

California Navel and Valencia Exports to Korea
NAVEK Program 2018-2019

Septoria Spot and Other Orange Rind Diseases, Disorders, and Injuries

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Category I. Early symptoms of Septoria spot on fruit showing a range of disease severity.

Category I and II. Early and advanced symptoms of Septoria spot. A-D. Four fruit showing both small and large, well developed, sunken, blackish lesions; and E. One advanced lesion among numerous ice damage injuries on the rind surface.

Category II. Advanced symptoms of Septoria spot. A-F. Lesions ranging from 2-3 mm to 20-30 mm in diameter (Note that all fruit have rinds with ice damage).

Category III. Look-alike diseases of Septoria. A. Unknown fungus causing symptoms similar to Septoria spot; B-D. Anthracnose lesions caused by *Colletotrichum gloeosporioides*; E. Expanding lesion of Alternaria spot caused by *A. alternata*; and F. *Diplodia* state of *Botryosphaeria rhodina*. Lesions caused by *Diplodia* sp. are sunken and dark with a diffused margin.

Category IV. Environmentally induced rind injuries (abiotic causes). A-G. Mild rind injuries on exposed surfaces of fruit; H-J. Severe rind injuries with numerous lesions mostly on exposed surfaces, but some on the stem-side surface (I) of fruit.

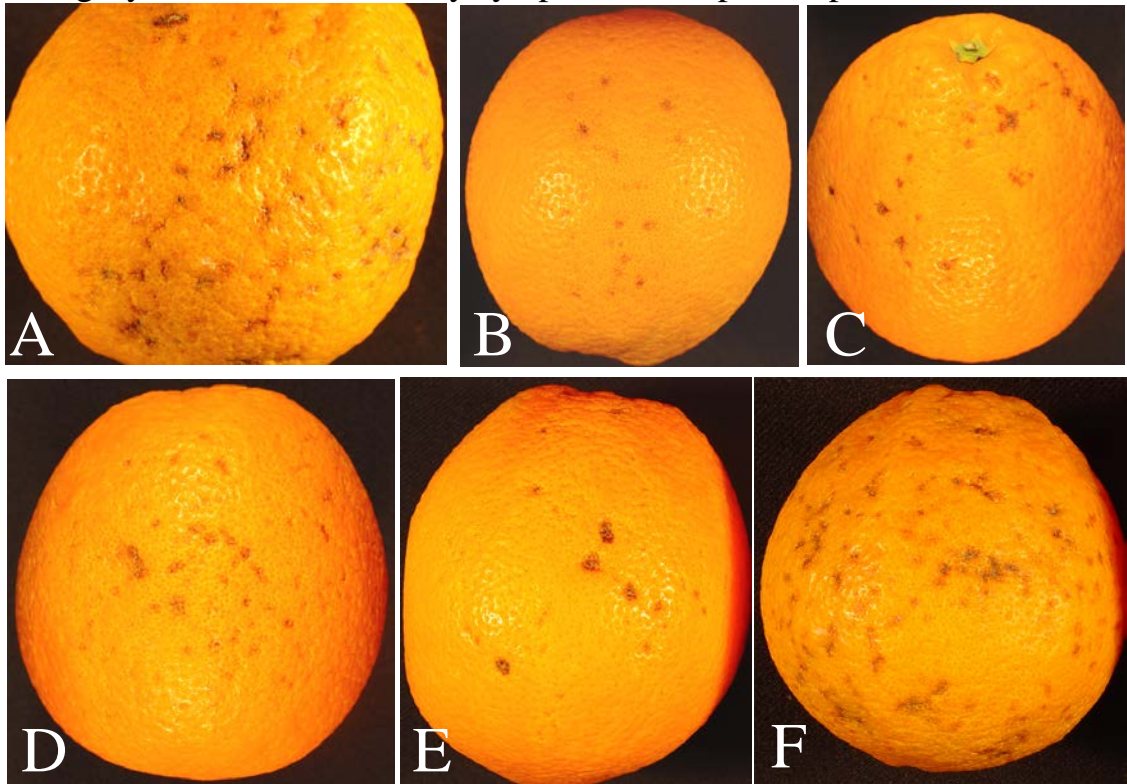
Category V. Insect and mechanical injuries and physiological disorders. A. Thrips damage; B. Red scale; C. Peel miner damage; D-E. Katydid damage; F. Fruit chimera; G-I. Mechanical damage; H. and I. Rubbing damage; and J-K. Mild to severe oleocellosis, respectively.

Note: Sampling of fruit should include Categories I-IV. Category V should not be included unless there are concerns or uncertainty in the samples.

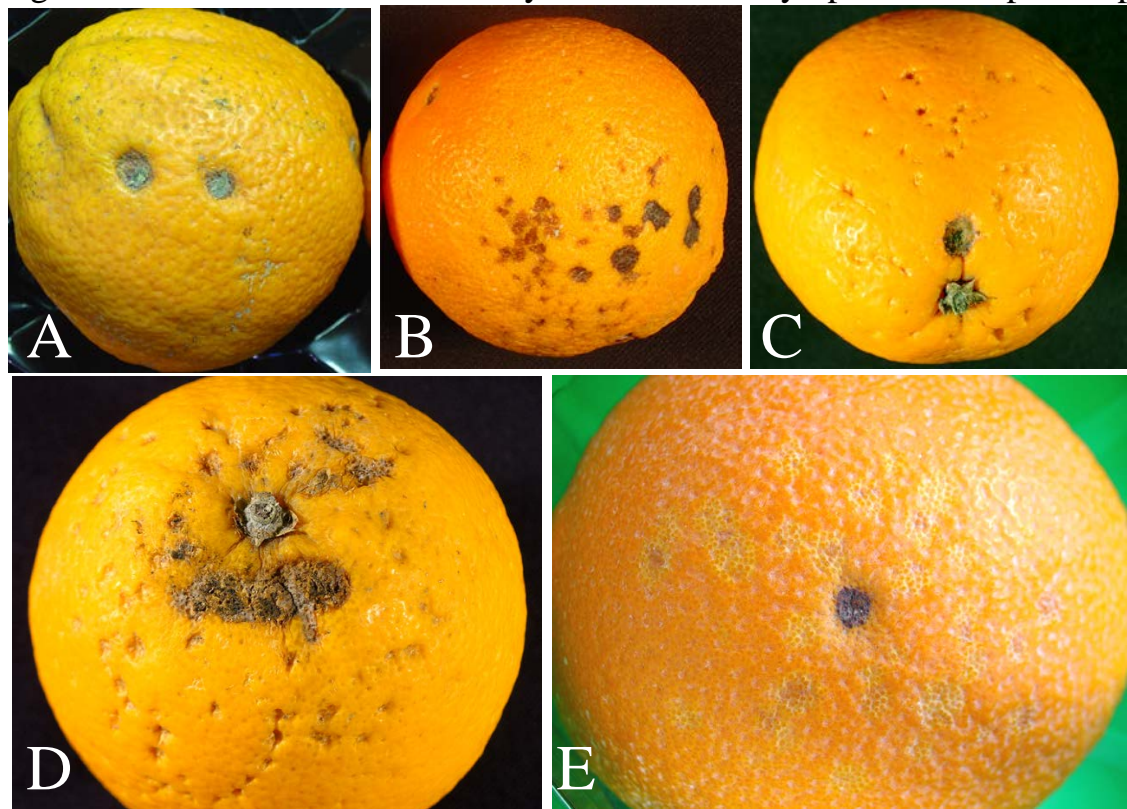
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Category I: Ice-mark and early symptoms of Septoria spot



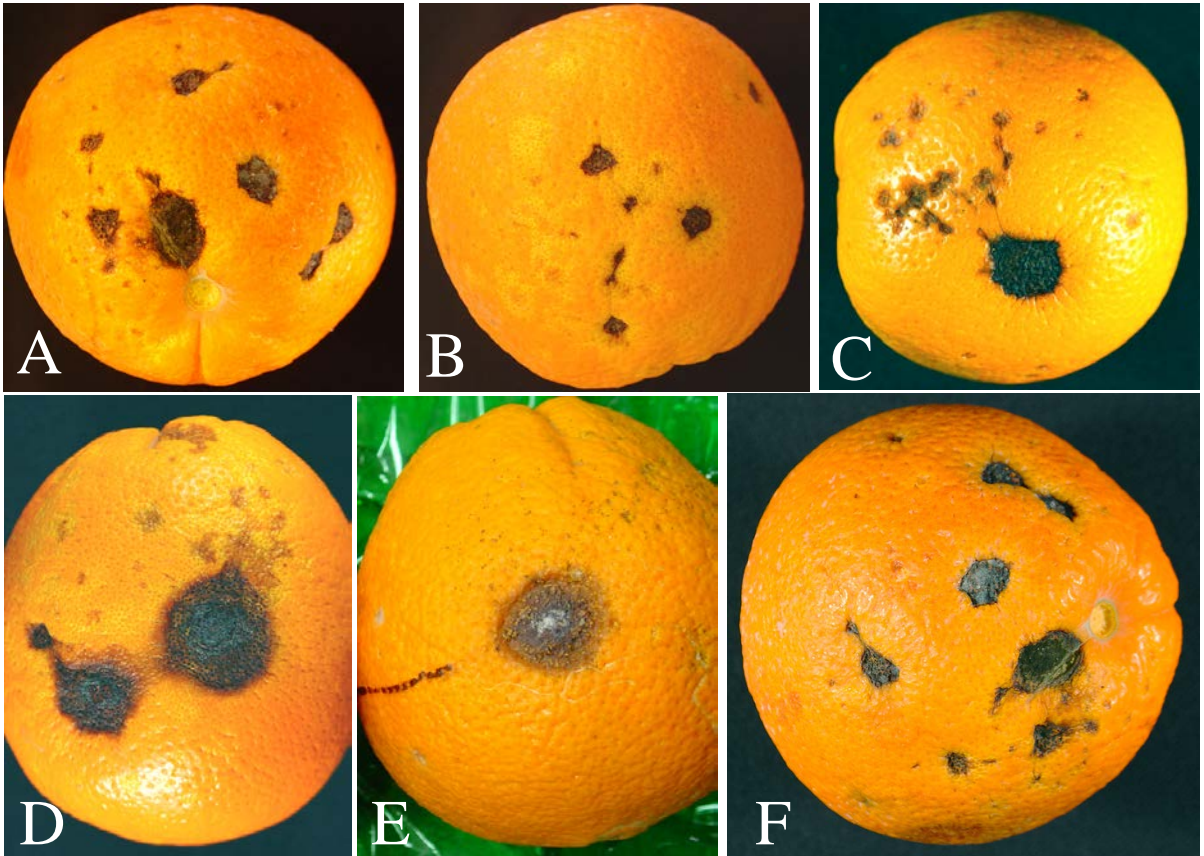
Categories I and II: Ice-mark and early and advanced symptoms of Septoria spot



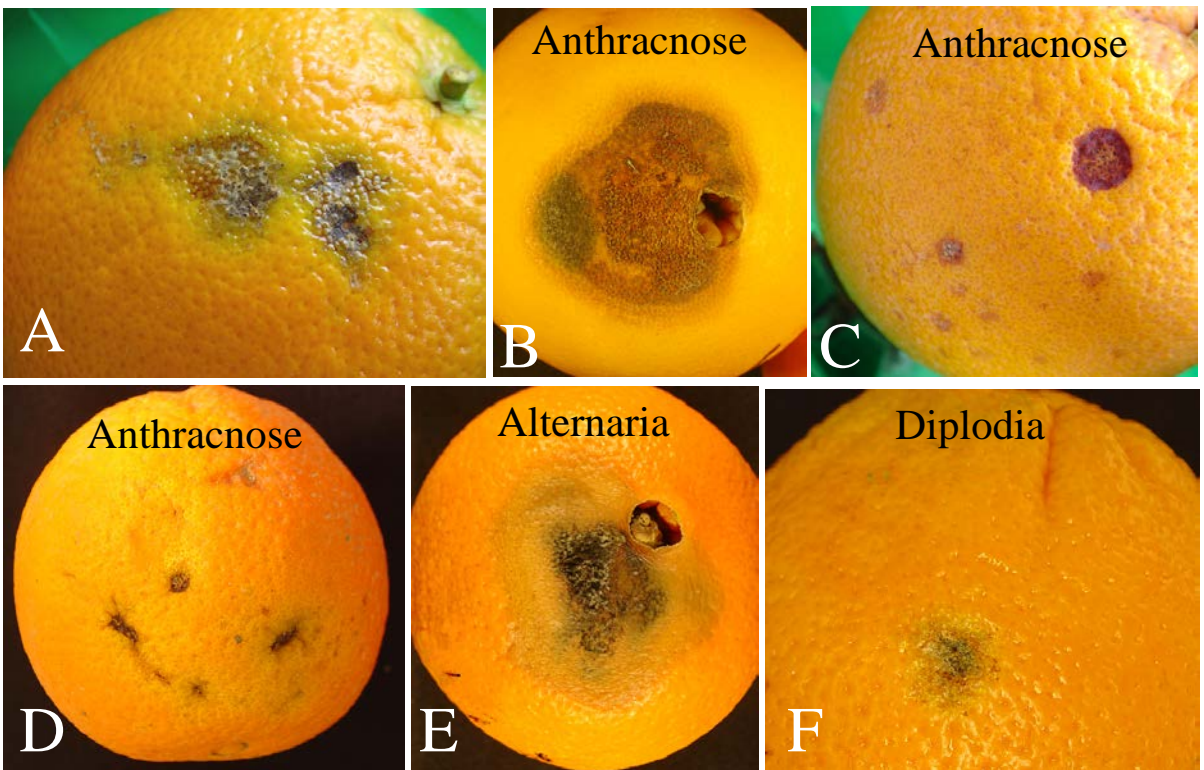
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Category II: Advanced symptoms of Septoria spot



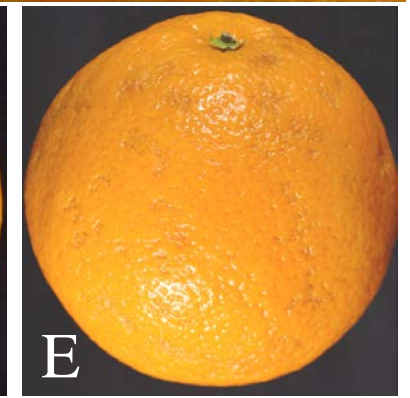
Category III: Look-alike diseases of Septoria spot



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Category IV. Environmentally induced rind injuries (abiotic causes)



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Category V: Insect and mechanical injuries; physiological disorders

