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Ohio State University Extension Vegetable Crops On
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Spider mite outbreaks 7/18/2007 by C. Welty

The recent hot dry weather has contributed to flare-ups of two-spotted spider mite on melons, squash, beans, and other crops. Because mites are small, they are often overlooked in early stages of infestation. Mite damaged leaves first show white or yellow stippling, then as the infestation worsens the plants turn yellow, and in extreme cases plants can die. Infested leaves have webbing on the leaf undersides. Infestations often develop on the edge of fields particularly next to dusty roads. Pumpkins can tolerate moderate levels of mites, but watermelons are particularly sensitive to injury from mite feeding.

Mites have many natural enemies that kill them, but mite outbreaks occur when the natural enemies are not abundant, so that chemical intervention can be needed to keep the crop alive. Miticide choices vary somewhat by crop, as shown in the table below, but in general Agri-Mek is the most effective. Acramite and Oberon are other good

alternatives. Although the pyrethroids Capture (bifenthrin) and Danitol (fenpropathrin) are labeled for spider mite control when used at the high end of the rate range, they are generally not very effective for mite control.

Dimethoate, MSR, Kelthane, and Vydate are older products that are still effective for mite control at some sites, but do not perform well at sites where resistant mite populations have developed. With any of these products, a high volume of water (>25 gallons per acre) aids in control. Crops allowed for each product are shown in table below.

Table of pesticides for spider mite control.

Product	Pre-harvest interval, by crop						
	Beans	Melons	Squash, pumpkin, cucumber	Egg-plant	Pepper	Tomato	P
Acramite (bifenazate)	Not registered	3 days	3 days	3 days	3 days	3 days	N r t
Agri-Mek** (abamectin)	Not registered	7 days	7 days	7 days	7 days	7 days	1
Dimethoate (dimethoate)	0 days	3 days*	Not registered	Not registered	0 days*	7 days*	0
Kelthane 50 WSP (dicofol)	Not registered	2 days	2 days	Not registered	Not registered	Not registered	N r t
Kelthane MF	21	Not	Not registered	Not	2 days	2 days	N

(dicofol)	days	regis- tered		regis- tered			r t
Dicofol 4E (dicofol)	21 days	Not regis- tered	2 days	Not regis- tered	2 days	2 days	N r t
MSR** or Metasystox- R** (oxydemeton- methyl)	Not regis- tered	7 days water- melon, 14 days musk- melon	3 days cuke*, summer squash*; 14 days pumpkin, winter squash*	7 days	3 days*	Not regis- tered	N r t
Oberon (spiro- mesifen)	Not regis- tered	7 days	7 days	7 days	7 days	7 days	7
Vydate** (oxamyl)	Not regis- tered	1 day*	1 day*	1 day	7 days*	3 days*	7

** restricted-use pesticide

* registered for use on crop, but mites not specified on list of target pests for that crop.

New registrations for Avaunt insecticide on vegetable crops

A new label for Avaunt has just been approved by EPA. Avaunt can now be used on spinach, bok choy, collards, and other brassica greens, cucurbit vegetables, parsley and other leafy green vegetables, celery and other leafy petiole vegetables, and potato and other tuberous & corm vegetables. Avaunt is used primarily for control of

caterpillars such as cabbageworms, loopers, and beet armyworm, but it also controls some beetles such as Japanese beetle, Colorado potato beetle, and plum curculio. Avaunt was first registered in 2001 for use on cole crops, lettuce, tomato, peppers, and sweet corn, then the label was expanded in 2002 to include napa cabbage, potato, and eggplant. Avaunt 70DG is made by DuPont and contains indoxacarb as the active ingredient, which is in mode-of-action group 22.

Reporting Downy Mildew on Pumpkins in Central Illinois by Mohammad Babadoost, Univ. of Illinois

On July 21, 2007, downy mildew of cucurbits, caused by *Pseudoperonospora cubensis*, was diagnosed in a processing pumpkin field in Mason county in central Illinois. The disease was wide-spread in the field. The infection has likely started several days ago. This indicates that the disease could be found in other cucurbit fields in Illinois as well. The symptoms in the pumpkin field were very obvious (see the pictures) and heavy sporulation of the pathogen was observed by microscopic examination. Downy mildew affects leaves only. Symptoms of downy mildew vary with the host and the environmental conditions. The first symptom is usually the appearance of indistinct, pale green areas on the upper leaf surface. The pale green areas soon become yellow in color and angular

to irregular in shape, bounded by the leaf veins. As the disease progress the lesions may remain yellow or become brown and necrotic. During moist weather the corresponding lower leaf surface is covered with a downy, pale gray to purple mildew. Often an upward leaf curling will occur.

At this time, all cucurbit fields need to be scouted carefully and sprayed before or at the first sign of the disease. Fungicide sprays should be applied at 7-day intervals.

Crop Reports by Ron Becker and Brad Bergefurd

Wayne County Vegetable IPM report- 7/20/2007

Diseases: Downy mildew has now been found in cucumbers on 8 farms in the West Salem area as well as several other areas throughout the northern part of the state. Spores are being found on other crops as well. The change in weather this week may activate these spores. Early blight is being found in about half of the area tomato fields. Septoria leaf spot is also starting to be found. Bacterial spot and canker are increasing in area tomato fields. Powdery mildew has now been found in cucumbers, summer squash and pumpkins. Onions are developing purple blotch and botrytis. Verticillium wilt is starting to show up in area eggplant fields.

Insects: The first corn borer flight is over and the only larvae we are finding in the fields are very large (very few

found). Though some sweet corn growers are taking a break from spraying until the next flight starts, growers need to keep monitoring green silking corn for rootworm and Japanese beetle damage to the silks. There has also been moderate to severe damage to the foliage of sweet corn with an estimated 100 or more western rootworm beetles on severely effected plants. Squash bug eggs are being found on summer squash, winter squash and pumpkin plants with some eggs starting to hatch. Cucumber beetles are also increasing in numbers. Some fruit damage is occurring in summer squash and cucumbers. Abrasion from the fruits growing against the spines on the vines is also causing damage to fruit that can sometimes be confused with cucumber beetle feeding. Tomatoes have low levels of aphids and hornworms in them. Potato leafhoppers are causing hopper burn in potatoes, greenbeans and eggplants. Blister beetles have been found in eggplant and potatoes, causing heavy feeding similar to the Colorado potato beetle. In green beans, bean leaf beetles are also increasing and starting to cause pod damage.

Southern Ohio Veg Net Report Heavy rain fell in many parts of southern Ohio and southern Clinton County in particular on Tuesday afternoon with 2 inches of rainfall in about 45 minutes. This has resulted in flooded field conditions making harvest of vegetable and berry crops very difficult due to muddy field conditions. Tractors cannot get into

the field and field workers are having a difficult time walking in ankle deep mud conditions. These muddy field conditions have also hampered spraying of fungicides and insecticides on vegetable and berry fields and have resulted in delayed late season plantings of cucumbers, summer squash, beans, cabbage, cauliflower, broccoli and sweet corn. A second crop of processing pickles was planted over the weekend in the Circleville area.

Due to this weeks storms irrigation systems have been shut down and workers are having to trench between plastic covered vegetable beds due to standing water between these beds. Also due to recent rains fungal disease pressure is increasing on all vegetable crops and vine crops in particular. Harvest of all fresh market field vegetables, sweet corn, melons, tomatoes, watermelon, cabbage, green beans, summer squash, cucumbers, pickles and processing pickles is in full swing. Potato quality and yield are the best early summer harvests for the area in over 5 years. disease pressure is increasing with continued reports of Powdery Mildew, bacterial wilt and other fungal and bacterial infections in all fields.

Walking the Fields Vegetable Crops Tour is

Aug. 8 in Fremont by By Randi Espinoza. Source: Matt Hofelich
FREMONT, Ohio – If you're in the vegetable business, you won't want to miss this year's free Walking the Fields Vegetable Crops Tour, 6–8 p.m., Wednesday, Aug. 8, in Fremont. Starting at the Ohio Agricultural Research and Development Center's (OARDC)

North Central Agricultural Station, the program – for growers, packers, processors, crop consultants and the general public – features a self-driving tour of vegetable fields around Fremont and Elmore, Ohio. No registration is required to attend. OARDC and Ohio State University Extension are the sponsors. Certified Crop Advisor and Pesticide Re-certification credits will be offered for a fee. "With the dry weather Ohio has experienced this year, we will visit sites and review the various types and uses of irrigation systems," said station manager Matt Hofelich. To help growers better understand the various types of irrigation systems and determine what system is right for their operation, Mark Ackerman of George Ackerman Company will talk about the various types of systems available, including hard hose reel and gun, hard hose reel and boom, ridged pipe and risers, and drip tape systems. Doug Doohan, Department of Horticulture and Crop Science, OARDC and OSU Extension, will discuss irrigation and water quality, focusing on the importance of assessing irrigation water quality and how this is directly associated with food safety and liability. Sally Miller, Department of Plant Pathology, OARDC and OSU Extension, will cover disease concerns associated with the irrigation. Other OARDC and OSU Extension experts will be available to answer questions about insect pests and weed control. The last stop on the tour will be the farm of Daryl Knipp, Lindsey, Ohio, to view a new automated transplanting system, the first of its type in the United States. "Mr. Knipp will discuss this new technology and the experiences he had with operating this transplanter the past season," Hofelich said. "This new three-row transplanting system is designed to significantly reduce labor needs and requires only two persons to operate, a tractor driver and a person to load plants." Find the North Central Agricultural Research Station at 1165 County Road 43, at the corner of County Road 43 and state Route 53, southwest of Fremont. [For more information](#), contact Hofelich, (419) 332-5142,

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