

FOR INFORMATION AND ACTION
DA-2011-22
April 18, 2011

SUBJECT: APHIS Adds Conditions to Allow Fruit Movement into or through States Regulated for Sweet Orange Scab (*Elsinoë australis*)

TO: STATE AND TERRITORY AGRICULTURAL REGULATORY OFFICIALS

Effective immediately, the Animal and Plant Health Inspection Service (APHIS) has revised the Federal Order for sweet orange scab (SOS) to include additional conditions for the movement of *Citrus* spp. and *Fortunella* spp. fruit into or through SOS quarantine areas.

Specifically, the Federal Order outlines certain safeguarding measures that must be met to allow fruit that originates outside of a SOS quarantine area to transit through a SOS quarantine area. In addition, the Order establishes conditions that must be met to allow fruit from outside a SOS quarantine area to move into a SOS quarantine area for repackaging. These additions will increase fruit marketing opportunities while effectively protecting non-infested citrus-producing areas from SOS. The Federal Order, as well as the APHIS-Approved Packinghouse Procedures for *Elsinoë australis*, and APHIS-Approved Fungicides for *Elsinoë australis* for Use in Plant Nurseries are attached for your reference.

Since July 2010, the fungal pathogen *Elsinoë australis*, causal agent of SOS, has been detected in Arizona, Florida, Louisiana, Mississippi, and Texas. Federal Orders have been issued to establish SOS quarantine areas for these entire States.

For additional information, you may contact Leon Bunce, Eastern Regional Program Manager, at (919) 855-7360 or Deborah McPartlan, National Program Manager, at (301) 734-5356.

/s/ **Michael Watson for**

Rebecca A. Bech
Deputy Administrator
Plant Protection and Quarantine

3 Attachments:

- Federal Order
- APHIS-Approved Packinghouse Procedures for *Elsinoë australis*, Causal Agent of SOS
- APHIS-Approved Fungicides for *Elsinoë australis* for Use in Plant Nurseries

FEDERAL QUARANTINE ORDER

Elsinoë australis Bitanc. & Jenkins Causal Agent of Sweet Orange Scab (SOS)

DA-2011-22
April 18, 2011

The purpose of this Federal Order is to prevent the spread of the fungal plant pathogen, *Elsinoë australis* Bitanc. & Jenkins, the causal agent of Sweet Orange Scab (SOS), through regulatory authority provided by Section 412(a) of the Plant Protection Act of June 20, 2000, as amended, 7 U.S.C. 7712(a), which authorizes the Secretary of Agriculture to prohibit or restrict the movement in interstate commerce of any plant, plant part, or article if the Secretary determines that the restriction is necessary to prevent the dissemination of a plant pest within the United States.

The Administrator of the Animal and Plant Health Inspection Service (APHIS) considers it necessary, in order to prevent the dissemination of SOS, to establish restrictions on the interstate movement of certain regulated articles from the States of Arizona, Florida, Louisiana, Mississippi, and Texas as described in this Federal Order.

APHIS has applied similar mitigation measures to Mexico and will apply such measures to the importation of regulated articles from other countries where SOS is confirmed to exist.

A. Quarantine Areas:

The Administrator will list as a quarantine area each state, or each portion of a state, in which SOS has been confirmed by an inspector to be present, in which the Administrator has reason to believe that SOS is present, or that the Administrator considers necessary to quarantine because of its inseparability for quarantine enforcement purposes from localities in which SOS has been found.

Less than an entire state will be designated as a quarantine area only if the Administrator determines that:

1. The state has adopted and is enforcing restrictions on the intrastate movement of the regulated articles that are substantially the same as those imposed by the Administrator on the interstate movement of regulated articles; and
2. The designation of less than the entire state as a quarantine area will be sufficient to prevent interstate spread of SOS.

The Administrator or an inspector may temporarily designate any non-quarantine area as a quarantine area. The Administrator will give a copy of this Order along with a written notice for the temporary designation to the owner or person in possession of the non-quarantine area. Thereafter, the interstate movement of any regulated article from an area temporarily designated as a quarantine area will be subject to this Order. As soon as practicable, this area will be added to the list of quarantine areas or the designation will be terminated by the Administrator or an inspector. The owner or person in possession of an area for which designation is terminated will be given notice of the

termination as soon as practicable.

The following areas are designated as quarantine areas:

1. Entire State of Louisiana
2. Entire State of Mississippi
3. Entire State of Texas
4. Entire State of Florida
5. Entire State of Arizona

B. Regulated Articles:

The following are regulated articles, and may not be moved interstate from a quarantine area unless accompanied by a certificate or limited permit issued in accordance with this Order:

1. Fruit of *Citrus* spp. and *Fortunella* spp.
2. All plants and plant parts (except seeds), including leaves for consumption, budwood, and nursery stock of *Citrus* spp. and *Fortunella* spp.
3. Other articles intended for consumption, as apparel or as a similar personal accessory, or decorative use made from *Citrus* spp. and *Fortunella* spp.
4. Any other products, articles, or means of conveyance of any character whatsoever, when it is determined by an inspector that they present a hazard of spread of SOS and the person in possession thereof has been provided notice.

C. Conditions for Interstate Movement of Regulated Articles:

1. Regulated articles may move from one state in the SOS quarantine area to another contiguous State in the quarantine area without further restriction.
2. Regulated fruit from SOS quarantine areas may move interstate under certificate to all states under the following conditions:
 - a. Fruit must be washed, brushed, disinfested, treated, and waxed prior to shipment, using an APHIS-approved packing house procedure located on the APHIS website: http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml; and
 - i. Fruit must be practically free of leaves, stems, or other regulated plant material, except that stems less than one-inch may be attached to fruit but cannot have attached leaves; and
 - ii. Fruit must be packed in a packing house operating under a signed compliance agreement with APHIS; and
 - iii. The certificate must be present on both paperwork accompanying the shipment and on the containers in which the fruit is packed;
 - or
 - b. Fruit must be washed, brushed, and disinfested prior to shipment using an APHIS-approved packing house procedure, located on the APHIS website: http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml; and
 - i. Fruit has been inspected and determined to be asymptomatic based on visual inspection

- by an inspector at the packing house; and
 - ii. Fruit must be practically free of leaves, stems, or other regulated plant material, except that stems less than one-inch may be attached to fruit but cannot have attached leaves; and
 - iii. Fruit must be packed in a packing house operating under a signed compliance agreement with APHIS; and
 - iv. The certificate must be present on both paperwork accompanying the shipment and on the containers in which the fruit is packed.
3. Regulated fruit from SOS quarantine areas may move interstate under limited permit to noncommercial citrus-producing States under the following conditions:
- a. Fruit must be washed, brushed, and disinfested at the packing house, prior to shipment using APHIS-approved packing house procedure, which can be found on the APHIS website:
http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml; and
 - b. Fruit must be practically free of leaves, stems, or other regulated plant material, except that stems less than one-inch may be attached to fruit but cannot have attached leaves; and
 - c. Fruit must be packed in a packing house operating under a signed compliance agreement with APHIS; and
 - d. The limited permit must be present on both paperwork accompanying the shipment and on the containers in which the fruit is packed.
4. Regulated fruit from SOS quarantine areas that are destined for processing in a commercial citrus-producing state outside the SOS quarantine area may move under limited permit if it meets the following conditions:
- a. Fruit must be washed, brushed, and disinfested at the packing house, prior to shipment using APHIS-approved packing house procedure, which can be found on the APHIS website:
http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml; and
 - b. Fruit must be practically free of leaves, stems, or other regulated plant material, except that stems less than one-inch may be attached to fruit but cannot have attached leaves;
 - c. The limited permit must be present on both paperwork accompanying the shipment and on the containers in which the fruit is packed;
 - d. The processor/packing house in the originating state and the processor in the receiving State must be operating under a signed compliance agreement with APHIS;
 - e. Processors/packing houses in the originating state must operate under a Compliance Agreement that stipulates the following:
 - i. Any fruit that is moved from the quarantine area must be transported in vehicles that meet the following conditions:
 - (1) Must have solid wall construction on the sides and rear of the cargo area need only be covered with a tarpaulin or otherwise covered on the open top, providing that openings around any tailgates or hinged door do not exceed ½ inch.
 - (2) If with side and rear wall construction of wire mesh screen or expanded metal less than or equal to ¾ x 1-11/16 inch must have the open top of the cargo area covered.
 - (3) If they have screen mesh openings greater than ¾ x 1-11/16 inch must have the

- cargo area covered completely (to the bed of the vehicle). In addition, if mesh size is greater than $\frac{3}{4} \times 1\text{-}11/16$ inch, all reductions in mesh size must be done from within the cargo area (e.g., adding steel, fabric or hardware cloth lining).
- ii. Vehicles transporting pallet boxes, field boxes, field bins, etc., must have the cargo area covered with a tarpaulin or otherwise covered in a manner that does not allow any openings greater than $\frac{1}{2}$ inch exposing the fruit. In most cases, this cover will have to extend to below the top of the bottom row of boxes. However, if the pallet boxes or field boxes are stacked in a solid wall with no openings of $\frac{1}{2}$ inch or more on the side or back, only the open tops of the exposed boxes are required to be covered.
 - iii. Covers or tarpaulins may be constructed of any fabric that has a weave of less than $\frac{1}{2}$ inch. In addition, covers must be in good repair and securely fastened or tied down in a manner that will prevent the loss of fruit, leaves, or plant debris while in transit.
 - iv. Identity of each load of fruit must be maintained by issuing an individually numbered trip ticket containing the following information:
 - (1) Name of Grove, Land Owner/agent, Lessee, Harvester
 - (2) License tag number.
 - (3) Number of boxes contained in load (if not bulk)
 - (4) Grove block fruit originated in
 - (5) Processing plant or packinghouse to which fruit is destined
 - (6) Date of harvest
 - (7) The word "TARP" written clearly, preferably at the bottom
 - v. After being emptied and cleaned of plant debris, trailers, field boxes or bins must be disinfected using:
 - (1) A 200-ppm solution of sodium hypochlorite with a pH of 6.0 to 7.5; or
 - (2) A 0.2-percent solution of a quaternary ammonium chloride (QAC) compound; or
 - (3) A solution containing 85 parts per million PAA (indoor use only).
- f. Processors receiving fruit for processing must operate under a Compliance Agreement that stipulates the following:
- i. After shipments are emptied at the processing plant or packinghouse, trailers, tarpaulins, field boxes, and field bins must be cleaned of all leaves and other plant debris.
 - ii. After being emptied at the processing plant or packinghouse and cleaned of plant debris, trailers, field boxes or bins must be disinfected using:
 - (1) A 200-ppm solution of sodium hypochlorite with a pH of 6.0 to 7.5; or
 - (2) A 0.2-percent solution of a QAC compound; or
 - (3) A solution containing 85 parts per million PAA (indoor use only).
- g. Culls and peels, or other plant material that remains after processing must be handled as follows:
- i. The plant parts must be moved in an enclosed or covered vehicle cargo area. The cargo must be enclosed or covered in a manner so as to have no openings greater than $\frac{1}{2}$ inch exposing the leaves, litter, etc.
 - ii. When plant material comes directly in contact with the vehicle, the vehicle must be disinfected following movement.
 - iii. The plant parts must be destroyed by one of the methods:
 - (1) Heat treated to at least 180 degrees Fahrenheit for a period of at least one hour,
 - (2) Incinerated,
 - (3) Buried at a landfill or other disposal site approved site approved by APHIS or the State and covered with dirt at the end of every day that dumping occurs,

(4) Feed to livestock as feed.

5. *Citrus* spp. and *Fortunella* spp. fruit moving through SOS quarantine areas may move interstate without a certificate or limited permit, if all of the following conditions are met:
 - a. Fruit is accompanied by either: A receipt showing that the fruit was purchased outside the quarantine area, or a bill of lading stating the location of the premises where the shipment originated, the type and quantity of fruit being moved interstate, and the date the interstate movement began.
 - b. Fruit is moved through the quarantine area without being unloaded, and no regulated article, except fruit that qualifies for interstate movement from the quarantine area in accordance with this Federal Order, is added to the shipment in the quarantine area.
 - c. Fruit is completely covered, enclosed in containers, or in a compartment of a vehicle, during movement through the quarantine area.
6. *Citrus* spp. and *Fortunella* spp. fruit from outside the quarantine area moving into the SOS quarantine area for unloading or repackaging may move interstate with a certificate to all States under the following conditions:
 - a. Fruit is accompanied by either: A receipt showing that the fruit was purchased outside the quarantine area, or a bill of lading stating the location of the premises where the shipment originated, the type and quantity of regulated fruit being moved interstate, and the date the interstate movement began.
 - b. The person who unloads or repackages the fruit in a quarantine area must enter into a compliance agreement with APHIS and issue and attach a certificate for the interstate movement of the fruit.
 - c. The certificate must be present on both paperwork accompanying the shipment and on the containers in which the fruit is packed.
 - d. The identity of each shipment of fruit that originated from outside the quarantine area must be maintained and the fruit must be properly segregated from all other fruit in the packinghouse or warehouse.
 - e. Fruit must be practically free of leaves, stems, or other regulated plant material, except that stems less than one-inch may be attached to fruit but cannot have attached leaves.
 - f. Fruit is completely covered, enclosed in containers, or in a compartment of a vehicle, during movement through the quarantine area.
7. Fresh host plant parts (including leaves for consumption, as apparel, or as a similar personal accessory, or decorative use), excluding fruit, propagative material, and nursery stock from quarantine areas may move with a certificate to all States under the following conditions:
 - a. Producers and/or distributors must have a signed compliance agreement with APHIS; and
 - b. Regulated articles must be asymptomatic based on visual inspection by an inspector; and

- c. The certificate should be present on both the paperwork accompanying the shipment and on the containers in which the regulated articles are packed.
8. Nursery stock from quarantine areas will only be allowed interstate movement to non-commercial citrus-producing States with a limited permit under the following conditions:
- a. Any person engaged in growing, processing, handling, or moving host nursery stock in an SOS quarantine area must enter into a compliance agreement with APHIS;
 - b. Nursery stock may only be shipped if accompanied by a limited permit issued by an inspector verifying that all conditions of this Federal Order and any additional requirements stipulated in the compliance agreement have been met. A copy of the limited permit must be attached to the consignee's copy of the accompanying waybill;
 - c. Nurseries must be inspected by an inspector on a quarterly basis to verify absence of SOS;
 - d. Nursery stock for shipping must undergo a pre-shipment inspection on each lot within 5 days before shipment. If no SOS-positive plants are found, the plants may be shipped after treatment with an APHIS-approved fungicide. The list of approved treatments is located on the APHIS website at:
http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml
 - e. Each host plant being moved interstate must be labeled with adequate identifying information to permit trace back to each premises on which the plants were grown;
 - f. Facilities must maintain records of inspections, treatments, invoices, and shipments made under this protocol and make the records available to APHIS upon request. Each facility must maintain all records for at least 3 years after the interstate shipment of the citrus nursery stock; and
 - g. Facility owners and employees must allow inspectors access to the facility to ensure compliance with this Federal Order.

D. Definitions

Certificate: A document, stamp, or other means of identification approved by APHIS and issued by an inspector or person operating under a compliance agreement when he or she finds that, because of certain conditions, a regulated article can be moved safely from a quarantine area.

Commercial Citrus-Producing States: The States of American Samoa, Arizona, California, Florida, Guam, Hawaii, Louisiana, Northern Mariana Islands, Puerto Rico, Texas, and Virgin Islands of the United States.

Compliance Agreement: A written agreement between APHIS and a person engaged in growing, processing, handling, or moving regulated or associated articles, wherein the person agrees to comply with stipulations set forth in the agreement.

Inspector: Any employee of APHIS, the U.S. Department of Agriculture, or any employee of a State, a County, or any other person specifically authorized by the Administrator to perform the

duties required under this Order.

Limited Permit: A document issued by an inspector or person operating under a compliance agreement to allow the interstate movement of regulated articles to a specified destination, for specified handling, processing, or utilization.

**APHIS-Approved Packing House Procedures
for *Elsinoë australis*,
Causal Agent of Sweet Orange Scab (SOS)**

A. Regulated fruit of *Citrus* spp. and *Fortunella* spp. from a SOS quarantined area can move interstate with a certificate to all States provided it has met all conditions of the SOS Federal Order and is treated as follows:

1. Washed, and
2. Brushed, and
3. Surface disinfested with at least one of the following treatments, and

Treatment: D301.75-11(a-1) — Chemical Treatment

Thoroughly wet the fruit for at least 2 minutes with a solution containing 200 parts per million sodium hypochlorite. Maintain the solution at a pH of 6.0 to 7.5. Must be applied in accordance with label directions. Treatment must be applied in accordance with label directions.

Treatment: D301.75-11(a-2) — Chemical Treatment

Thoroughly wet the fruit with a solution containing sodium o-phenyl phenate at a concentration of 1.86 to 2.0 percent of the total solution. If the solution has sufficient soap or detergent to cause a visible foaming action, wet for 45 seconds. If the solution does not contain sufficient soap to cause a visible foaming action, wet for 1 minute. Treatment must be applied in accordance with label directions.

Treatment: D301.75-11(a-3) — Chemical Treatment

Thoroughly wet the fruit with a solution of 85 parts per million peroxyacetic acid (PAA) for at least 1 minute. Treatment must be applied in accordance with label directions.

4. Treated with label rates of imazalil and/or thiabendazole at the time of packing, and
5. Waxed

B. Regulated asymptomatic fruit of *Citrus* spp. and *Fortunella* spp., from a SOS quarantined area, can move interstate with a certificate to all States provided it has been inspected by an inspector, meets all other conditions of the SOS Federal Order, and is treated as follows:

1. Washed, and
2. Brushed, and
3. Surface disinfested with an organic disinfestant, such as PAA or hydrogen dioxide (also known as hydrogen peroxide). Treatments must be applied in accordance with label directions.

C. Regulated fruit of *Citrus* spp. and *Fortunella* spp., from a SOS quarantined area, can move interstate with a limited permit to non-commercial citrus producing States provided it meets all other conditions of the SOS Federal Order, and is treated as follows:

1. Washed, and
2. Brushed, and
3. Surface disinfested with an organic disinfestant, such as PAA or hydrogen dioxide (also known as hydrogen peroxide). Treatments must be applied in accordance with label directions.

D. Regulated fruit from SOS quarantined areas, that is destined for processing in a commercial citrus-producing State outside the SOS quarantine area, may move under limited permit provided it meets all other conditions of the SOS Federal Order, and is treated as follows:

1. Washed, and
2. Brushed, and
3. Surface disinfested with one or more of the disinfestants listed in A3 above, or an organic disinfestant, such as PAA or hydrogen dioxide (also known as hydrogen peroxide). Treatments must be applied in accordance with label directions.

E. References

USDA APHIS PPQ. Treatment Manual. Sections D301.75-11 (a-1), (a-2), and (a-3).

http://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/treatment_pdf/domestic_treatments.pdf (last accessed, December 21, 2010).

USDA APHIS PPQ, 2010. The significance of *Citrus* spp. fruit as a pathway for the introduction or spread of *Elsinoë australis*, the organism that causes Sweet orange scab disease. Center for Plant Health Science and Technology, Plant Epidemiology and Risk Analysis Laboratory, Raleigh, NC, USA.

USDA APHIS PPQ, December 2010. Federal Domestic Quarantine Order. *Elsinoë australis* Bitanc. & Jenkins, Causal Agent of Sweet Orange Scab (SOS).

http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml

USDA APHIS PPQ, March 2011. Federal Domestic Quarantine Order. *Elsinoë australis* Bitanc. & Jenkins, Causal Agent of Sweet Orange Scab (SOS).

http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml

**APHIS-Approved Fungicides for *Elsinoë australis*,
Causal Agent of Sweet Orange Scab (SOS)
For Use in Plant Nurseries**

Citrus spp. and *Fortunella* spp. nursery stock from SOS quarantined areas can move with a limited permit interstate to non-commercial citrus-producing States provided that ***all conditions of the SOS Federal Order are met***, including scheduled nursery inspections and pre-shipment inspections to verify absence of SOS, and the plants are treated with an APHIS-approved fungicide. **Treatment of nursery stock with fungicides alone, is not a substitute for all the additional requirements of the Federal Order. Nursery establishments must have a signed compliance agreement with APHIS.**

All fungicides that are used must be registered for use in the State in which they are being applied. The treatment must be applied in accordance with all label directions. Applications must be made within the confines of a nursery that has a signed compliance agreement with APHIS. Precautions must be taken to prevent spray drift, contamination of water, and contact with all wildlife, including federally protected species.

Fungicides registered for managing *Elsinoë australis*, the causal organism of SOS, have different modes of action. Although all fungicides work best when applied prior to disease onset, some offer protection only when applied pre-infection (protectant), while others offer some level of control when applied post-infection.

- Copper-based active ingredient products such as Kocide, TopCop, and others are examples of fungicides that prevent spore germination and provide a protectant effect. They are not effective protection if plant tissues are already infected with the fungus prior to application.
- Strobilurin active ingredient products such as Gem and Headline prevent fungal spore germination and consequently host penetration, but again do not protect nursery stock from SOS once tissues are infected.
- As a general rule, products with triazole active ingredients prevent further development of established infections and may also suppress sporulation. The fungicides Enable, BannerMaxx, Bumper EC, Orbit, ProCon-Z and Tilt are expected to provide this effect to varying degrees. These fungicides are important to nursery production but their use alone, on nursery stock that is infected with SOS, will not qualify plants for interstate shipment.
- Mixing strobilurin and triazole products, or using a premix product, provides the greatest control potential due to the dual mode of actions consisting of enhanced residual activity from strobilurins, and greater in-plant movement from triazoles.

Table 1. Fungicides for managing Sweet Orange Scab on Citrus Nursery Stock

Active Ingredient	Product Name	Company	FRAC ³ Group	Re-entry Interval (hours)
Copper hydroxide	Kocide 3000 ^{1,2}	Dupont	M1	24
Copper sulfate + sulfur	TopCop w/sulfur ²	Stoller	M1+M2	24
Fenbuconazole	Enable ²	Dow	3	12
Propiconazole	BannerMaxx	Syngenta	3	12
Propiconazole	Bumper EC	Makhteshim	3	12
Propiconazole	Orbit	Syngenta	3	12
Propiconazole	ProCon-Z	Loveland	3	12
Propiconazole	Tilt	Syngenta	3	12
Trifloxystrobin	Gem ²	Bayer	11	12
Pyraclostrobin	Headline ²	BASF	11	12

¹Phytotoxicity may occur on young tender flush in greenhouses and shade houses.

²Specifically lists control of *Elsinoë fawcettii*, causal organism of Citrus scab on the label.

³FRAC, Fungicide Resistance Action Committee

Note: Table is used for illustrative purposes only and list of products is not exhaustive. Product inclusion does not infer endorsement by USDA APHIS. Always read and follow label instructions. The products listed are registered for use in the following citrus producing states: AL, AZ, CA, FL, GA, LA, MS, TX

References:

USDA APHIS PPQ. 2010. Survey and Treatment of Nurseries from Known Sweet Orange Scab (*Elsinoë australis*) Infested Areas. Personal communication, C. Hollingworth to L. Evans-Goldner, on file with USDA APHIS PPQ EDP.

USDA APHIS PPQ, December 2010. Federal Domestic Quarantine Order. *Elsinoë australis* Bitanc. & Jenkins, Causal Agent of Sweet Orange Scab (SOS).
http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml

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http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/sweet_orange.shtml