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 1. Spider Mite Control

Spider Mite Control (C. Welty)

Some flare-ups of the two-spotted spider mite have been reported during the dry weather of the past two weeks, on tomatoes and other vegetable crops. Because mites are tiny, they are often overlooked or misdiagnosed as a disease. Infested leaves have fine webbing on the leaf undersides. Tomato leaves damaged by spider mites usually have yellow blotches, while bean leaves show white stippling or pin-prick markings from mite feeding. Pumpkins can tolerate moderate levels of mites, but watermelons are more sensitive to injury from mite feeding. Mites have many natural enemies that kill them, such as specialized predatory mites or generalist lacewings, ladybugs, and pirate bugs, but these helpful predators are often killed by pesticides.

Chemical intervention can be needed to keep the crop alive if spider mites are abundant. Several pesticides are registered for spider mite control; some are restricted use and some are for general use (Table 1). Most of these are allowed on field and high-tunnel vegetable crops, but Oberon is prohibited from use in high tunnels and greenhouses. Dimethoate is prohibited from use on ornamental crops in high tunnels and greenhouses but is not prohibited from vegetable crops in high tunnels and greenhouses. At some locations, organophosphates are still effective for mite control, with Dimethoate being the best bet and MSR as another choice. Dimethoate is an option for melons but is not allowed on squash or cucumbers; it has been the preferred product for mite control on soybeans. Where organophosphates are not effective, Agri-Mek is generally the most effective product for mite control, while Acramite and Oberon are nearly as good. Although Brigade (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. Kelthane (dicofol) is an old miticide that is still effective at some sites, but does not perform well at sites where resistant populations have developed. Vydate is registered for use on eggplant for mite control, but on cucurbits it is registered only for aphid control. On organic farms, insecticidal soap can be used for mite control but good coverage of the undersides of leaves is needed for good control. Mite infestations are sometimes limited to field edges; infested fields should be scouted, and miticide applied as a spot treatment if the infestation is isolated. Mite control is better when higher volumes of water are used; 25 gallons of water per acre is better than 10 gal/A.

Table 1. Products for spider mite control on specified vegetable crops.

Product name (common name)	Use	Pre-harvest interval, by crop						
		Beans	Melons	Cucumbers	Squash, pumpkin	Tomato	Pepper	Eggplant
Acramite (bifenazate)	general	3 days	3 days	3 days	3 days	3 days	3 days	3 days
Agri-Mek (abamectin)	restricted	not registered	7 days	7 days	7 days	7 days	7 days	7 days
Dimethoate (dimethoate)	general	0 days	3 days	not registered	not registered	7 days	0 days	not registered
Dicofol 4E (dicofol)	general	21 days	not registered	2 days	2 days	2 days	2 days	not registered
Kelthane 50 WSP (dicofol)	general	not registered	2 days	2 days	2 days	not registered	not registered	not registered
MSR or Metasystox-R (oxademeton-methyl)	restricted	not registered	7 days, watermelon; 14 days muskmelon	3 days	3 days, summer squash; 14 days, pumpkin, winter squash	not registered	3 days	7 days
MSR or Metasystox-R (oxademeton-methyl), new label	restricted	not registered	14 days	14 days	14 days	not registered	not registered	not registered
Oberon ZSC (spirodicofen)	general	not registered	7 days	7 days	7 days	1 day	1 day	1 day
Portal or FwiMite (fenprothi-mate)	general	not registered	3 days	not registered	not registered	1 day	1 day	1 day
Vydate L (oxamyl)	restricted	not registered	1 day	1 day	1 day	3 days	7 days	1 day
Zal (etoxazole)	general	not registered	7 days	7 days	not registered	not registered	not registered	not registered

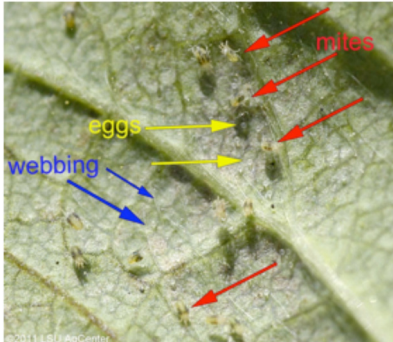


LEFT:
 Stippling of bean leaves caused by two spotted spider mite. Whitney Cranshaw, Colorado State University, www.insectimages.org



ABOVE: Two-spotted spider mite damage to tomato foliage. FROM OMAFRA, *Two Spotted Spider Mite*

ABOVE: Two-spotted spider mite damage to tomato. FROM OMAFRA, *Two Spotted Spider Mite*.



LEFT: Two-spotted spider mites and their associated webbing and eggs on the underside of a strawberry leaf. Mite feeding causes a yellow-brown discoloration on the surface of the leaf
From LSU AgCenter