

FOR INFORMATION AND ACTION
DA-2009-20
May 5, 2009

SUBJECT: Federal Order for Tomato Torrado Virus and Tomato Severe Leaf Curl Virus

TO: STATE AND TERRITORY AGRICULTURAL REGULATORY OFFICIALS

The Animal and Plant Health Inspection Service (APHIS) is issuing a Federal Order (attached) to prohibit the importation of plants used for planting (not including seed) that are hosts of Tomato torrado virus (ToTV) and Tomato severe leaf curl virus (ToSLCV) from all countries, except Canada. To prevent the introduction and dissemination of these harmful plant pathogens into the United States, this Federal Order is effective beginning June 1, 2009.

Recent scientific literature identified ToTV as a destructive plant pathogen that seriously reduces plant growth and yields on a number of hosts, including *Solanum lycopersicum*. Tomato is also host to number of begomoviruses, including ToSLCV, that are quarantine pests for the U.S. and are major constraints to vegetable production. Both pests appear to be transmitted by and are likely persistent in the whitefly vector that could transmit the virus to a large number of host plants during the growing season.

ToTV and ToSLCV are not known to occur in the United States and are not known to be seed-transmitted. Plant pathogens, including viruses and viroids are extremely difficult to detect during a port of entry inspection of the host plants, particularly in the absence of symptoms.

In order to prevent the entry of ToTV and ToSLCV, APHIS has determined that it is necessary to prohibit the importation of *Lycopersicon* spp., *Capsicum* spp., *Solanum* (including *Lycopersicon*) spp., *Chenopodium* spp., *Polygonum* spp., *Atriplex* spp., *Halogetum* spp., *Nicotiana* spp., *Lepidium* (synonyms *Senebiera*, *Coronopus*) spp., *Spergularia* spp., *Amaranthus* spp., and *Malva* spp. plants for planting, with the exception of seed, until a pest risk analysis has been completed and appropriate effective mitigations measures have been established.

For additional information regarding this Federal Order, please contact Arnold T. Tschanz at (301) 734-5306 or Arnold.T.Tschanz@aphis.usda.gov.

/s/ Alan S. Green /for

Rebecca A. Bech
Deputy Administrator
Plant Protection and Quarantine

Attachment:
Federal Order

Federal Order: for
Tomato torrado virus and Tomato severe leaf curl virus,
the causal agents of one or more diseases in
Capsicum, *Solanum* (including *Lycopersicon*), and nine other host genera

May 5, 2009

The purpose and goal of this Federal Order is to prevent the introduction and dissemination of two harmful plant pests, Tomato torrado virus (ToTV) and Tomato severe leaf curl virus (ToSLCV), the causal organisms of one or more diseases in *Lycopersicon*, *Capsicum*, *Solanum* (including *Lycopersicon*), *Chenopodium* spp., *Polygonum* spp., *Atriplex* spp., *Halogetum* spp., *Nicotiana* spp., *Lepidium* (synonyms *Senebiera*, *Coronopus*) spp., *Spergularia* spp., *Amaranthus* spp., and *Malva* spp., from all foreign countries into the United States. This Federal Order is issued pursuant to 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 importation or entry of any plant, plant part, noxious weed or article if the Secretary determines that the prohibition or restriction is necessary to prevent the entry of a plant pest or noxious weed into the United States. ToTV and ToSLCV are not known to occur in the United States and are not known to be seed-transmitted. In addition, ToTV and ToSLCV are not known to occur in Canada and Canada has regulatory protocols in place consistent with this FO.

This action is necessary because the Animal and Plant Health Inspection Service (APHIS) has determined that the introduction and establishment of Tomato torrado virus and/or Tomato severe leaf curl virus poses a serious plant pest threat to the agriculture of the United States.

The tomato, *Solanum lycopersicum*, is also prone to a large number of begomoviruses (*Geminiviridae*) and other virus and virus-like diseases. The begomoviruses, the group to which ToSLCV belongs, are major constraints to vegetable production. Many begomoviruses are quarantine pests for the United States.

ToSLCV and the other begomoviruses are transmitted between plants by whiteflies and are widespread in tomatoes and peppers in several countries in Central America. After acquisition by the whitefly vector, the begomoviruses are persistent in the whitefly and retained for anywhere from a few weeks to the entire life of the vector. The virus can therefore be transmitted to a large number of hosts.

Symptoms of ToSLCV include stunting, severe mosaic, and yellowing, curling, distortion and deformation of leaves. In Nicaragua, all tomato plants sampled in a field survey were infected with begomoviruses, and ToSLCV was present in most of the samples. A similar begomovirus, Tomato mottle virus, introduced into Florida caused an epidemic of severe proportions. The threat of introduction of one or more of these viruses led the

Agency to develop the New Pest Response Guideline: Whitefly-borne Geminiviruses (Family Geminiviridae).

Plants infected with ToTV exhibit very distinct necrotic, almost burn-like symptoms on leaves and necrotic blotches or patterns on fruit which become deformed and unmarketable. Plant growth and yields are seriously reduced. The plants listed below under Prohibited Plant Genera include greenhouse weeds that serve as alternative hosts for this disease and act as virus reservoirs. Preliminary experiments indicate the involvement of whiteflies as a vector of ToTV. A closely related virus, Tomato Marchitez virus, produces very similar symptoms on tomatoes in Mexico.

Plant pathogens, including viruses and viroids are extremely difficult to detect during a port of entry inspection of the host plants, particularly in the absence of symptoms.

In order to prevent the entry of ToTV and ToSLCV, APHIS has determined that it is necessary to no longer allow the importation of *Lycopersicon* spp., *Capsicum* spp., *Solanum* (including *Lycopersicon*) spp., *Chenopodium* spp., *Polygonum* spp., *Atriplex* spp., *Halogetum* spp., *Nicotiana* spp., *Lepidium* (synonyms *Senebiera*, *Coronopus*) spp., *Spergularia* spp., *Amaranthus* spp., *Malva* spp. plants for planting, with the exception of seed, until a pest risk analysis has been completed and appropriate effective mitigations measures have been established. Due to the potential for the spread of these very serious plant pathogens, this Federal Order is effective beginning June 1, 2009.

Capsicum spp., *Solanum* (including *Lycopersicon*) spp., *Chenopodium* spp., and *Polygonum* spp. are also hosts of *Ralstonia solanacearum* race 3 biovar 2, a quarantine pathogen for the United States.

Prohibited Plant Genus:

Plants for planting, except seed, of the following genera:

Capsicum spp., *Solanum* (including *Lycopersicon*) spp., *Chenopodium* spp., *Polygonum* spp., *Atriplex* spp., *Halogetum* spp., *Nicotiana* spp., *Lepidium* (synonyms *Senebiera*, *Coronopus*) spp., *Spergularia* spp., *Amaranthus* spp., *Malva* spp.

Countries Prohibited from:

All countries **except Canada**
