



**A TENTATIVE INTEGRATED PEST MANAGEMENT PROGRAM AND
PROPOSED TREATMENTS
FOR LIGHT BROWN APPLE MOTH IN NURSERY**

Frankie Lam, Entomologist
University of California Cooperative Extension – Monterey County

Randomly check 10-50 plants per variety for the green leaf-rolling caterpillar in the nursery. If suspect light brown apple moth (LBAM) larvae are found, place the specimens in a vial and send it to the local Agricultural Commissioner Office. There are many species of leaf-rolling moths in the area and they are very similar in size and appearance. We need to confirm the larvae are that of the LBAM.

If any of the collected specimens is confirmed to be LBAM, all plants in the nursery have to be treated with chlorpyrifos, which is an organophosphate insecticide. After the expiration of the restricted entry interval, the nursery would be inspected by the local Agricultural Commissioner. If the inspection is negative for LBAM, the nursery could adopt their usual integrated pest management (IPM) program. However, if LBAM larvae are found during the re-inspection, a second chlorpyrifos treatment to the plants where the larvae were found has to be made until a negative result is attained. Furthermore, after the last chlorpyrifos treatment that yields negative LBAM, another re-inspection of the nursery will be as determined by the Agricultural Commissioner and the California Department of Food and Agriculture (CDFA).

Figure 1 is a tentative IPM program for the LBAM in nursery. In addition, insecticides that have been approved for nursery IPM programs by the CDFA/USDA Technical Working Group for the management of the LBAM are listed in Table 1. Please read the labels carefully prior to the application of insecticides. If you have questions about the management program, please contact Frankie Lam (831-759-7359) at the University of California Cooperative Extension, Monterey County.

1432 Abbott Street
Salinas, CA 93901

phone 831.759.7350
fax 831.758.3018
4-H 831.759.7360

email:
cemonterey@ucdavis.edu
website:

<http://cemonterey.ucdavis.edu>



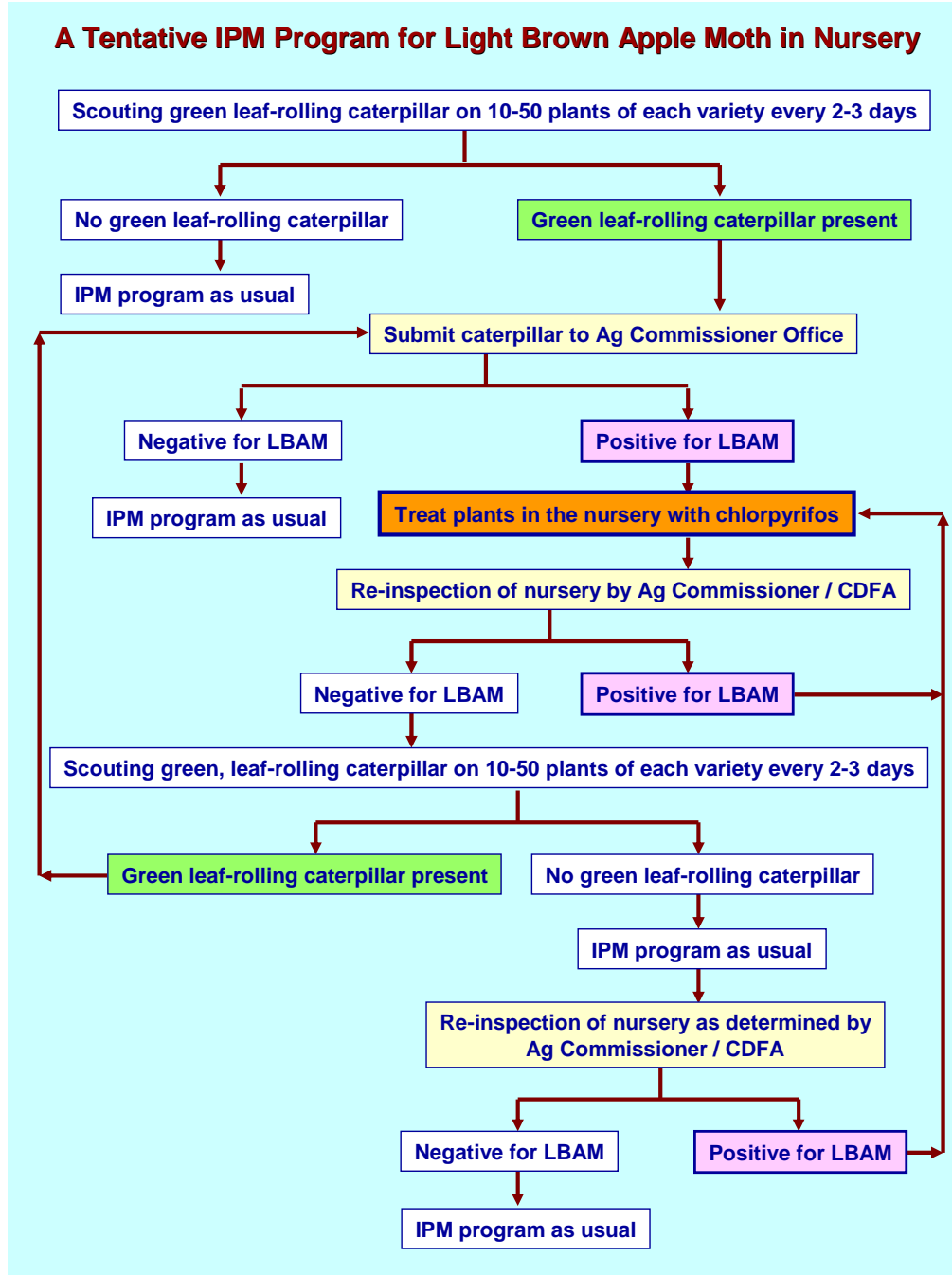


Fig. 1. A tentative integrated pest management program for managing light brown apple moth in nursery.

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Table 1. Insecticides that are proposed for the management of light brown apple moth in nursery

Brand Name	Active ingredient	Gp ^a	Manufacturer	Ornamental and/or crop	Target life stage	Signal word ^b	Allowed or restricted ^c	REI ^d	PHI ^e	No. application & interval ^f
Dursban 50W	Chlorpyrifos 50%	1B	Dow	Ornamental	Larva, adult	D	R	24 h	--	2 / 5-14 d
Dursban PRO	Chlorpyrifos 23.5%	1B	Dow	Ornamental	Larva, adult	C	R	24 h	--	2 / 5-14 d
Crymax	Bt-kurstaki, EG7841 40%	11B2	Certis	Ornamental, Crop	Small larva	C	A	4 h	0 d	M / 5 d
Lepinox WDG	Bt-kurstaki, EG7826 40%	11B2	Certis	Ornamental, Crop	Small larva	W	A	12 h	0 d	M / 5 d
Conserve SC	Spinosad 11.6%	5	Dow	Ornamental, Crop	Larva	NA	A	4 h	1-14 d	6 / 7 d
Entrust	Spinosad 80%	5	Dow	Ornamental, crop	Larva	C	A	4 h	1-28 d	3 / 6 d
Confirm 2F	Tebufenozide 23%	15	Dow	Crop	Larva	C	A	4 h	7-30 d	2-7 / 10-14 d
Intrepid 2F	Methoxyfenozide 22.6%	18	Dow	Crop	Larva	C	A	4 h	1-30 d	1-10 / 10-14 d
Sevin SL	Carbaryl 43%	1A	Bayer	Ornamental, crop	Larva, adult	C	A	12 h	3-14 d	1-6 / 7-14 d
Sevin 80S	Carbaryl 80%	1A	Bayer	Crop	Larva, adult	W	A	12 h	0-60 d	2-8 / 7-14 d
Dimilin 25W	Diflubenzuron 25%	15	Crompton	Ornamental, crop	Larva	C	R	12 h	14 d	1-4 / 7-14 d
Adept	Diflubenzuron 25%	15	Crompton	Crop	Larva	C	A	12 h	--	M / 4-8 wk
Assail 70WP	Acetamiprid 70%	4A	Cerexagri	Crop	Larva	C	A	12 h	7-28 d	2-5 / 7-14 d
TriStar 70WSP	Acetamiprid 70%	4A	Cleary	Ornamental	Unknown	C	A	12 h	--	5 / 7 d
Imidan 70W	Phosmet 70%	1B	Gowan	Ornamental, crop	Larva, adult	W	A	24-120 h	3-30 d	2-5 / 7-14 d
Warrior	Lambda-cyhalothrin 11.4%	3	Syngenta	Crop	Larva, adult	W	R	24 h	1-30 d	2-4 / 5-7 d
Calypso	Thiacloprid 40.4%	4A	Bayer	Crop	Larva	W	A	12 h	30 d	2-4 / 7-14 d
Cyd-X	<i>Cydia pomonella</i> granulovirus 0.06%	BI	Certis	Crop	Larva	C	A	4 h	0 d	M
Surround WP	Kaolin (clay) 95%	CP	Engelhard	Ornamental, crop	Larva	C	A	4 h	0 d	M / 5-7 d
Supreme Oil	Petroleum oil 98%	Oil	Loveland	Ornamental, crop	Larva	C	A	4 h	0 d	M
Superior 415 Spray Oil	Petroleum oil 98%	Oil	Wilbur-Ellis	Ornamental, crop	Larva	C	A	4 h	0 d	M
Superior 440 Spray Oil	Petroleum oil 98%	Oil	Wilbur-Ellis	Ornamental, crop	Larva	C	A	4 h	0 d	M

^a Gp, Group; 1A, Carbamates; 1B, Organophosphates; 3, Pyrethroids; 4A, Neonicotinoids; 5, Spinosad; 11B2, *Bacillus thuringiensis* subsp. *kurstaki*; 15, Insect Growth Regular for Lepidoptera (butterflies and moths); 18, Molting Disruptors; BI, Biological Insecticides, CP, Crop Protectant.

^b C, Caution with toxicity category III; D, Danger with toxicity category I; W, Warning with toxicity category II; NA, No signal word required.

^c A, Allowed or non-restricted; R, Restricted.

^d REI, Restricted entry Interval.

^e PHI, Preharvest Interval for edible crops.

^f Number of application and interval between applications; M, multiple applications.