VegNet Vol. 7, No. 20, July 19, 2000

## Insect News

C. Welty

European corn borer:
Traps have had slight increases in catch of corn borer moths which probably indicates that we are at the very beginning of the new flight that will lead to second-generation corn borer larvae. Our blacklight trap at Fremont (Sandusky County) caught 11 corn borer moths in the past week, up from 0 the previous week. Pheromone traps for European corn borer in the past week caught a mean of 15 moths in Gallia County, 10 in Meigs County, 9 in Highland County, 2 in Clark County, 2 in Franklin County, 2 and 1 in Wayne County, 1 in Summit County, 0 in Huron County, and 4 and 4 in Sandusky County. If moth emergence continues to increase, then pepper growers should start their insecticide spray schedule in 1-2 weeks. In sweet corn locations where corn earworm is caught, any plantings just starting to silk should be treated on a schedule following the rules for corn earworm, and this schedule should also control corn borer. In sweet corn locations where corn earworm is not caught, any plantings just starting to silk should be treated every 5-7 days while European corn borer moths are active; every 7 days should be adequate when corn borer moth activity is still low, and every 5 days is best during peak egg hatch of corn borer which is likely about 2-3 weeks from now.
Corn earworm:
Pheromone traps for corn earworm caught 10 moths in Meigs County, 6 in Highland County, 0 in Clark County, 0 in Franklin County, 0 and 0 in Wayne County, 3 in Summit County, 0 in Huron County, and 0 and 0 in Sandusky County.
Trap summary:
trap reports for all sites and all weeks thus far are posted at
http://www.ag.ohio-state.edu/~ipm/traps/20vegrpt.htm

Mite control:
Infestations of two-spotted spider mite are reported from several locations and the question has arisen of what pesticides are available to control mites. At some locations, organophosphates are still effective with dimethoate being the best bet and Metasystox-R (oxydemetonmethyl) as another choice. Where organophosphates are not effective, Kelthane (dicofol) is a good choice, but it is registered for use only on vine crops (the 50 WSP formulation) and on peppers, tomatoes, and beans (the MF [4 lb/gal] formulation). Two newer products available are Capture (bifenthrin), an pyrethroid from FMC, and Agri-Mek (abamectin) from Novartis.

## Tips on Potato Crop Harvest Preparation

by Matt Kleinhenz

Unlike other vegetables which are harvested nearly any time once mature, potatoes require special planning in order to be harvested and sold in good condition. This is particularly true of crops destined for wholesale or high- value "specialty" markets with strict crop quality standards. This article outlines a number of issues that potato growers, regardless of market, should consider when preparing to harvest. Tips on establishing vine killing and harvest dates and completing the vine killing operation are provided.

## Beauty and Insurance are Skin Deep

An intact, blemish-free skin is an important component of overall potato crop quality. Consumers and produce buyers alike routinely reject potatoes showing imperfections which may develop during harvest, storage, or handling. Anyone who has tried to market a crop of red-skinned potatoes that was harvested before the skin had set or that was handled roughly -- and then developed brown pox on the surface -- recognizes the high importance of skin quality. An intact skin also helps prevent against crop breakdown in storage. The skin of the potato is the first line of defense against organisms well prepared to destroy tubers if given access to the tuber's flesh. Harvesting potatoes with an immature skin or rough handling create scores of wounds on each potato ... each of them a potential entry point for naturally-occurring organisms such as Erwinia bacteria and various fungal pathogens. It is not uncommon for wounded potatoes to go into storage whole and in a short time become an unmarketable, rotting mess more easily moved with a high pressure hose than a front-end loader. Therefore, taking care to prepare the crop for harvest is an important step in generating revenue from it.

## Establishing a Target Harvest Date

Markets drive production decisions and so it is in establishing a target harvest date. Wholesale and specialty markets have unique, strict crop quality standards. While tubers at least two inches in diameter and weighing ten ounces are standard in many wholesale markets, smaller potatoes are generally preferred in most specialty markets. Regardless of market, growers must work with their buyers and evaluate the condition of their crop in order to establish a target harvest date. While doing so, it is important to keep typical tuber development rates in mind. Tuber initiation generally precedes flowering and lasts ten- fifteen days (the end of the tuber initiation phase may coincide with early flowering). While most of the tubers that will reach marketable size are formed at this stage, they grow very little initially. In middle-to-late stages of tuber bulking, a healthy potato crop may accumulate 700-1000 pounds of weight per acre per day. With this in mind, growers for wholesale fresh or processing markets may wish to delay harvest to maximize tonnage. But, growers for specialty markets may need to harvest earlier in order to deliver the smaller red, purple, yellow, etc. potatoes that their market prefers. All growers, then, will benefit by sampling their crop regularly to assess tuber development. Begin when plants are in bloom. Collect, weigh, and size all tubers from five-ten foot sections of rows throughout the field (i.e., wherever there has been a major change in production practice such as variety and/or planting date) on a regular basis as this will help to establish potential harvest dates. In plantings for wholesale

markets, sampling once per week may be sufficient. In plantings of specialty varieties, sampling every two-three days may be required. All growers should draw from experience and research in knowing when to take the next step in preparing for harvest.

Vine Killing

It is often said that taking good care of a bad crop will do little to improve it but improper handling of a good crop is like throwing money away. A high quality potato crop in the ground means little unless that quality is maintained into storage and through transport to the market. Proper vine killing is an important step in maintaining crop quality and facilitating harvest.

In past years, deliberately killing potato vines was rarely necessary - weather conditions and/or diseases and insects took plants down. In recent decades, with the emphasis on maintaining crop vigor for as long as possible in order to increase yield, killing vines to prepare for harvest has become routine. Vines are killed mechanically, chemically, or with a combination of both means. In any case, it is important to keep in mind two issues:

1. Proper skin set may require up to three weeks after vine killing. Factors that tend to lengthen the period between vine killing and adequate skin set are: high crop vigor, large vines, late maturity, high soil moisture, and cool or cloudy weather.
2. Very rapid vine death may reduce crop quality. Killing vines very rapidly may discolor the tuber's vascular ring, especially at the stem end of the potato. Such discoloration reduces the crop's attractiveness to any market. Applying chemical vine killers when soil moisture is low and air temperatures are high tends to worsen vascular discoloration problems. The same is also true of quick-acting vine killers.

Chemical vine killing is most successful when:

1. Chemical vine killers are not applied when soil moisture is low or conditions are cool, damp, or very hot.
2. Chemical vine killers are applied in split applications. If the label permits, apply less than the full recommended rate and follow with a second application at a lower rate several days later.
3. Vines are rolled before spraying and/or between sprays if split applications are used. Rolling may also close cracks and reduce greening. But, rolling may also contribute to soil compaction.
4. Recommended spray adjuvants are used. Vines may also be killed mechanically. Flail beaters/choppers essentially chop and redistribute vines while rollers snap and leave vines in place. Take care to disrupt the soil as little as possible when using a flail chopper.

For Further Reading :

Commercial Potato Production in North America. 1993. Potato Association of America Handbook. Revision of American Potato Journal Supplement volume 57 and USDA Handbook 267 by the Extension Section of The Potato Association of America. J.B. Sieczka and R.E. Thornton, editors. pp. 40-41.

Potato Health Management. 1993. R.C. Rowe, editor. APS Press, St. Paul, MN. pp. 41-43.

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Vegetable Field Days
Vegetable Plots to be included in The OSU Organic Food and Farming Education and Research (OFFER) Field Day Friday August 4, 2000

Various aspects of organic vegetable production are on display and under study in two projects being conducted at the OARDC in Wooster in 2000. Variety selection and nutrient, disease, and weed management techniques are being displayed and tested in plots containing fresh market tomatoes, sweet corn, and specialty-type potatoes. Researchers hope to establish full-scale projects so that they may help farmers overcome obstacles associated with organic vegetable crop production, including selection of suitable varieties and nutrient and pest management.
Contact Matt Kleinhenz for details and directions to this field day.
phone: 330.263.3810,
Email: kleinhenz.1@osu.edu

Crop Reports
Hal Kneen, Brad Bergefurd, Bill Evans

SouthEast:
Amidst the scattered thunderstorms; harvesting, spraying and cultivating continue in the vegetable fields. Rainfall is quite scattered necessitating the need for trickle and overhead irrigation just a few thousand feet from fields with sufficient rainfall. Several tomato growers have commented that fertilization through the trickle system has substantially improved size on third and fourth fruit set.
Tomato harvest continues. Wholesale markets were backed up on Monday, July 17 as fields needed to be harvested both Friday and Saturday, thus supply was greater than demand early Monday morning. Growers are attempting to reach out to farm markets for Saturday deliveries to eliminate the wholesale market bottleneck on Mondays. Quality is good to excellent with extra large and large fruit being readily available. In tomato test trial, Sunshine and SunChief are being harvested heavily with Florida 47 and Sunsation just beginning to be harvested.
Sweet corn continues to be yielding 900-1200 dozen per acre with good quality ears. Increasing numbers of corn earworm moths have been trapped in helio traps this past week. Corn is on a 4 day spray cycle. European Corn borer numbers have increased slightly (10 moths trapped from 7/12 to 7/17). Scattered rainfall has helped some growers however irrigation still needed in some fields.Incredible, Tuxedo, and Argent varieties are currently being harvested.
Melons are just starting to be harvested. Some growers are worried due to the chance of scattered thunderstorms which can easily bring in too much rain or hail. Quality and quantity look good. Most melons are sold in local region.

Pepper crop has been excellent. Camelot and King Arthur varieties have produced mainly extra large and jumbo fruit. Growers have been happy with first picking yields and prices. Bacterial leaf spot has been found o one farm.

SouthWest:

Harvest of all summer vegetables and melons is in full swing in the region.The sweet corn crop is coming in real heavy this week, for everyones corn patch did well with the rainfall this spring/summer. Wholesale prices over the weekend and early week remain good for all crops, with green beans and half runner beans bringing upwards to $30 and above at the Bainbridge Produce Auction.

Problems experienced include virus symptoms on tomato (samples have been sent to PPDC for indexing), virus symptoms on melon and pumpkin (samples have been sent to PPDC for virus indexing), bactrial wilt on melon, cukes, pumpkin and squash, early blight infection on tomato, flooded out areas in fields due to heavy 4th of July rains (4.5 to 6.5 inches in 4 hours in some areas). Angular leaf spot on pumpkin has been reported. Phytopthora has been reported in low lying pumpkin fields. Timber rot was diagnosed at the Bainbridge Twilight Meeting on tomato last week. Egg masses of Squash bug have been found on pumpkin and squash.

Planting of beans, cucumber, squash, pumpkins, sweet corn, melons, strawberries, turnips, radishes, broccoli, cauliflower, cabbage continues.

One grower has reported that melons the size of tennis balls are being aborted by the plant. Does anyone have any idea what this may be?

Remember Hillsboro Horticultural Field Night, Monday, August 21 6:00 pm till dark. U.S. 62 North of Hillsboro. Call Brad Bergefurd, 1-800-860-7232 or bergefurd.1@osu.edu for more information.

NorthCentral:

Early sweet corn harvest is just beginning. Leek harvest is in its second or third week. Corn harvest should be in full swing the week of the 24th. Peppers and perhaps tomatoes will follow soon after. We are between generations on the corn insects, with no moths of either corn borer or corn earworm trapped in the last 10 days. Variegated cutworms are still being trapped. No black cutworms have been trapped lately. Downy mildew continues to plague the mustard, turnip and collards in the Celeryville area. We have had mostly cool, moist mornings that seem favorable to downy development. Days have been cool, also, with about 1.5 inches of rain in the last week. Some hail damage was reported from storms on the 14th, especially north of Celeryville and Willard in Huron County. We have not seen spider mites yet, but anticipate some on vine crops if the weather warms. We are also watching for powdery mildew. Preventative sprays have begun for this disease in vine crops. Some phytophthora is in low lying pepper fields.

Bacterial spot or speck has appeared in some Fremont peppers. Weed pressures continue to be high through out the area.

At the Muck Crops Branch, we have planted the summer lettuce germplasm trial for Dr. Kleinhenz and will plant a radish rhizoctonia screening trial for Dr. Miller this week. The spinach bolting trial is demonstrating differences in leaf type and habit, but has not begun to bolt.

TomCast Report
K. Scaife

At Fremont,. The total DSV's as of 18 July are 53. Last week, 12 Julyne: 47 DSV's. .

The 7 Day Outlook*

What's New At The VegNet Web Site
Pumpkin Production Chart
Originally available only in the print version of the 2000 Ohio Vegetable Production Guide, this WEB version can be found in "The Pumpkin Patch" The chart is a quick guide and timeline to key factors necessary for a successful pumpkin crop.
Another NEW! VegWeb Fact Sheet.

Table on Susceptiblity of sweet corn hybrids to Stewart's Bacterial Wilt as rated by Jerald Pataky (Univ. of Illinois). Adapted by Dr. Celeste Welty, Extension Entomology, OSU Columbus. This table was published in last week's VegNet Newsletter. A WEB edition is now available from the VegNet homepage. More information on Stewart's wilt and its history in Ohio will be available soon.
Vegetable Faculty WEB Pages.
Dr Matt Kleinhenz has recently posted his faculty webpage. At the site you can find his research projects, results and review his presentations made this past winter. A link from VegNet will be provided soon. To visit Matt's homepage, go to:
http://www.oardc.ohio-state.edu/kleinhenz/

From Dr. Brent Rowell, Univ of KY,
email: browell@ca.uky.edu
Our new KY Vegetable Recommendations book is on the web now. A print version is also available. The introductory section on marketing might be of interest to southern OH tobacco growers.
http://www.ca.uky.edu/agc/pubs/id/id36/id36.htm
The marketing section is also available as a separate publication.
http://www.ca.uky.edu/agc/pubs/id/id134/id134.htm
Visit: "The Library, Online Edition of the 2000 OH Vegetable Production Guide, NOW AVAILABLE.
The OH Vegetables Production Guide ranks #22 in top downloads from OSU Extension Ohioline with over 1,000 downloads. Most of the new features are available in the online edition including the New Insecticide Efficacy tables. The new Pumpkin Production Chart is not there but I hope to have it posted soon in "The Pumpkin Patch" section of the VegNet website.

NEW! VegWeb Fact Sheets.
This new feature offers some valuable information on certain aspects of vegetable production that you can print out directly in your home or office. The first two are by Dr. Mac Riedel, OSU Plant Patholoy, and are available from the VegNet homepage.
Fungicides Labeled for Pumpkins
Confused by the many new fungicides now available for pumpkins. Check out this fact sheet to see how to use these fungicides.
Fungicide Activity For Control of Tomato Diseases Which fungicide is best for a particular tomato disease.
Available from the Vegetable Crops Homepage, Click Here!
The 1999 Pumpkin Review and Slide Show.
Yield Data plus pictures of pumpkin cultivars from this year's trials. Also, see pumpkin varieties rated for powdery mildew resistance. There are many new and interesting pumpkin varieties in all size categories.
Visit: 'The Pumpkin Patch' for pictures and yield data.

The 1999 Green Pepper Evaluation and Slide Show.
Yield Data Slide Show From The Muck Crops Branch at Celeryville,
From The Enterprise Center
Comparison of Disease Control on Fresh Tomatoes using TOMCAST and SKYBIT to Time Fungicide Applications.
Evaluation of WaterMelon Cultivars for Southern Ohio, 1999
1999 Ornamental Corn Evaluation
Evaluation of Eastern Style Muskmelons for Southern Ohio, 1999
Link To Research Summaries From The Enterprise Center at Piketon.

Return to Vegetable Crops Homepage | Ohio State University Extension

We appreciate very much the financial support for thisseries of vegetable reports which we have received from the board of growers responsible for the Ohio Vegetable and Small Fruit research and Development Program. This is an example of use of Funds from the "Assessment Program".