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Insecticides Labeled for Greenhouse-grown Leafy Greens and Herbs

Leafy green and herb greenhouse growers should verify that 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 leafy green and herb crops.

An increasing number of ornamental plant producers are venturing into growing potted herbs or are harvesting leafy greens and herbs in their greenhouses. Cut and potted lettuce, mint, and basil are becoming quite popular for greenhouse producers (Fig. 1 and 2). Many other greenhouse growers are growing leafy green or herb transplants for consumers, or propagules for field or greenhouse production (Fig. 2 and 3). Either way, greenhouse growers need to be aware that many of the products that they use for controlling

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Figure 1. Potted basil and mint and hydroponic lettuce crops. Photos: Roberto Lopez.

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common greenhouse insects (aphids, fungus gnats, spider mites, whitefly, and thrips) on their ornamental plants are **not** labeled for use on edible crops including fruiting vegetable, leafy green and herb transplants. Table 1 provides names of the products, the active ingredients, the leafy green and herb 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, lettuce and mint. Actara (thimethoxam), Asana XL (esfenvalerate), Baythroid (cyfluthrin), Bifenthrin 2EC AG (bifenthrin), Bifenture EC (bifenthrin), and Brigadier (bifenthrin + imidacloprid) are not labeled for ornamental crops, but are labeled for use on cabbage and lettuce. Please note that two of the products [Safari 20SG (dinotefuran) and Tristar (acetamiprid)] are labeled for transplants of certain leafy green and herb crops only. The boxes 'highlighted' in purple indicate that the product has been shown to be effective for the insect pest in university trials. For example, Orthene 97 (acephate) has been proven to be effective against aphids, fungus gnats, whitefly and thrips.

Greenhouse growers of leafy green and herb crops can use this handy guide in order to determine which products are labeled for edible crops. However, growers should



Figure 2. Living lettuce sold to consumers in clam shells. Photo: Roberto Lopez.

Recommended Insecticides for Common Greenhouse Pests				Leafy Greens, Herbs, and Ornamentals Grown in Greenhouses on the Chemical Label					Common Greenhouse Pests and Recommended Insecticides				
Product Name	Active ingredient	Formulation (%)	Oral LD50 (mg/kg)	Ornamentals	Cabbage	Lettuce	Mint	Herbs	Aphids	Fungus Gnats	Spider mites	Whitefly	Thrips
Acephate 97	acephate	97	688-1127										
Actara	thiamethoxam	25	>5000										
Akari	fenpyroximate	5	>5000										
Ambush 25W	permethrin	25	>5000										
Asana XL	esfenvalerate	8.4	458										
Aza-direct	azadirachtin	1.2	>5000										
Baythroid	cyflutrin	12.7	647-695										
Bifenthrin 2EC AG	bifenthrin	25.1	>250										
Bifenture EC	bifenthrin	25.1	262										
Botanigard ES	<i>Beauveria bassiana</i> GHA	11.3	UND										
Brigadier	bifenthrin + imidacloprid	11.3 + 11.3	175										
Citation	cyromazine	75	4460										
Distance	pyriproxyfen	11.23	4733										
Flagship 25WG	thiamethoxam	25	>5000										
Hexygon	hexythiazox	50	>5000										
Lambda-Cy AG	lambda-cyhalothrin	11.4	81										
M-pede	potassium laurate	49	UND										
Ornazin	azadirachtin	3	>5000										
Orthene 97	acephate	97	688-1127										
Pedestal	novaluron	10	>2000										
Perm-Up 3.2 EC	permethrin	36.8	1030										
Pounce 25 WP	permethrin	25	1100-5000										
Provado	imidacloprid	17.4	4143-4870										
Pylon	chlorfenapyr	21.4	567										
Pyrenone	pyrethrin + pidronyl butoxide	6 + 60	4500-4900										
Radiant SC	spinetoram	11.7	>5000										
Safari 20 SG	dinotefuran	20	>2000		T	T							
Sanmite	pyridaben	75	1930										
Sevin RTS bug killer	carbaryl	22.54	281-3129										
Suffoil-X	aliphatic prtoleon solvent	80	>5000										
Sunspray	mineral oil	98.8	>5000										
Talus	buprofezin	70	>5000										
Tetrasan	etoxazole	5	2600										
Triact 70	clarified hydrophbic neem oil	70	>5000										
Tristar	acetamiprid	8.5	450		T	T							
Up-Cyde 2.5 EC	cypermethrin	30.6	355										

T = Transplants only

always read the insecticide label prior to application as this table may not be all-inclusive, product(s) may not be registered in all states, or the labels might have changed since its development. Greenhouse growers of fruiting vegetables and transplants can access a table for these crops published in e-GRO Alert 6(7)1-4.



Figure 3. Lettuce and basil transplants. Photo: Roberto Lopez

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