

Common questions about viruses on pumpkins

C. Welty

Q: Which virus is it?

A: Watermelon mosaic virus (now abbreviated as simply WMV, but formerly called WMV-2) was by far the most common virus detected when we ran ELISA tests on thousands of pumpkin leaf samples from across Ohio from 1994 to 1996. We occasionally found cucumber mosaic virus, squash mosaic virus, and papaya ringspot virus (formerly called WMV-1). We never detected zucchini yellow mosaic virus. [Visit 'Problem Of The Week' at the VegNet website: From August 18, 1999, Watermelon Mosaic Virus on Pumpkins Go to the bottom of the page in the 'Previously' section]

Q: How do viruses get in a field?

A: Aphids are the vectors of all of the viruses listed in the previous question, except for squash mosaic virus which is vectored by cucumber beetles and which can be seed borne. Although most aphids are wingless, all aphid species have wings at some times in the season. It is the winged aphids that start a new infestation in fields.

Q: If I use insecticide to kill aphids, why do plants still get virus?

A: Viruses like WMV are transmitted quickly while the aphid is probing the leaf with its mouthparts, before it picks up the lethal dose of insecticide. Insecticides can do a good job of killing aphids that colonize pumpkin plants, that is, ones that stay to feed and reproduce. Insecticides can also do a good job of killing non-colonizer aphids, which are the ones that land in pumpkins take several tastes, then fly on to find more preferred hosts. In either case, the virus is transmitted before the aphids die.

Q: Will I get a harvestable pumpkin crop if my field has virus?

A: Usually yes. Most Ohio fields that get WMV start to show leaf symptoms (leaves twisted, warty, mottled light green and dark green color) in late July and symptoms are usually widespread by mid-August. Many fruit that were set before this time will show only mild virus symptoms: mostly uneven coloration and light green circular rings. Fruit set usually still occurs after virus infection but fruit symptoms are more severe: lumpy fruit with very uneven coloration.

Q: Do the aphids come from nearby or far away?

A: Both, but probably most are local. The most common species that land in pumpkin fields in Ohio are corn leaf aphid, artichoke aphid, green peach aphid, turnip aphid, melon aphid, cowpea aphid, potato aphid, and sunflower aphid. We have tested several of these for their ability to transmit WMV to pumpkins. We found that green peach aphid and melon aphid are good vectors, artichoke aphid and potato aphid are weak vectors, and corn leaf aphid is unable to vector this virus.

Q: Do aphids coming from far away bring the virus with them?

A: No, it is very unlikely.

Q: Where do the aphids pick up the virus?

A: We do not know for sure, but we think that there is a reservoir of virus in some species of local plants. We have tested about 50 species of plants for WMV. Most of the plants tested were perennial weeds, along with some perennial crops and annual weeds. The plants that were found to contain WMV were shepherd's purse and Virginia pepperweed.

Q: How can this virus be managed?

A: Resistant varieties seem to be the only way. Several WMV- resistant pumpkin varieties are under development and should be commercially available within a few years.

Crop Reports

Hal Kneen

SOUTHEAST

No appreciable rain over the past 2 weeks and rainfall has been scattered. Tomato and melon growers are happy with the weather but are picking fast and furious. Lot of canner tomatoes being picked. Tomato market rebounding in price. Pink to ripe stage very strong for immediate sale.

Sweet corn needs the rain and I am seeing some worm damage at the tips due to hot weather and large numbers of CEW and ECB. Some heat related damage is also visible with poor tip fill and kernel drying or development. Irrigated corn better than non-irrigated corn.

Prices for sweet corn and pepper are stable. Farmer's market in Athens is going gangbusters, last week there were 87 booths.

MOTH TRAP REPORTS (~7/31 to 8/7)

C. Welty

corn earworm, pheromone trap

Meigs County (Racine): 18 (down from 23 last week)

Highland County (Hillsboro): 2 (up from 0 last week)

Franklin County (Columbus): 2 (up from 1 last week)

Wayne County (Wooster): 0 (down from 1 last week)

Huron County (Celeryville): 0 (same as last week)

Sandusky County (Fremont-South): 1 (up from 0 last week)

Wood County (Hoytville): 0 (same as last week)

European corn borer, pheromone trap

Meigs County (Racine): 7 (down from 9 last week)

Highland County (Hillsboro): 1 (same as last week)

Franklin County (Columbus): 23 (down from 34 last week)

Wayne County (Wooster): 15 (up from 11 last week)

Huron County (Celeryville): 0 (down from 4 last week)

) Sandusky County (Fremont-South): 20 (up from 5 last week)
 Wood County (Hoytville): 1 (down from 4 last week)
 European corn borer, blacklight trap
 Franklin County (Columbus): 46 (down from 53 last week)
 fall armyworm, pheromone trap
 Franklin County (Columbus): 2 (same as last week)
 Wood County (Hoytville): 1 (up from 0 last week)
 squash vine borer, pheromone trap
 Highland County (Hillsboro): 17 (down from 23 last week)
 Clark County (S. Charleston; mean of 2 traps): 0.0 (same as last week)
 Franklin County (Columbus; mean of 3 traps): 2.7 (down from 4.0 last week)
 variegated cutworm, pheromone trap
 Franklin County (Columbus): 20 (down from 28 last week)
 Huron County (Celeryville): 14 (up from 7 last week)
 Wood County (Hoytville): 31 (up from 28 last week)
 black cutworm, pheromone trap
 Huron County (Celeryville): 16 (up from 6 last week)
 Wood County (Hoytville): 6 (down from 16 last week)
 true armyworm, pheromone trap
 Wood County (Hoytville): 0 (down from 2 last week)
 Note: full season trap records are posted at:
<http://www.ag.ohio-state.edu/~ipm/traps/traps.htm> A link is provided from the
 VegNet homepage, just click on the Vegetable IPM button.

Note: full season trap records are posted at: <http://www.ag.ohio-state.edu/~ipm/traps/traps.htm> A link is provided from the VegNet homepage, just click on the Vegetable IPM button.

The 7 Day Outlook*

Luckily, tropical depression Barry headed northwest. It will probably move back towards OH supplementing moisture along an approaching front. Heavy rains are not part of the picture except for the occasional thunderstorm that may remain stationary.

AKRON-CANTON

DAY DATE	FRI 10	SAT 11	SUN 12	MON 13	TUE 14	WED 15
TEMP						
MIN/MAX	68 78	61 78	62 82	62 80	61 80	60 82
WIND	6 8	5 6	5 8	6 8	5 7	5 7
PREC.						
PROB.	24	74	25	37	39	32 35

CLEVELAND

DAY DATE | FRI 10| SAT 11| SUN 12| MON 13| TUE 14| WED 15|
TEMP
MIN/MAX | 71 76| 60 74| 61 80| 62 79| 61 80| 62 81|
WIND | 7 7| 5 7| 5 9| 6 8| 5 7| 5 8|
PREC.
PROB. 24 | 73 | 19 | 35 | 38 | 32 | 35 |

COLUMBUS

DAY DATE | FRI 10| SAT 11| SUN 12| MON 13| TUE 14| WED 15|
TEMP
MIN/MAX | 70 82| 64 81| 63 84| 64 81| 63 84| 63 85|
WIND | 4 6| 3 5| 2 5| 3 6| 3 5| 3 5|
PREC.
PROB. 24 | 76 | 28 | 35 | 38 | 32 | 35 |

CINCINNATI

DAY DATE | FRI 10| SAT 11| SUN 12| MON 13| TUE 14| WED 15|
TEMP
MIN/MAX | 70 80| 65 83| 66 86| 67 83| 66 83| 66 83|
WIND | 5 8| 5 6| 5 6| 6 7| 5 6| 5 7|
PREC.
PROB. 24 | 78 | 32 | 34 | 37 | 32 | 35 |

DAYTON

DAY DATE | FRI 10| SAT 11| SUN 12| MON 13| TUE 14| WED 15|
TEMP
MIN/MAX | 67 82| 61 81| 62 83| 64 80| 64 84| 63 85|
WIND | 6 7| 4 5| 4 6| 5 6| 4 6| 4 5|
PREC.
PROB. 24 | 76 | 25 | 33 | 36 | 32 | 35 |

TOLEDO

DAY DATE | FRI 10| SAT 11| SUN 12| MON 13| TUE 14| WED 15|
TEMP
MIN/MAX | 65 78| 56 76| 58 80| 60 79| 59 81| 60 81|
WIND | 7 8| 5 7| 3 8| 5 8| 4 7| 4 7|
PREC.
PROB. 24 | 70 | 14 | 32 | 34 | 31 | 34 |

YOUNGSTOWN

DAY DATE | FRI 10| SAT 11| SUN 12| MON 13| TUE 14| WED 15|

TEMP

MIN/MAX | 69 77| 59 76| 60 82| 59 80| 58 79| 59 80|

WIND | 6 8| 4 6| 4 8| 5 7| 5 6| 4 7|

PREC.

PROB. 24 | 73 | 24 | 38 | 40 | 32 | 35 |

* LEGEND:

TEMP MIN/MAX - forecasted minimum and maximum temperature for time periods midnight to noon and noon to midnight.

WIND - MEAN WIND SPEED(KTS) FOR TIME PERIODS midnight to noon and noon to midnight.

PREC. PROB. 24 - probability of precipitation for the 24 hour period.

What's New At The VegNet Web Site

Online Edition of the 2001 Ohio Vegetable Production Guide - Now Available

Sweet Corn Disease Resistance Ratings

The following are summarized lists of Dr. Pataky's work at the Univ. of IL on disease reactions of sweet corn. In these summaries, all experimental and processing varieties have been removed and only named varieties which were rated for common rust or MDM are included. The first list are those named varieties rated for common rust. The second list are only those named varieties rated for Maize Dwarf Mosaic virus (MDM).For a complete report, E-mail: Bob Precheur:

precheur.1@osu.edu

Common Rust of Sweet Corn

MDM of Sweet Corn

Do You Know Us?

Find out what we've been up to. The OSU Vegetable Team Report is available in PDF file format for downloading from the VegNet homepage.

Sources of Pheromone Traps Used in Vegetable Pest Management.

Do you need to find traps, lures or suppliers, click on the Vegetable IPM button on the left side of the homepage, then click on the 'Sources' document in the Vegetable IPM section.

IR-4 News

Also in the Vegetable IPM section, you can link to the IR-4 website. Read the results of the 2000 food use workshop, monthly and quarterly newsletters. Find out the latest on pesticide registrations for minor crops. Learn about biopesticides plus much more. Click on the Vegetable IPM button on the VegNet homepage and then click on the IR4 link in the Vegetable IPM section.

[Return to Vegetable Crops Homepage | Ohio State University Extension](#)

We appreciate very much the financial support for this series 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".

Where trade names are used, no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely and accurate, the pesticide user bears the responsibility of consulting the pesticide label and adhering to those directions.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Keith L. Smith, Director, Ohio State University Extension.

All educational programs and activities conducted by Ohio State University Extension are available to all potential clientele on a nondiscriminatory basis without regard to race, color, creed, religion, sexual orientation, national origin, sex, age, handicap or Vietnam-era veteran status.