

# 2019–2020 Florida Citrus Pest Management Guide: Citrus Scab<sup>1</sup>

M. M. Dewdney<sup>2</sup>

Citrus scab, caused by the fungus *Elsinoë 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 spread 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. With citrus scab, the timing of the spray applications is critical, but if there is little carryover of disease from the previous season, the first spray can be omitted. Ferbam, Enable 2F, 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 protect 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 because 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 because Ferbam and Enable 2F are less effective for Alternaria control. With average-quality copper products, about 2 lb of metallic copper per acre is usually sufficient for scab control. The scab fungus may develop resistance to Abound, Gem, or Headline if these products are not frequently rotated with alternate modes of action. Resistance has been documented in Florida for citrus scab. These products are all strobilurin fungicides, and only one should be selected for scab control each season.

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

**DO NOT APPLY ABOUND, GEM, OR HEADLINE IN NURSERIES.** Application of these fungicides in nurseries

1. This document is PP-146, one of a series of the Plant Pathology Department, UF/IFAS Extension. Original publication date May 2000. Revised September 2013, April 2016, and March 2019. This publication is included in SP-43, *2019–2020 Florida Citrus Production Guide*. Visit the EDIS website at <http://edis.ifas.ufl.edu>. For a copy of this handbook, request information on its purchase at your county Extension office.

2. M. M. Dewdney, associate professor, Plant Pathology Department, UF/IFAS Citrus Research and Education Center, Lake Alfred, FL 33850.

The use of trade names in this publication is solely for the purpose of providing specific information. It is not a guarantee or warranty of the products named, and does not signify that they are approved to the exclusion of others of suitable composition.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office.

U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.

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 <sup>2</sup>	Mature Trees Rate/Acre <sup>1</sup>
copper fungicide	M01	Use label rate.
Enable 2F	3	8 fl oz. Do not apply more than 3 times per year; no more than 24 fl oz. (0.38 lb a.i.)/acre. Minimum retreatment interval is 21 days.
Ferbam Granuflo	M03	5–6 lb. Maximum 3 applications a year and do not apply more than 7.9 lb/acre (6 lb ai) in a single application.
Abound <sup>3</sup>	11	12.0–15.5 fl oz. Do not apply more than 92.3 fl oz (1.5 lb ai)/acre/season for all uses.
Gem 500 SC <sup>3</sup>	11	1.9–3.8 fl oz. Do not apply more than 15.2 fl oz/acre/season for all uses. Do not apply within 7 days of harvest.
Headline SC <sup>3</sup>	11	9–12 fl oz. Do not apply more than 54 fl oz (0.88 lb ai)/acre/season for all uses.

<sup>1</sup> Lower rates can be used on smaller trees. Do not use less than the minimum label rate.

<sup>2</sup> Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2018. Refer to ENY624, Pesticide Resistance Management, in the 2019–2020 Florida Citrus Production Guide for more details.

<sup>3</sup> Do not use more than 4 applications of strobilurin fungicides/season. Do not make more than 2 sequential applications of strobilurin fungicides. Do not use in citrus propagation nurseries.