DISEASES AND DISORDERS ASSOCIATED WITH ENVIRONMENTAL STRESS IN SUSTAINABLE OLIVE ORCHARDS IN AUSTRALIA

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Pathogenic diseases are commonly associated with specific environmental conditions. In addition, non-pathogenic disorders, such as damage by heat and sun, wind, rain, fire, moisture, temperature, sunlight and other weather conditions can cause sunburn, russet, leaf scorch, pit burn, shrivelling, frost, charring, hail injuries; water ability and nutrition deficiency all of which interfere with the normal physiological processes in trees can be directly caused by environmental conditions, can be negative impact on pollination reduced crop set, yield, slow tree decline and dieback. If one of these factors is out of balance it may lead to environmental stress, which may in turn, result in a greater tendency to become diseased.

Adverse weather conditions during flowering

Nutrition deficiency

Leaf scorch

Boron Deficiency?

Necrosis and desiccation of tips and other margins of leaves

Nut. dry, windy weather; nutrient deficiency poor soil and combination of too much light and heat; and insufficient moisture

Sunburn

High temperatures above 40°C and clear skies increase the incidence. Sunburn only affects the skin does not extend deep into the flesh

Fruits and leaves may exhibit open, ragged-edge to wounds in the skin or bark

Frost and chilling

Fruit and chilling can damage fruit, but type of the damage depends on temperature and period of exposure. Fruit may turn a brown shiny, surface blisters and spots, indicating damage around the pit. It may be blackened throughout the whole fruit or only at the apical end and secondary fungal rot, such as Alternaria species, commonly infect the damaged fruit. Dehydration, remaining shrivelled until harvested or drop in severe frost

Fire

Many olive groves are in bush fire-prone areas. The damage was particularly to the foliage of the canopy. Up to 400 hectares were lost due to fire activity in 2009

Phytophthora and Fusarium rots are associated with high moisture and/or poor drainage. However Macrophomina phaseolina (Charcoal rot) can be associated with relatively dry soil. They reduced growth and in severe cases plant death

Nutrient deficiency

Olive orchard in Australia

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