### Main lessons learnt from 30 years management of the Red Palm Weevil in the world

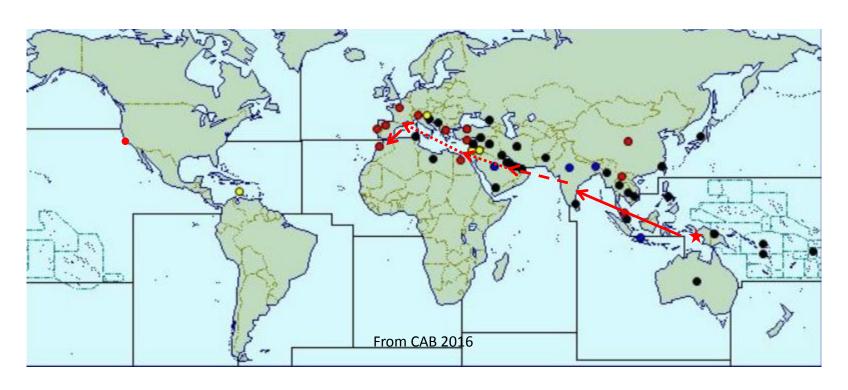
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## The origin of the world RPW spread is anthropogenic and not accidental



 Trade of infested palms has spread the RPW from its region of origin (South-East Asia), to India (beginning 1900), to Middle East (mid 1980), to Egypt (1993), to South Europe (mid 2000), to North Africa (1998-2011) and to Curaçao (2009).

#### Origin of the problem: the international demand of palms

### World fashion for palms in landscaping.



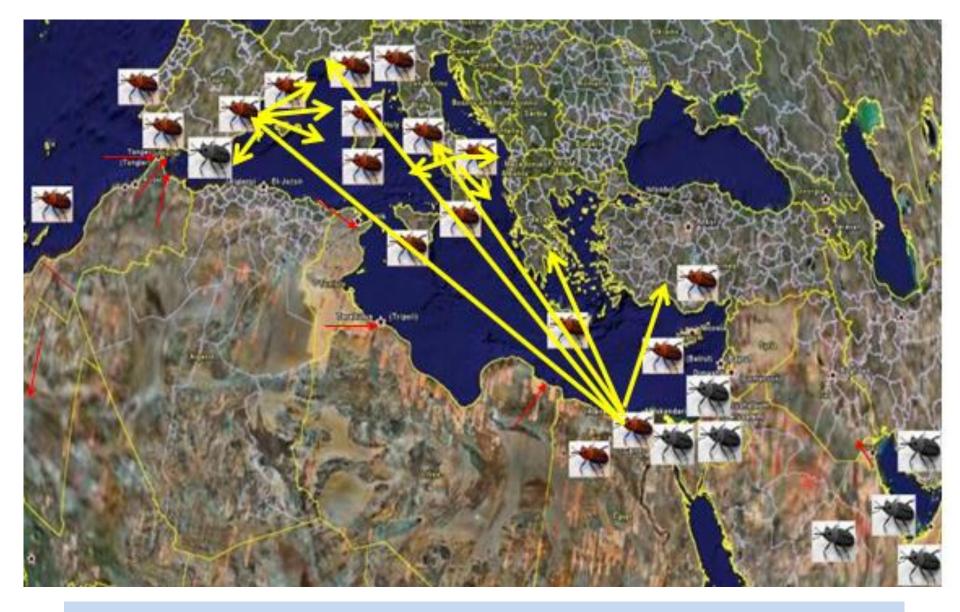
Spain



Morocco

### Demand of offshoots of commercial varieties





 From 2000 to 2007, huge trade of ornamental palms from very known infested countries !!!

#### Where is the mistake?

Bad or too late assessment of the phytosanitary risk (Larvae and adults are not detectable. RPW adaptation capacity). Weight of some lobbies?





• Establishment of Phytosanitary certificates (and passports) and implementation of phytosanitary controls for palms in which the absence of the pest is practically impossible to assure were a

mistake.

Import of palms in Spain



Lesson 1: Import and movement of such palms should be totally forbidden (It is now the case in many countries).

### Consequences of this mistake: large scale introduction and spread of infested plants

Disaster for the small farmers in many oasis



Egypt



Gaza

Degradation of the landscape in cities of the Mediterranean region

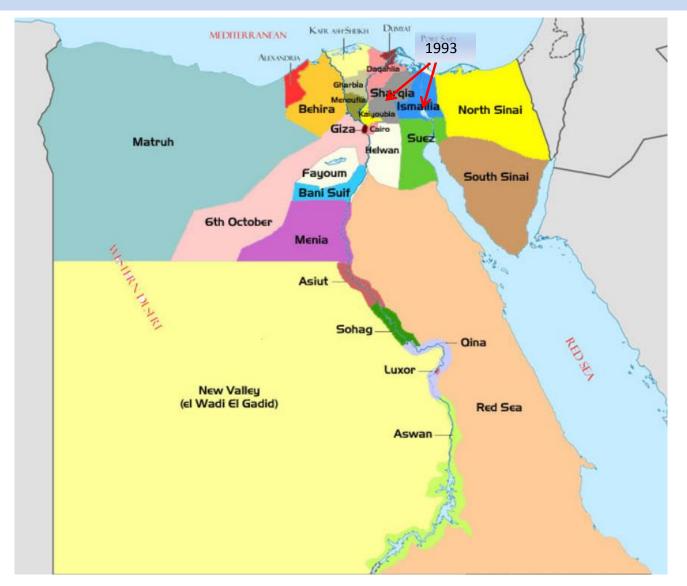


Italy

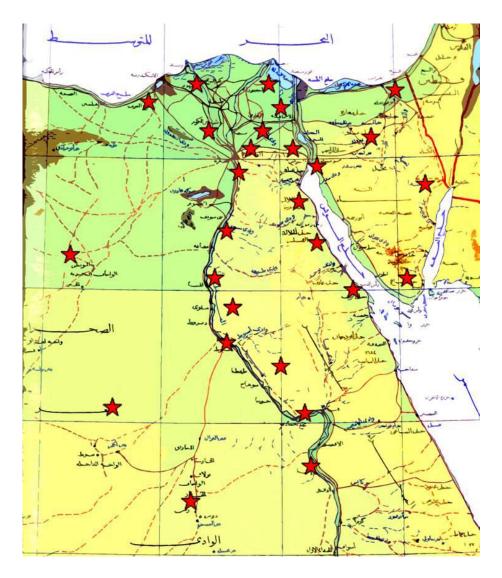


Tunisia

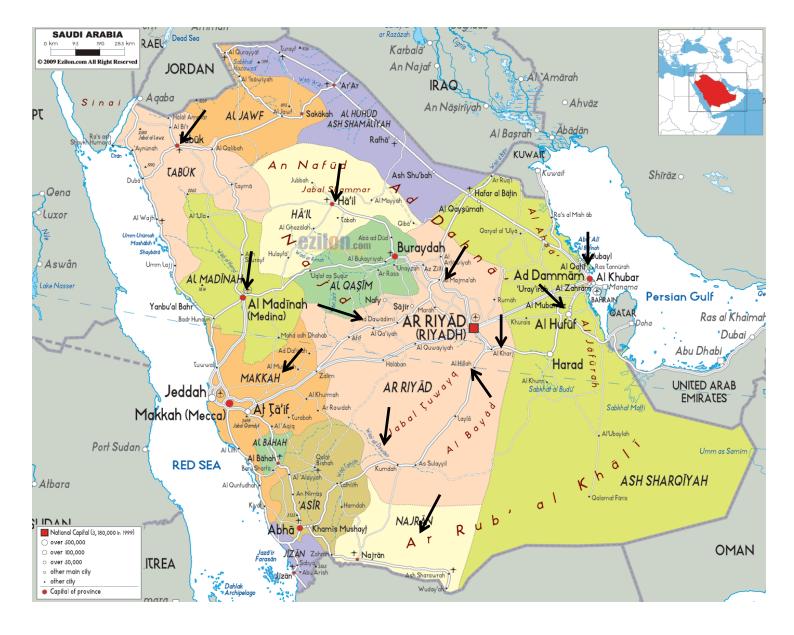
# World failure of the strategies of containment



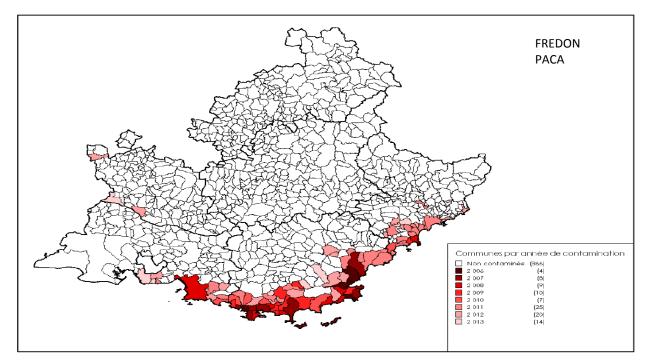
RPW spread in Egypt



Spread of Red Palm Weevil in 2007 (El-Sebay, 2007)



Spread of the RPW in Saudi Arabia from 1987 to now



Carte des communes contaminées en PACA au 1<sup>er</sup> janvier 2014

Infested municipalities in the French Riviera from 1996 to 2014

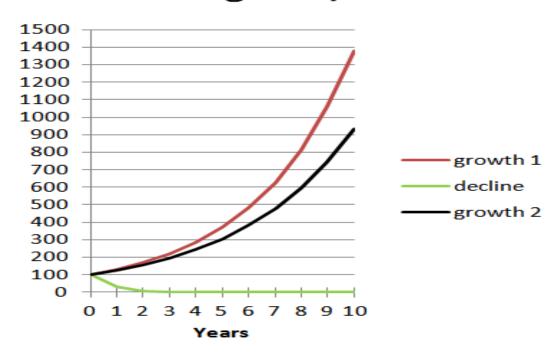
# **Lesson 2**: It is imperative to associate containment with efficient eradication plans

### Eradication conceived in the long term represents a strategic mistake.

This strategy is costly, it has serious environmental and health consequences and it fails.

The right strategy is to dispose very quickly after detection of sufficient means to obtain a strong decline of the pest.

#### Winning race/lost race

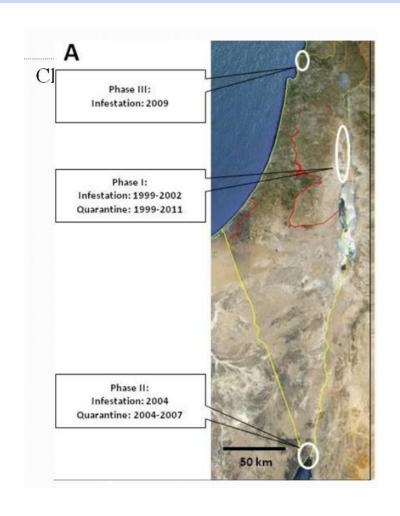


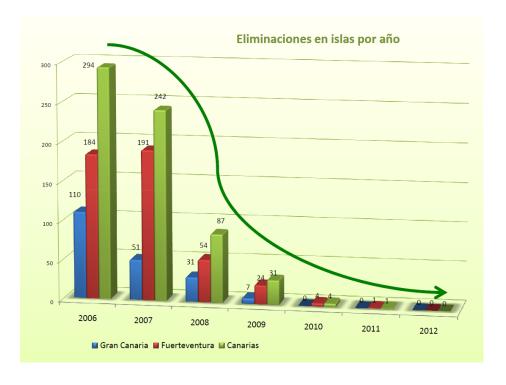
Lesson 3: Don't waste efforts if they are not enough to lead to the RPW decline

#### The success of this strategy has been perfectly demonstrated

#### Eradication in 4 years in Israel

#### Eradication in 6 years in the Canary islands





The involvement of the farmers and palms owners is indispensable to eradicate this pest

- Mainly plant protection staff and entomologists have been involved.
- The socio-economic component of the problem has not been or poorly taken into consideration although it is essential.



Lesson 4: The management has to be multidisciplinary, including socio-economist expertise

### The wrong paradigm that pest eradication means automatically infested palms eradication.

Huge and vain efforts have been dedicated to eradicate infested palms.

- •Safer, simpler and must cheaper solutions exist to eradicate the RPW without eradicating the palm.
- •They present the great advantage to preserve the palms of the farmers/owners and to enhance their involvement in the fight.
- They don't contribute to increase the spread of the RPW.









Lesson 5: Don't eradicate the infested palms if you can eradicate the RPW and maintain the palms. Don't dedicate a lot of efforts to eliminate the entire palm when most of the time, it is not necessary



Shreeded Pines trees to control the Pine nematode (Ph. Fotini) in Portugal



Asian longhorn bettles

# The RPW is a very instructive case in the fight against other invasive pests



Feeling of olives trees infested by Xylella fastidiosa in Italia

#### **Thank You**

