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Insecticides Labeled for Greenhouse-grown Vegetables

Vegetable greenhouse growers should verify that their edible crops are on the insecticide labels when treating for insect pests. Use this handy 'cheat sheet' to determine which products are recommended for certain insect pests and are labeled for fruiting vegetable crops.

An increasing number of ornamental plant producers are venturing into growing vegetables in the greenhouse. Three of the most commonly grown fruiting vegetable crops in the greenhouse are tomatoes, cucumbers, and peppers (Fig. 1). Many other greenhouse growers are growing propagules or transplants for consumers or for vegetable farmers to transplant for field production (Fig. 2 and 3). Either way, greenhouse growers need to be aware that many of the products that they use for controlling common greenhouse

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Figure 1. High-wire tomato, cucumber, and pepper crops. Photos by W. Garrett Owen and Heidi Lindberg.

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insects (aphids, fungus gnats, spider mites, whitefly, and thrips) on their ornamental plants are not labeled for use on edible crops including fruiting vegetable transplants. Table 1 provides names of the products, the active ingredients, the vegetable crops on the label, and the recommended pests that they control. The boxes that are 'highlighted' in green indicate that the crop is on the label. For example, Acephate 97 (active ingredient: acephate) is labeled for ornamental crops and peppers. Actara (thimethoxam; not labeled for ornamental crops) is labeled for use on cucumbers, eggplants, peppers, squash, and tomatoes. Please note that two of the products (Safari 20SG: dinotefuran; Tristar: acetamiprid) are labeled for transplants of certain vegetable crops only. The boxes 'highlighted' in purple indicate that the product has been shown to be effective for the insect pest in Michigan State University trials. For example, Tetrasan (active ingredient: etoxazole) has been proven to be effective against spider mites.

Greenhouse growers of fruiting vegetable crops can use this handy guide in order to determine which products are labeled for edible crops. However, growers should always read the label prior to application as this table may not be all-inclusive or the labels



Figure 2. Cucumber transplants. Photo by Roberto Lopez.

Table 1. Recommended insecticides and active ingredients for greenhouse pests, their labeled ornamental and vegetable crops, and their efficacy recommendations for common greenhouse insect pests.

Recommended Insecticides for Common Greenhouse Pests		Ornamentals and Vegetables Grown in Greenhouses on the Chemical Label									Common Greenhouse Pests and Recommended Insecticides				
Product Name	Active ingredient	Ornamentals	Cucumber	Eggplant	Garlic	Leek	Onion	Peppers	Squash	Tomatoes	Aphids	Fungus Gnats	Spider mites	Whitefly	Thrips
Acephate 97	acephate														
Actara	thiamethoxam														
Akari	fenpyroximate														
Ambush 25W	permethrin														
Asana XL	esfenvalerate														
Aza-direct	azadirachtin														
Baythroid	cyfluthrin														
Bifenthrin 2EC AG	bifenthrin														
Bifenture EC	bifenthrin														
Botanigard ES	<i>Beauveria bassiana</i> GHA														
Brigadier	bifenthrin + imidacloprid														
Citation	cyromazine														
Distance	pyriproxyfen														
Flagship 25WG	thiamethoxam														
Hexygon	hexythiazox														
Lambda-Cy AG	lambda-cyhalothrin														
M-pede	potassium laurate														
Ornazin	azadirachtin														
Orthene 97	acephate														
Pedestal	novaluron														
Perm-Up 3.2 EC	permethrin														
Pounce 25 WP	permethrin														
Provado	imidacloprid														
Pylon	chlorfenapyr														
Pyrenone	pyrethrin + pidronyl butoxide														
Radiant SC	spinetoram														
Safari 20 SG	dinotefuran		T	T				T	T	T					
Sanmite	pyridaben														
Sevin RTS bug killer	carbaryl														
Suffoil-X	aliphatic prtoleun solvent														
Sunspray	mineral oil														
Talus	buprofezin														
Tetrasan	etoxazole														
Triact 70	clarified hydrophbic neem oil														
Tristar	acetamiprid		T	T	T	T	T	T	T						
Up-Cyde 2.5 EC	cypermethrin														

T = Transplants only

Growers should use this as a resource. Growers should always read the labels of the insecticide that they plan to use since formulations of labels may change. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned. Developed by Erica Hotchkis, Dr. David Smitley, and Heidi Lindberg, Michigan State University.



Figure 3. Tomato transplants. Photo by W. Garrett Owen.

might have changed since its development. Greenhouse growers of leafy greens and herbs should stay tuned as a similar guide will be published in an e-GRO alert in the coming weeks.

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