

6 Crop Pest and Disease Threats with Global Reach

Managing crop threats requires both proactive and reactive action on the part of farmers who are working to produce high-quality fruits and vegetables.



INSECT

Asian Citrus Psyllids (*Diaphorina citri*)

What do they do? Cause significant damage to citrus plants and their relatives, and can transmit the bacterium responsible for huanglongbing disease, also known as citrus greening disease, which has caused billions of dollars in damage to citrus commerce around the world

Symptoms: Burned tips and twisted leaves on new growth

Actions: Monitor your field frequently for pests. Use an integrated pest management approach to control the vector, and remove plants with symptoms.

Locations: Tropical and subtropical Asia, Afghanistan, Saudi Arabia, Reunion, Mauritius, parts of South and Central America, Mexico, the Caribbean and the U.S.



INSECT

Navel Orangeworms (*Amyelois transitella*)

What do they do? Moth larvae feed on developing fruit, reducing harvestable and marketable yield

Symptoms: Small pinholes in crops, presence of pink or brown larvae and webbing

Actions: Regularly inspect your crops for changes in color and for webbing/mummies. Remove and destroy mummy nuts. In the future, integrated solutions—including trapping, mating disruption, digital alert technologies that allow good timing of selective insecticides compatible with natural enemies, and the potential for areawide pest management—will likely evolve further to help manage this pest.

Locations: U.S., Canada, Mexico, Costa Rica, Argentina and Brazil



INSECT

Thrips parvispinus (sometimes called "black thrips")

What do they do? Feed on plants causing the young shoots to dry, which poses a serious fruit and vegetable production threat, especially in peppers, papayas, potatoes, eggplants, beans, shallots and strawberries

Symptoms: Damaged shoot buds, leaves curling or crinkling, and heavy flower drop

Actions: Implementing an integrated thrips management program is critical against this hard-to-control pest. Control programs should be based upon using effective thrips products and following good resistance management approaches by rotating modes of action. Use an integrated management approach including cultural and physical techniques such as mulching.

Locations: India, France, Greece, Mauritius, Reunion, Spain, Tanzania, Netherlands and rapidly expanding into new regions in the U.S.



NEMATODE

Root-Knot Nematodes (*Meloidogyne* spp.)

What do they do? In the soil, they feed and reproduce on modified plant cells within the roots, where they induce small to large galls in many crops, including tomatoes, potatoes, peppers, carrots and grapes

Symptoms: Small to large galls on roots or tubers

Actions: Frequently check your roots or take a soil sample for root-knot nematode analysis. Treatment for root-knot nematodes has become increasingly difficult due to new regulations in different countries; however, Corteva Agriscience offers a nematicide with an innovative mode of action to control root-knot nematodes.¹

Locations: Worldwide



PLANT VIRUS

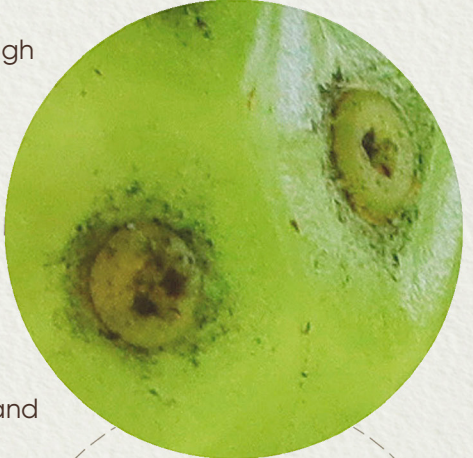
Tomato Brown Rugose Fruit Virus (*ToBRFV*)

What does it do? Easily spreads through an unconfirmed source to tomatoes and peppers, often stunting their growth and making the crops unmarketable

Symptoms: Deformed or crinkled leaves, discoloration, irregular fruit shapes and browning

Actions: Though treatment is challenging due to regulations, there are some immediate actions you can take when dealing with tomato and pepper crops: Wear gloves, disinfect your hands and equipment before entering a greenhouse environment, and burn infected crops as well as adjacent crops.

Locations: Worldwide, especially in greenhouses



CROP DISEASE

Downy Mildew (*Plasmopara viticola* and *Pseudoperonospora cubensis*)

What does it do? Causes lesions on crop leaves that interfere with photosynthesis and can sometimes kill entire plants, including grapes and cucurbits

Symptoms: Vary by host plant but always include yellow or brown spots on crop leaves

Actions: Avoid wet leaves by using drip irrigation, pruning plants and making sure there is enough space between crop rows. Because the disease spreads with wet weather, apply pesticide treatments in advance of humid or wet weather spells.

Locations: Worldwide



¹ Registration of products with Reklemel™ active are currently being sought in several countries. This is not an offer for sale.