

Cold Weather and Vegetable Crops

R. Precheur.

The news this week was the record cold and scattered frosts throughout the northeast. This cold spell was felt in over 200 cities in the northeast, even into the deep south. The low temperatures recorded at many locations broke long-standing records that go back to 1893-1895.

What are the consequences on vegetable crops and what might you see in the next few days.

ASPARAGUS: Frost and freezes will kill spears and they usually turn them back and wilt. Production will be slowed but should resume. Yield or vigor may be affected depending where you are in the cutting season.

BROCCOLI and CAULIFLOWER: Injury to the growing point may result in no heads or several small heads. In cauliflower, plants may button (development of a small head) depending on the stage of development. Some plantings may be normal.

COLLARDS and KALE: premature bolting is a possibility.

RADISH: Some bolting, but much of the crop will be normal.

SWEET CORN: Plants will be yellow and in some cases purple due to the cold weather. The purple color is due to phosphorus deficiency. Normal color will return as temperatures rebound. In cases where seed was planted before the heavy rains, expect some seed or seedling rot. This has already been observed in a few fields.

Where there is frost or freeze injury, plants in the fourth or fifth leaf stage will regrow since the growing point is below the ground. In fields where plants are beyond the 6th leaf stage, these fields will probably need to be replanted. Frosted fields where plants are able to recover will be later in maturity than normal.

TOMATOES: Recently transplanted tomatoes, not yet established, will look deficient with a dark olive green and yellow color in the leaves. The undersides of some of the leaves will have a purple color. Again, this is phosphorus deficiency due to the cold temperatures. The normal bright green color will return as plants become established and temperatures return to normal. A starter solution at the time of planting allows for a quick recovery. If you already applied a starter solution, do not apply any additional solution since this could lead to salt injury. Some large fruited fresh market varieties may have a higher incidence of catfaced fruit due to the cold temperatures. Some cultivars are more sensitive than others to this disorder. Slightly frosted plants will have leaves that turn black and later appear wilted. If the injury is not too severe, plants should resume normal growth. Damaged tissue will be susceptible to infection by diseases and a fungicide should be applied for protection.

Replanting is the best option with any amount of significant injury to stems and leaves.

VINE CROPS: Low temperature stress will result in slow germination and seedling emergence and cause a decrease in plant growth. Smaller stems and leaves are typical. Since we had temperatures below 50 degrees, it will be common to see white areas on the cotyledons and white or light brown margins on expanded leaves. This is often confused with Command injury. Melons and cucumbers are the most sensitive and with temperatures below 50, these plants tend to go backwards and ultimately death. Chilling injury is increased by: duration of the chilling, lower temperatures, high intensity light during chilling, high wind speed and high growing temperatures before chilling. Frost or freezing usually results in death.

Crop Reports
By Hal Kneen

SOUTHEAST

Weather, who would have predicted this unusual spring? Southern Ohio, in particular Meigs County is under its third day of frost warnings. Sunday morning May 19 was the coldest this week with 5 a.m. temperatures reaching the mid 30's along the Ohio River and 31 degrees in the hill country. Some homeowners called in frost kills to their gardens especially tomatoes, potatoes, peppers, sweet corn and some hanging baskets of impatiens. Both Monday and Tuesday morning temperatures were above projected freezes due to heavy cloud cover, however additional freeze warnings into the high twenties are predicted for Wednesday am. Needless to say, nothing has been planted into the fields since last week and what is planted is just sitting there. The couple of sunny days last week allowed for some suckering of tomato plants and staking of tomatoes. Tomatoes transplanted into black plastic, definitely are further along in size. Warm, sunny weather is needed. No moths of European corn borer or corn Earworm found in helio traps yet, too cold.

What's With The Weather?
R. Precheur

The cause of the cold, frosty weather over the past week is due to what meteorologists call an Omega block. The polar jet stream has gone into an extreme up and down pattern like the sine wave you see on an oscilloscope. In the U.S., a large ridge of high pressure formed over the central plains and two deep troughs were formed on either side, one over the northeast and one over the west coast. The path the jet stream takes looks like the Greek letter Omega or a large inverted 'U', hence the name Omega block. This pattern is typical of mid-winter and not usually seen this time of year. The pattern tends to repeat around the globe and these high-pressure areas tend to lock up the system from rapidly moving across the country. Montana was in the 70 and 80's while we could barley make 50 because cold air from north of the Hudson Bay was funneled into our area on the jet stream

expressway. California had major storms and cool weather, while some cities in Alaska reached 70, a record for this time of year. With the sun as strong as it is in mid July and only 30 days from the summer solstice, the sub tropical jets will start to flatten out this pattern. There are already signs of the block breaking down and this should be the last time we have to deal with nights of frost advisories until the fall.

The 7 Day Outlook*
By Robert Precheur

A cold front will enter the region late Friday. Maybe a half inch of rain from Friday through Saturday with scattered showers. Weather will generally be cool and unsettled next week. It should not be as cold as last week.

AKRON-CANTON

DAY DATE | FRI 24| SAT 25| SUN 26| MON 27| TUE 28| WED 29|
TEMP
MIN/MAX | 53 72| 49 72| 51 72| 51 75| 55 77| 55 74|
WIND | 8 9| 5 8| 7 8| 6 8| 7 8| 6 9|
PREC.
PROB. 24| 49 | 54 | 47 | 29 | 38 | 39 |

CLEVELAND

DAY DATE | FRI 24| SAT 25| SUN 26| MON 27| TUE 28| WED 29|
TEMP
MIN/MAX | 53 72| 48 71| 51 71| 50 69| 52 74| 54 74|
WIND | 8 9| 6 9| 7 8| 6 7| 5 8| 5 8|
PREC.
PROB. 24 | 57 | 58 | 48 | 27 | 37 | 38 |

COLUMBUS

DAY DATE | FRI 24| SAT 25| SUN 26| MON 27| TUE 28| WED 29|
TEMP
MIN/MAX | 53 75| 51 73| 54 74| 54 79| 57 78| 55 76|
WIND | 5 6| 3 7| 4 6| 4 6| 4 6| 4 6|
PREC.
PROB. 24 | 42 | 53 | 42 | 28 | 36 | 38 |

CINCINNATI

DAY DATE | FRI 24| SAT 25| SUN 26| MON 27| TUE 28| WED 29|
TEMP
MIN/MAX | 56 73| 54 74| 56 74| 57 72| 60 76| 58 78|
WIND | 7 9| 6 10| 7 8| 6 8| 7 8| 6 8|
PREC.
PROB. 24 | 33 | 48 | 36 | 27 | 35 | 36 |

DAYTON

DAY DATE | FRI 24| SAT 25| SUN 26| MON 27| TUE 28| WED 29|
TEMP
MIN/MAX | 55 74| 52 72| 53 72| 53 78| 58 74| 55 75|
WIND | 7 7| 5 7| 5 6| 5 6| 5 7| 5 7|
PREC.
PROB. 24 | 45 | 55 | 39 | 26 | 35 | 36 |

TOLEDO

DAY DATE | FRI 24| SAT 25| SUN 26| MON 27| TUE 28| WED 29|
TEMP
MIN/MAX | 53 72| 48 68| 49 72| 50 75| 51 76| 53 76|
WIND | 9 9| 5 9| 6 8| 4 8| 4 9| 5 8|
PREC.
PROB. 24 | 65 | 65 | 43 | 25 | 36 | 37 |

YOUNGSTOWN

DAY DATE | FRI 24| SAT 25| SUN 26| MON 27| TUE 28| WED 29|
TEMP
MIN/MAX | 54 73| 45 72| 48 73| 49 72| 51 77| 53 75|
WIND | 7 8| 5 7| 6 7| 5 7| 5 7| 5 7|
PREC.
PROB. 24 | 50 | 53 | 50 | 29 | 39 | 40 |

* 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

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Pepper Variety Slides 2001 | [HTML Slide Show](#)

Pumpkin Variety Slides 2001 | [HTML Slide Show](#)

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A series of slide presentations are now available in order to update you on the latest pumpkin and sweet corn research. We begin with 6 pumpkin topics in Pumpkins 101 and have 10 slide presentations available in Sweet Corn 101. In sweet corn. Powerpoint presentations and html online slide shows are available now. [Go to the VegNet homepage.](#)

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The use of trap crops and Admire for cucumber beetle control and New varieties for 2001. In coming weeks, we will have presentations on cover crops for disease control and pumpkin fungicide use. Check back often.

Perimeter Trap Cropping. [Online html slide show | Perimeter Trap Cropping. PPT, 7 Mbytes](#)

See also the Research Results section on the home page for text version of the report.

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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.

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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.

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