PP-146

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2010 Florida Citrus Pest Management Guide: Citrus Scab[1]

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Citrus scab caused by the fungus *Elsinoe fawcettii* affects grapefruit, Temples, Murcotts, tangelos, and some other tangerine hybrids. There is no need to control citrus scab on processing fruit, except possibly on Temples, where severe early infection reduces fruit size. Reduction or elimination of overhead irrigation on susceptible varieties during the active growth period of the fruit will decrease disease severity.

Spores of this fungus are produced directly on scab pustules that occur on leaves and fruit. One to 2 hours of wetting are sufficient for spore production and only an additional 3-4 hours are needed for infection. Spores are dispersed to healthy tissues by water splash.

If leaves from the previous season are heavily infected by citrus scab, 3 applications of fungicide may be needed to control the disease: one at about 1/4 expansion of the spring flush, a second at petal fall, and a third about three weeks later. If there is little carryover of disease from the previous season, the first spray can be omitted. Ferbam, Enable, Abound, Gem, or Headline are good choices for the first application because they are all able to kill the fungus in old lesions and thus reduce inoculum as well as protecting foliage. Any of these products may then be used in the petal fall spray but do not use a strobilurin product (Abound, Gem, or Headline) twice in a row. Copper fungicides, Abound, Gem, or Headline are good choices for the third spray, since they will protect fruit from early melanose as well as from scab, but copper products are less effective for scab and should not be selected where scab pressure is high.

On Minneola tangelos, Murcotts, and certain other varieties, Alternaria brown spot and scab can occur in the same grove. In those cases, copper fungicides, Abound, Gem, or Headline may be preferred, since Ferbam and Enable 2F are less effective for Alternaria control. With average- quality copper products, about 2 lb of metallic copper per acre are usually sufficient for scab control. The scab fungus may develop resistance to Abound, Gem, or Headline if these products are not rotated with

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alternate modes of action frequently. These products are all strobilurin fungicides and only one should be selected for scab control each season.

Fruit usually becomes resistant to scab by some time in May about 2 months after petal fall.

DO NOT APPLY ABOUND, GEM, OR HEADLINE IN NURSERIES. Application of these fungicides in nurseries can result in selection of resistant strains which are then distributed on nursery stock to groves.

Recommended Chemical Controls

READ THE LABEL.

See Table 1.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per acre rate for mature trees in 125 gallons of water. Calibrate and arrange nozzles to deliver thorough distribution and treat as many acres as this volume of spray allows.

Table 1. Recommended Chemical Controls for Citrus Scab

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
copper fungicide	M1	Use label rate.
Enable 2F	3	8 fl oz. Do not apply more than 3 times per year; no more than 0.38 lb a.i./acre. Minimum retreatment interval is 21 days.
Ferbam Granuflo	M3	15 lbs (15-26 lbs for nursery stock)
Abound 2.08[3]	11	12.4-15.4 fl oz. Do not apply more than 92.3 fl oz/acre/season for all uses.
Gem 25WG[3]	11	4.0-8.0 oz. Do not apply more than 32 oz/acre/season for all uses.
Gem 500 SC[3]	11	1.9-3.8 fl oz. Do not apply more than 15.2 fl oz/acre/season for all uses.
Headline[3]	11	9-12 fl oz. Do not apply more than 54 fl oz/acre/season for all uses.

[1]Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2009. Refer to ENY-624, Pesticide Resistance and Resistance Management, in the 2010 Florida Citrus Pest Management Guide for more details.
[2]Lower rates can be used on smaller trees. Do not use less than the minimum label rate.
[3]Do not use more than 4 applications of strobilurin fungicides/season. Do not make more than 2 sequential applications of strobilurin fungicides.