

Apricot

Shot Hole Disease

Pathogen: *Wilsonomyces carpophilus*

(Reviewed 11/07, updated 2/09)



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SYMPTOMS

Shot hole disease may kill [buds](#) during winter and cause spots on fruit and leaves in spring. If severe, leaf drop may occur in spring. Fruit lesions are light brown with dark purple margins and usually are clustered on the upper sides of fruit. Fruit spotting can be severe, and as fruits mature, spots become scablike and may flake off, leaving roughened areas beneath. Leaf spots fall out (shot hole).

COMMENTS ON THE DISEASE

The fungus survives within infected buds and on twigs. Spores are rain splashed, and disease increases during the rainy season. Fruit infection is favored by wet spring weather.

Shot hole is often confused in coastal orchards with fog spot. Fog spot, however, does not cause leaf lesions, and the lesions it causes on fruit have a red margin.

MANAGEMENT

Buds can be protected from shot hole during the dormant season (mid-November to mid-December) by a fungicide application before the long winter rains begin. One application should be sufficient. The number of bloom applications needed depends upon the amount of rain.

Take a fruit damage sample at harvest to assess the effectiveness of the current year's IPM program and to determine the needs of next year's program (see [FRUIT SAMPLING AT HARVEST](#)). Record results ([sample form](#)—60 KB, PDF).

Common name (trade name)	Amount/Acre	R.E.I.+ (hours)	P.H.I.+ (days)
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The following materials are listed in order of usefulness in an IPM program, taking into account [efficacy](#). Also consider the [general properties of the fungicide](#) as well as information relating to environmental impact. Not all registered pesticides are listed. Always read label of product being used.

Caution: Never apply sulfur to apricot trees or captan to apricot fruit.

DORMANT

A. BORDEAUX MIXTURE#

10:10:100	Label rates	see label	see label
MODE OF ACTION GROUP NAME (NUMBER ¹): Multi-site contact (M1)			
COMMENTS: For information on creating a Bordeaux mixture, see UC IPM Pest Note: Bordeaux Mixture , ANR Publication 7481.			

B. FIXED COPPER#

4 lb metallic copper	see label	see label
MODE OF ACTION GROUP NAME (NUMBER ¹): Multi-site contact (M1)		
COMMENTS: Not all copper compounds are approved for use in organic production; be sure to check individual products.		

RED BUD, FULL BLOOM, AND PETAL FALL

A. ZIRAM 76DF

6 lb	48	30
MODE OF ACTION GROUP NAME (NUMBER ¹): Multi-site contact (M3)		
COMMENTS: Do not apply more than 30 lb/acre/season.		

B. PYRACLOSTROBIN/BOSCALID

(Pristine)	10.5–14.5 oz	12	0
MODE OF ACTION GROUP NAME (NUMBER ¹): Quinone outside inhibitor (11) and Carboxamide (7)			
COMMENTS: A strobilurin and carboxyanilide fungicide. To reduce the potential for the development of resistance, do not make more than five applications/season of Pristine or other strobilurin or carboxyanilide fungicides.			

C. CAPTAN 50WP

5 lb	4 days	0
MODE OF ACTION GROUP NAME (NUMBER ¹): Multi-site contact (M4)		
COMMENTS: Check with your processor before using this material. Do not apply in combination with, immediately before, or closely following oil sprays. Do not apply after 75% petal fall.		

D. CHLOROTHALONIL

(Echo 720)	3.125–4.125 pt	12	0
(Bravo Ultrex)	2.8–3.8 lb	12	0
(Bravo Weather Stik)	3.125–4.125 pt	12	0
MODE OF ACTION GROUP NAME (NUMBER ¹): Multi-site contact (M5)			
COMMENTS: Do not use with or closely following oil sprays. Do not apply more than 20.5 pt Bravo Weather Stik/acre/season. Do not apply more than 18.8 lb Bravo Ultrex/acre/season.			

E. TRIFLOXYSTROBIN

(Gem) 500SC	1.9–3.8 fl oz	12	1
MODE OF ACTION GROUP NAME (NUMBER ¹): Quinone outside inhibitor (11)			

F. IPRODIONE

(Rovral) 4	1–2 pt	24	0
MODE OF ACTION GROUP NAME (NUMBER ¹): Dicarboximide (2)			
COMMENTS: Addition of a narrow range oil (superior, supreme) at 1–2% increases the effectiveness of this material. Do not apply after petal fall.			

G.AZOXYSTROBIN

(Abound) 12.3–15.4 fl oz 4 0
MODE OF ACTION GROUP NAME (NUMBER¹): Quinone outside inhibitor (11)
COMMENTS: Do not apply more than three sequential sprays before alternating with a fungicide that has a different mode of action.

H.CYPRODINIL

(Vanguard) 75WG 5 oz 12 2
MODE OF ACTION GROUP NAME (NUMBER¹): Anilinopyrimidine (9)

- + Restricted entry interval (R.E.I.) is the number of hours (unless otherwise noted) from treatment until the treated area can be safely entered without protective clothing. Preharvest interval (P.H.I.) is the number of days from treatment to harvest. In some cases the REI exceeds the PHI. The longer of two intervals is the minimum time that must elapse before harvest.

Acceptable for use on organically grown produce.

¹ Group numbers are assigned by the Fungicide Resistance Action Committee (FRAC) according to different modes of actions (for more information, see <http://www.frac.info/>). Fungicides with a different group number are suitable to alternate in a resistance management program. For fungicides with mode of action Group numbers 1, 4, 9, 11, or 17, make no more than one application before rotating to a fungicide with a different mode of action Group number; for fungicides with other Group numbers, make no more than two consecutive applications before rotating to fungicide with a different mode of action Group number.

PUBLICATION

UC IPM Pest Management Guidelines: Apricot
UC ANR Publication 3433
Diseases
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<http://www.ipm.ucdavis.edu/PMG/r5100311.html>