

# Pests and diseases associated with fruit and vegetables

# The regulated pests and diseases most commonly intercepted on fruit and vegetables

Whiteflies (in particular, *Bemisia tabaci*)

Fruit flies (the family Tephritidae, including *Bactrocera*, *Anastrepha*, *Dacus*, *Zeugodacus*)

Thrips (including *Thrips palmi* and *Scirtothrips dorsalis*)

Lepidoptera (in particular *Spodoptera frugiperda*)

False Codling Moth (*Thaumatotibia leucotreta*)

Citrus diseases (Citrus black spot, citrus scab and citrus canker)

Viruses on sweet peppers and chillies



Original thinking... applied

# Whiteflies

In particular, *Bemisia tabaci*



## Quarantine Listed Whiteflies

- ***Bemisia tabaci*** – tobacco whitefly  
Cosmopolitan; polyphagous
- ***Aleurocanthus spiniferus*** – orange spiny blackfly  
Italy, Croatia, Montenegro, Asia, Africa, Hawaii; polyphagous, *Citrus*
- ***Aleurocanthus woglumi*** – citrus blackfly  
Pantropical; polyphagous, *Citrus*



*Bemisia tabaci*



*Aleurocanthus* sp.

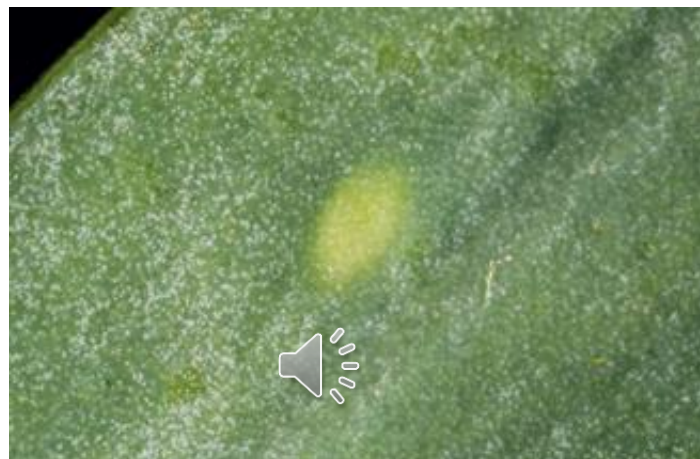


*Bemisia tabaci*

# Whitefly detection – Plant Damage

Symptoms caused by whitefly are very similar to other sap-feeding insects, such as aphids, psyllids and scale insects

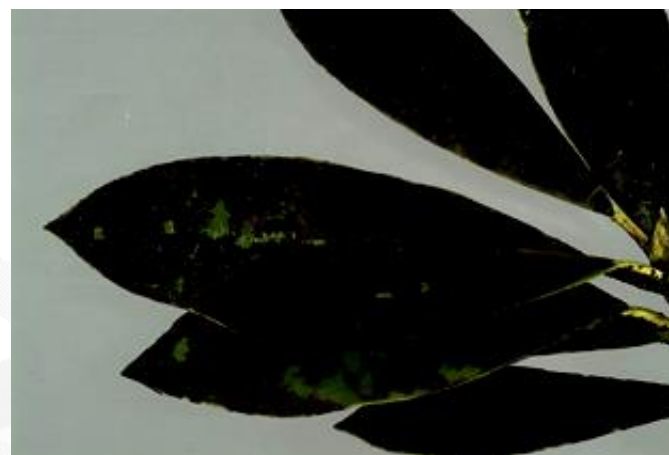
White colonies are frequently attended by ants which feed on egested honeydew



Chlorosis on upper surface of leaf



Distortion



Black mould growing on honey dew



Waxy deposits

# Whitefly detection – Pupae



Heavy infestation, all immature stages present



Waxy pupa



Spiky pupa



Black pupa



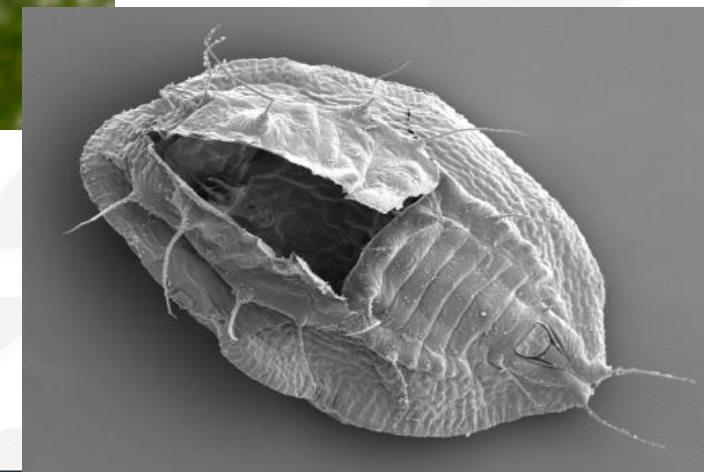
Iridescent blue wax



Patterned pupa

## *Bemisia tabaci* – Tobacco whitefly

- REGULATED
- Species Complex (36+ spp.)
- Major non-indigenous plant pest
- Vector of 111+ plant viruses
- Polyphagous (800+ plant spp.)
- Cosmopolitan
- Commonly transported in trade
- Between a quarter and a half of all Fera identifications are *Bemisia tabaci*



# *Bemisia tabaci* cf. *Trialeurodes vaporariorum*

## Eggs – key characters

Oviposition Pattern

Colour of mature eggs

Do they remain erect or collapse after hatching



*Bemisia tabaci*

*Trialeurodes vaporariorum*



# *Bemisia tabaci* cf. *Trialeurodes vaporariorum*

## Pupa (Puparium) – key characters

Colour

Shape

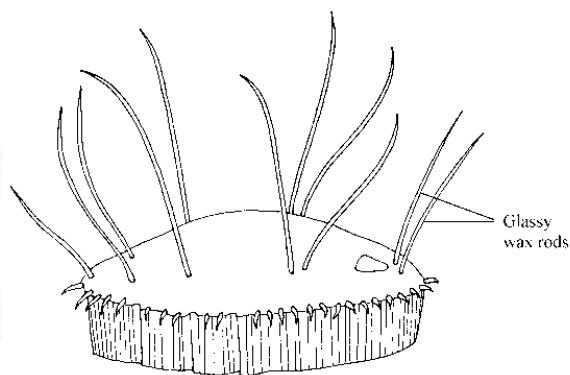
Presence of pallisade wall

Dorsal wax rods

Marginal papillae



*Trialeurodes vaporariorum*



*Bemisia tabaci*



*Trialeurodes vaporariorum*

Mixed populations containing both species are fairly common!

# *Bemisia tabaci* cf. *Trialeurodes vaporariorum*

## Adults – key characters

Size

Colour

Wing position

Flight



*Bemisia tabaci*



*Trialeurodes vaporariorum*

Identification of adults in the field is not reliable!