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English edition

Close-up

Citrus

Peruvian grape

Showing potential

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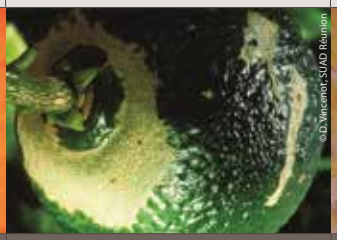
AGRICULTURAL RESEARCH FOR DEVELOPMENT

Citrus pests and diseases

There are numerous pests and diseases, which can have serious economic impacts, possibly requiring quarantine (material subject to regulations concerning movement) and the prohibition of exports to other production zones to avoid the spread of harmful organisms. The use of tolerant rootstocks is an effective measure in the control of several organisms, but the choice of variety is often dictated by the market. In addition to the production of healthy plant material, the control of these pests and diseases generally combines genetic, biological and chemical components in an integrated control framework.

Citrus diseases	Tristeza Virus: Citrus Tristeza Closterovirus	Huanglongbing (greening) Phloem: *Liberibacter africanum, L. asiaticum*	Citrus canker Bacterium: *Xanthomonas axonopodis* pv. *citri*
Distribution	All regions except some Mediterranean countries.	Asia, subtropical and tropical Africa, Middle East.	Asia, South America, Florida, certain regions of Africa.
Symptoms	Dieback of varieties grafted on sour orange (except lemon trees), vein clearing and stem pitting.	Shoot yellowing, leaf mottling, small poorly coloured fruits.	Corky pustules on leaves and fruits.
Susceptible species	Lime, orange and grapefruit trees.	Broad host spectrum. Affects orange and mandarin above all.	Broad host spectrum. Above all grapefruit, orange, lime and some mandarins.
Transmission	Aphids (*Aphis gossypii, Toxoptera citricida*).	Psyllas (*Diaphorina citri, Tryoza erytreae*).	By air and water.
Economic impacts	Loss of trees and decreased production.	Tree dieback, shorter orchard life.	Harvest loss.
Quarantine organism	Present in the EU.	Not present in the EU.	Not present in the EU.



Citrus pests	Fruit fly Diptera Tephritidae: various species of the genera *Ceratitis, Anastrepha, Dacus, Bactrocera,* etc.	Thrips Thysanoptera: thripidae. *Scirtothrips* spp. (*S. aurantii, S. citri, S. dorsalis*)	Diaspine Hemiptera: Diaspididae. Genera *Aonidiella, Unaspis, Chrysomphalus, Cornuaspis*, etc.
Distribution	American continent: *Anastrepha*. Africa: *Ceratitis*, *Dacus*. Asia-Pacific: *Bactrocera*.	Variable according to the species. Present in the Mediterranean area: *Tetranychus urticae*, *Panonychus citri*.	Variable according to the species. Present in the Mediterranean area: *Aonidiella aurantii*, *Cornuaspis beckii*, etc.
Symptoms	Holing caused by females laying eggs in the fruits.	Greyish patches in a ring around the fruit stalk (thrips feeding on young fruits).	Scale on leaves, shoots and/or fruits, trees weakened in case of large populations.
Susceptible species	Mandarin, orange, grapefruit. Mandarins and thin-skinned oranges susceptible.	Orange, mandarin, tangor, tangelo, lemon, etc.	Broad host spectrum.
Economic impacts	Harvest loss.	Deterioration of the external appearance of fruits.	Deterioration of the external appearance of fruits.
Quarantine organism	Not present in the EU.	Not present in the EU.	Not present in the EU.