** Weather and moisture conditions are ideal for **maggot** development and infestation in cucurbits. Plant seed that has been commercially treated with a material for maggot control, or use Lorsban 50SL as a seed treatment (2 oz per 100 lbs of seed as a slurry treatment just before planting). Seed treatments with malathion or lindane will *not* be effective against seed maggots. Also, at-plant applications of Admire *may* have some effectiveness against seed maggots, but research in this area has been inconclusive. Use a material that has seed maggot control on the label. Once maggots damage or enter the seed, control cannot be obtained, and the plant is usually non-productive, so post-emergence treatments are not effective.

✔ **Potato (white): Colorado potato beetle** adults are found in low numbers on emerging potato plants, but damage is still low as a result of cool temperatures during both day and night. The current cool temperatures reduce beetle activity, such as mating, oviposititon and feeding. As temperatures increase, beetle emergence and numbers will also increase. If no at-plant insecticide was used, monitor closely for this beetle buildup to prevent foliar damage. See pages F111-F112 of the *2003 Commercial Vegetable Production Recommendation for New Jersey* for more information concerning Colorado potato beetle management in white potatoes.

Evening temperatures are still too cool for much **European corn borer** moth activity. Virginia reports that moth activity has started, and they are finding the first egg masses in potato fields. The timing of this indicates that everything is on a "normal" schedule along the eastern coast, and we will likely begin observing moth activity within the next week or so in southern New Jersey (if evening temperatures increase). Typical peak moth activity is around the end of May, through the first week of May. Degree day accumulation is 350 DD thus far, and should reach about 450 by May 23. This also indicates that temperatures are running about "average", and thus nature (i.e., corn borer activity) will be similar. More information concerning corn borer activity in the next week or two. ❑

IPM Update

Kristian Holmstrom, Program Associate in Vegetable IPM

European Corn Borer

Within the past week, the beginnings of the first **European corn borer (ECB)** flight have begun in parts of Salem and Cumberland Counties. As yet, activity is very light. Activity will increase with warmer evening temperatures. The first ECB population map will appear in the May 21, Plant and Pest Advisory Newsletter.

As the ECB flight increases, it is important to remember that this pest will tunnel into the stems of recently transplanted peppers, and will attack early sweet corn plants, although not until the corn is approximately 16 inches or more in height.

Cole Crops and Leafy Greens

The major pest at this time continues to be the **crucifer flea beetle**. This pest has been particularly hard on the more tender greens like mustard, broccoli raab, and arrugula. Look for beetles and signs of their feeding. Consider treating when more than 50% of plants sampled have beetles present, and there is damage to plants.

Sweet Corn

Recent cool, wet weather has been favorable for **garden slug** activity. As a result, injury to seedling stage sweet corn has appeared in some fields. When walking fields, look for ragged (not regular, as with the billbug) holes in the leaves with obvious slime trails on the plants and adjacent soil. This problem seems to be more prevalent on heavier soils where clods of soil remain on the surface. Small slugs may be found under these clods. Generally, this damage subsides with warmer and drier conditions.

Check seed sources to determine which early varieties have tolerance to **Stewart's wilt**, as well as which ones come treated with Gaucho. Cool weather conditions slow the growth of corn seedlings and make them more susceptible to the effects of the wilt bacterium. When scouting, look for the small black **corn flea beetles** on corn seedlings. The warmest part of the day is most productive. When the number of beetles exceeds 6 per 100 seedlings, consider treating if no systemic insecticide was on the seed or was used at planting and the variety is susceptible to Stewart's wilt.

Tomatoes

It is critical to take all precautions against **bacterial infections** (**bacterial speck**, **spot**, and **canker**), prior to transplanting tomatoes into the field. Try to avoid fields that have had tomatoes within the past two years. Make sure all plant debris is thoroughly incorporated into the soil to facilitate decomposition. All reused stakes should be dipped in a 5% (by volume) solution of Clorox in water. Make sure the stakes are thoroughly soaked. Actigard, at the low rate can help protect plants from these organisms. Shortly after transplanting, treat plants weekly with the low rate for a total of 6 applications. Tying and pruning is conducted ideally when foliage is dry, and all tools should frequently be dipped in the above Clorox solution to prevent spread of any infection. ❑

USDA Reminder of Sign-Up Dates for Farm and Conservation Programs

Paul J. Hlubik, State Executive Director for USDA's Farm Service Agency in New Jersey wants to remind producers of key sign-up dates for USDA programs.

"Late May and early June 2003 contain many important date for landowners and producers eligible to participate in these programs," said Hlubik. "As of today, producers can sign up so that program benefits can be provided in a timely and efficient manner."

Conservation Reserve Program

The CRP general sign-up is being held from May 5 through May 30. Producers can sign up at local USDA service centers across the nation. The 2002 Farm Bill authorized USDA to maintain CRP enrollment up to 39.2 million acres.

Aside from the general sign-up, CRP's continuous sign-up program will be ongoing. USDA has reserved two million acres for the continuous sign-up program, which represents the most environmentally desirable and sensitive land. USDA is making a special effort to help enhance wildlife habitats and air quality by setting aside 500,000 acres for bottomland hardwood tree planting. Continuous sign-up for hardwood planting will start after the general sign-up.

Direct and Counter-cyclical Program

Sign-up began Oct. 1, 2002, for the direct and counter-cyclical program for crop years 2002 and 2003 and continues until June 2, 2003. The 2002 Farm Bill provides for payments to be made to eligible producers of covered commodities and peanuts for the 2002 through 2007 crop years. Direct and counter cyclical payments are made to producers with established crop bases and payment yields.

See Programs on page 6

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged below normal. Extremes were 84 degrees at Hammonton, on the 8th and 32 degrees at Pomona on the 6th. Weekly rainfall averaged 0.74 inches north, 0.35 inches central, and 0.56 inches south. The heaviest 24 hour total reported was 0.88 inches at Hammonton on the 7th to 8th. Estimated soil moisture, in percent of field capacity, this past week averaged 80 percent north, 72 percent central and 57 percent south. Four inch soil temperatures averaged 55 degrees north, 56 degrees central and 56 degrees south.

Weather Summary for the Week Ending 8 am Monday 5/12/ 3

	RAINFALL			TEMPERATURE				GDD BASE50		MON
WEATHER STATIONS	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	.93	7.19	-2.00	81	37	56.	-3	208	91	84
CANOE BROOK	.60	9.14	-.98	83	44	58.	0	221	121	83
CHARLOTTEBURG	1.00	9.63	-.34	82	37	55.	-1	111	61	85
FLEMINGTON	.54	8.52	-1.12	83	41	57.	-1	226	118	73
LONG VALLEY	.65	8.29	-2.05	80	34	53.	-3	120	50	85
NEWTON	.75	6.36	-2.51	82	34	56.	-1	184	113	80
FREEHOLD	.16	8.29	-1.29	80	45	58.	-2	252	106	67
LONG BRANCH	.28	8.78	-1.12	71	40	55.	-3	181	61	59
NEW BRUNSWICK	.40	7.93	-1.39	79	38	57.	-3	221	51	84
TOMS RIVER	.36	7.26	-2.37	77	34	57.	-3	228	97	57
TRENTON	.55	7.31	-1.37	79	37	56.	-5	230	36	75
CAPE MAY COURT HOUSE	.18	7.56	-.86	74	33	56.	-4	185	16	29
DOWNSTOWN	1.19	7.60	-1.06	82	33	58.	-3	273	69	83
GLASSBORO	.54	8.20	-.97	81	40	59.	-2	298	104	74
HAMMONTON	1.27	7.00	-1.97	84	33	58.	-3	278	91	72
POMONA	.09	7.10	-1.32	76	32	57.	-3	217	68	40
SEABROOK	.54	8.20	.37	80	46	60.	-2	318	110	56
ATLANTIC CITY MARINA	.12	6.16	-1.80	71	49	57.	-2	179	31	35
SOUTH HARRISON	1.42	8.69	.10	80	38	59	NA	315	NA	NA

WES KLINE — GDD BASE 40 PINEY HOLLOW
Last Week 146 (Ending 5/5/03)
This Week 127 (Ending 5/12/03)

Programs from page 5

Payment rates for direct payments are established by the 2002 Farm Bill and are issued regardless of market prices. Producers also are eligible for counter-cyclical payments, but payments are issued only if effective prices are less than the target prices set in the 2002 Farm Bill. The effective price is equal to the higher of the average loan rate or national average market price received by producers, plus the direct payment rate.

Crop Disaster Program

Sign-up for the crop program, which will reimburse producers for qualifying crop losses in either 2001 or 2002, will begin June 6, with payments to begin shortly thereafter.

Crop disaster payments must be calculated using the same formula used for the 2000 crop year. This means crop losses for 2001 and 2002 will be valued using the price election for Actual Production History crop insurance policies, or if that price is not available, a 5-year average.

Crop disaster payments are also subject to a formula which states that the sum of (1) the value of the crop not lost, (2) the disaster payment, and (3) the crop-insurance indemnity cannot exceed 95 percent of what the crop's value would have been, if there had been no loss. Crop disaster payments will be reduced if the 95 percent limitation is exceeded. The value of the crop not lost and the 95 percent limitation will be valued at either the Actual Production History price election or the NASS season-average price, whichever is higher. Specific details will be available from local Farm Service Agency offices, USDA Service Centers and on the web at http://disaster.fsa.usda.gov.

For more information on these and other USDA programs, visit the FSA website at www.fsa.usda.gov. Producers wishing to sign-up for these programs should visit their local USDA Service Center or FSA County Office. ❑

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