

# Insect control and biosecurity measures

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Primary Industry and Resources

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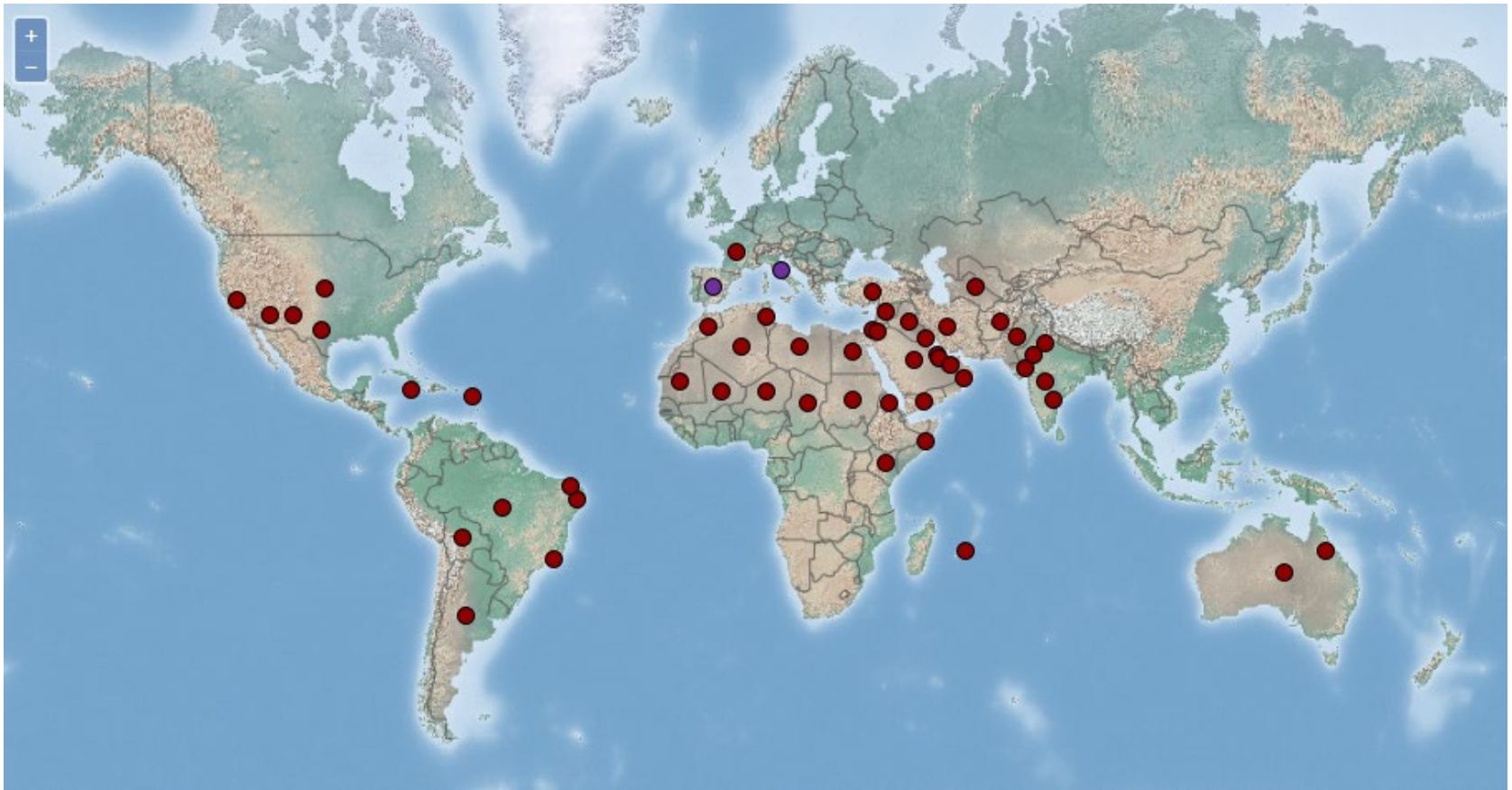
# Outline

- Insects and their control
- Main biosecurity threats
- Come Clean Go Clean – David Hamilton

# Insects and their control

# Parlatoria date scale (*Parlatoria blanchardi*)





CABI, 2019. Crop Protection Compendium. Wallingford , UK: CAB International. [www.cabi.org/cpc](http://www.cabi.org/cpc).

# Damage

Heavy infestations – premature death of pinnae by stopping respiration and photosynthesis.

Leaves yellowed or dead, abnormal leaf fall

Reduces yield and affects development

Fruit become unsuitable for consumption and sale.

Losses of up to 80% have been reported.



# Control

## Biological

Overseas predatory coccinellids (ladybirds) and parasitoids have given effective control.

## Chemical

Malathion (or dimethoate) and summer oil/white oil.

# Control – other possibilities

Buprofezin (Applaud®) - a growth regulator (Homopteran chitin biosynthesis inhibitor), apply crawlers and immature scales present.

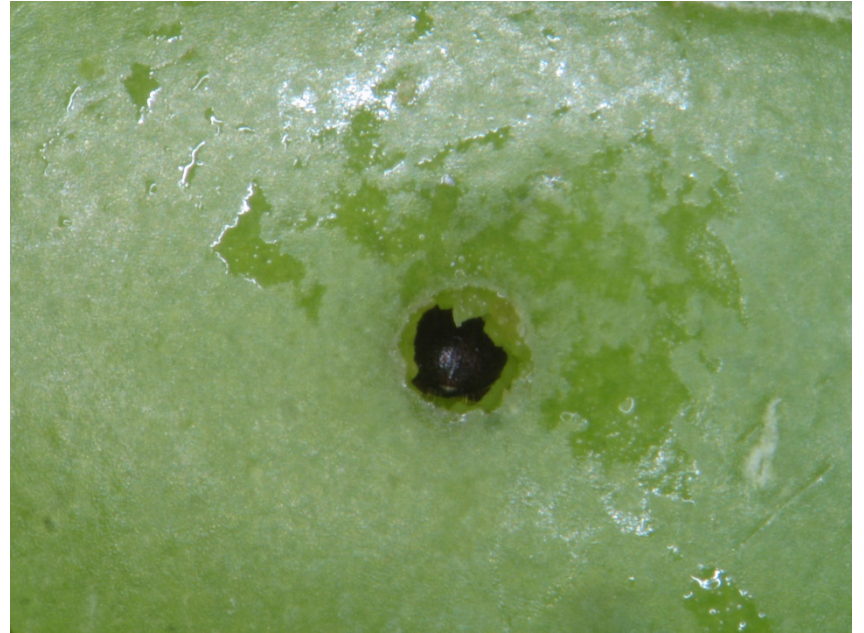
Spirotetramat (Movento®) – systemic, works by inhibiting the biosynthesis of lipids and is effective on sucking insects, apply on developing scales

Methidathion (Supracide®, Suprathion®). Organophosphate, S7, would need an S7 permit, very toxic to predators and parasitoids.

**NOTE:** none of these are registered on dates so they would need trials (efficacy, residues) and either a registration by the chemical company or a Minor Use Permit before they could be used.



# *Coccotrypes carpophagus*



# *Coccotrypes* control

Hygiene

Cover spray of dates on ground

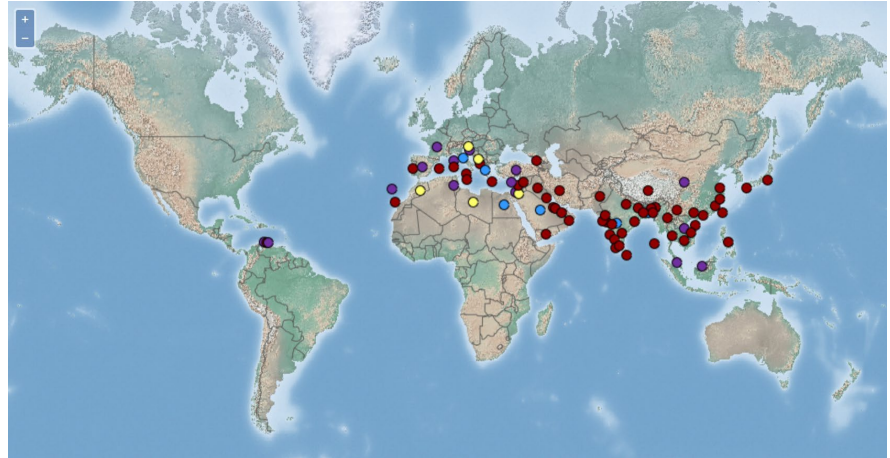




# Biosecurity

# Threats

## Red palm weevil (*Rhynchophorus ferrugineus*)

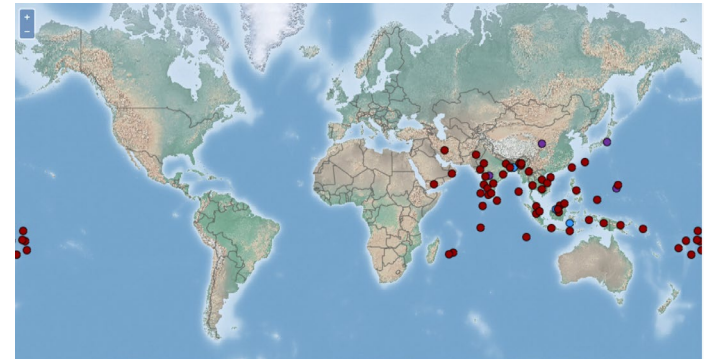


CABI, 2019. Crop Protection Compendium. Wallingford , UK: CAB International. [www.cabi.org/cpc](http://www.cabi.org/cpc).

# Threats

*Oryctes elegans*, and subspecies of *Oryctes agamemnon*, attack date palms causing significant and documented damage in the Middle East (Bedford 2015).

Coconut Rhinoceros beetle (*Oryctes rhinoceros*) also attacks date palms and is currently outbreaking in the Pacific due to break down of biological control (nudivirus). Likelihood of introduction low but could be a threat to palm industries (dates, ornamental).



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# On farm biosecurity