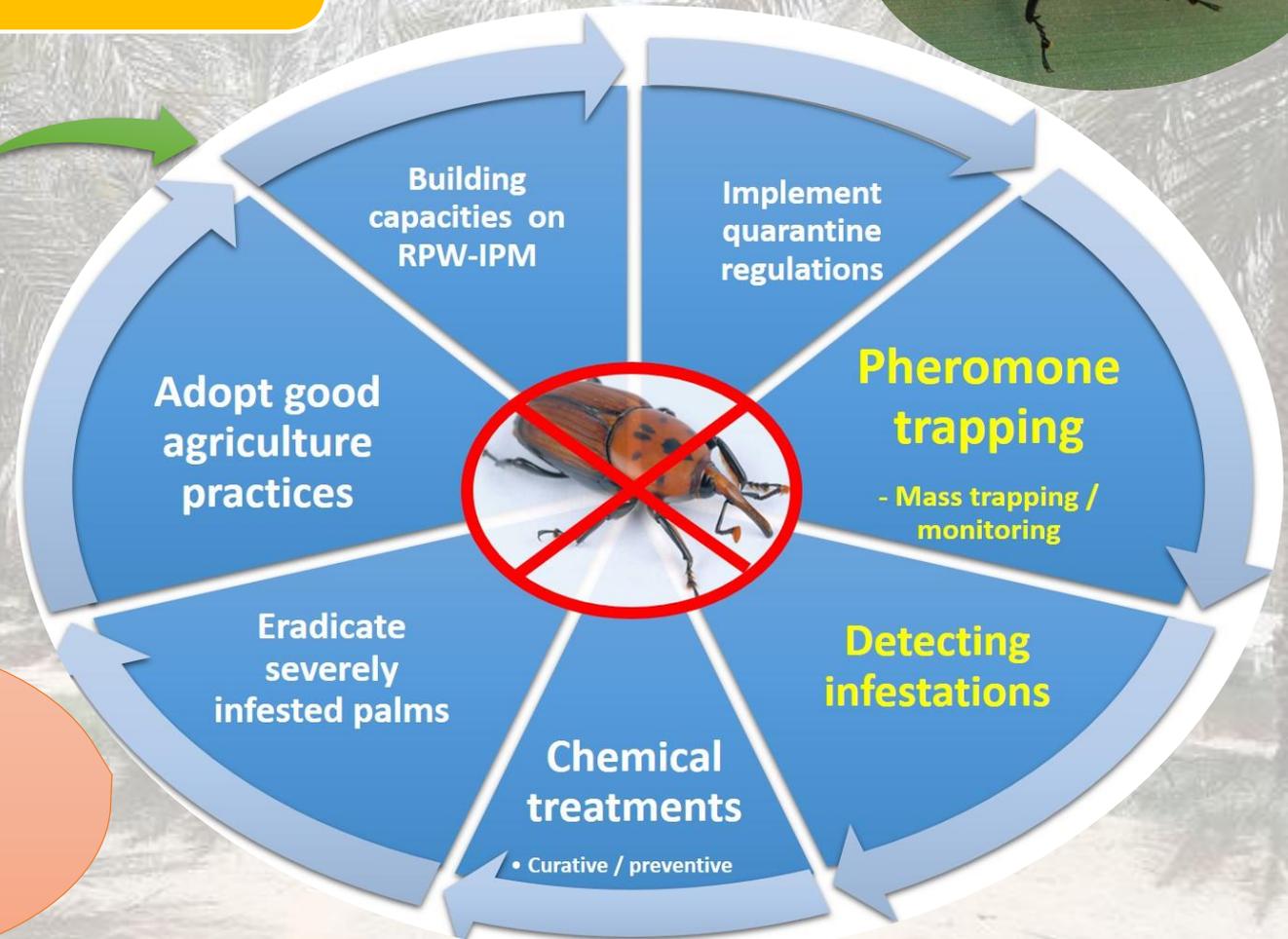


# Red Palm Weevil

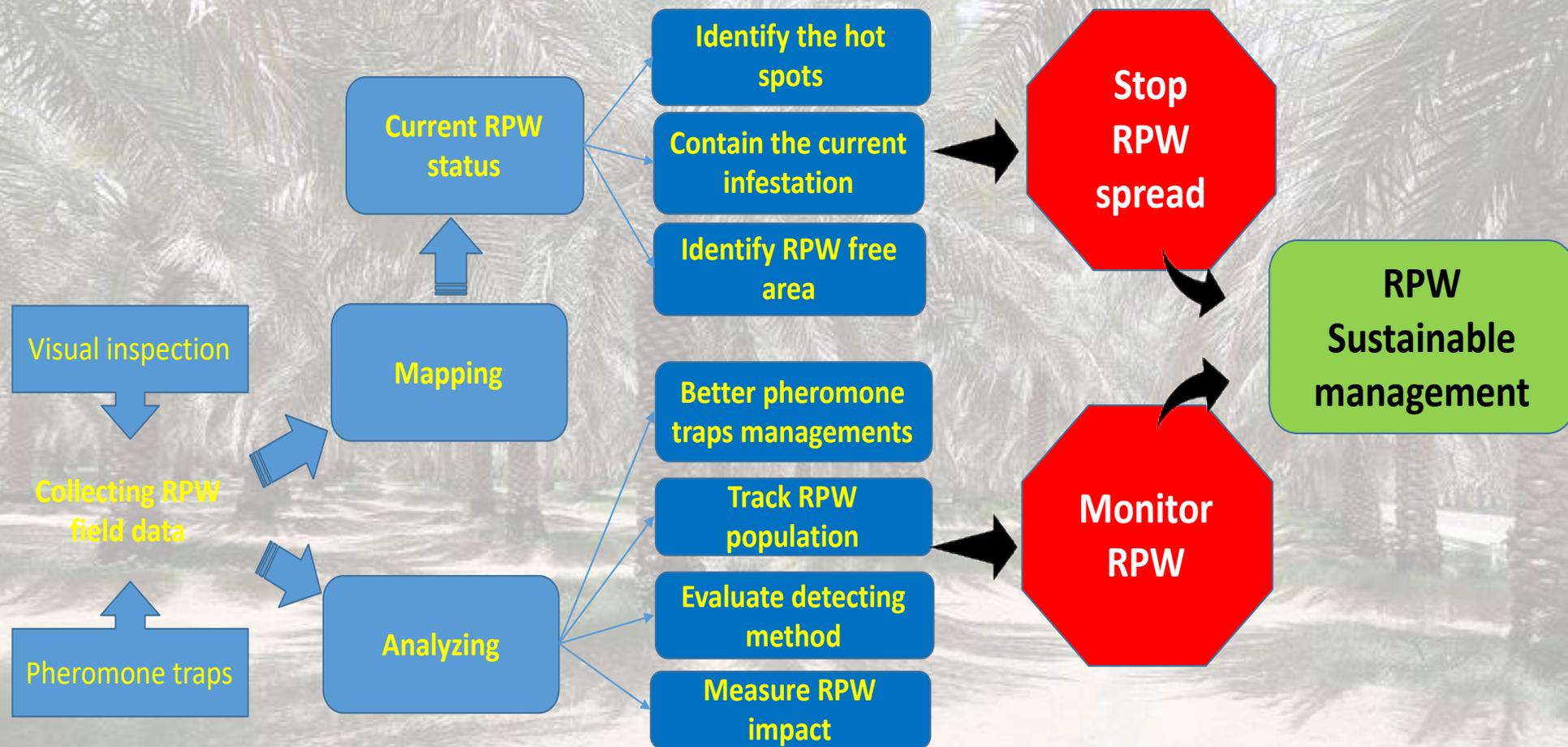
*Rhynchophorus ferrugineus*



**Red Palm Weevil  
IPM strategy**



# Why collecting and sharing RPW data ?



# SusaHamra

for mobiles

سوسة النخيل الحمراء

Food and Agriculture Organization of the United Nations

Welcome to Visual inspection

**Report new infestation**

- infestation:

Is it a new infestation?

Infestation spot count:

Infestation spot direction:

How the infestation detected?

[Visual symptoms](#)

[RPW stages](#)

- Control:

Removal and disposal

[Curative treatment](#)

Food and Agriculture Organization of the United Nations

Welcome to SusaHamra Home Page

[Visual Inspections](#)

[Trap Management](#)

[Reports](#)

[Information](#)

Food and Agriculture Organization of the United Nations

Welcome to Trap management

[Register trap](#)

[Read trap](#)

[Maintain trap](#)

Food and Agriculture Organization of the United Nations

Welcome to Visual inspection

**Report new infestation**

How the infestation detected?

**Visual symptoms:**

Fresh ooze

Dry ooze

Chewed fibers

Dead or dried offshoots after transplanting

Dead or dried offshoots attached to the palm

Dead or dried aerial offshoots

Dry leaves [Submit](#)

Damaged tissue (less than 30% or more than 30%)

Tunnels or gaps

Other symptoms (Define)

Food and Agriculture Organization of the United Nations

Welcome to Visual inspection

**Report new infestation**

How the infestation detected?

**RPW stages:**

Larvae

Pupae & cocoon

Adults

[Submit](#)

Food and Agriculture Organization of the United Nations

Welcome to Visual inspection

**Report new infestation**

**Curative treatment:**

Used Pesticide: List

Concentration: ml/l

Dose per palm: ml

[Submit](#)

Food and Agriculture Organization of the United Nations

[Register trap](#)

**Register trap**

• GPS coordinates:

• Country: **list**

• Governorate: **list**

• State: **list**

• Village: **list**

• Trap code:

• Farm Owner: **Text**

• Trap position: **List**

[Submit](#)

[Read trap](#) [Maintain trap](#)

Food and Agriculture Organization of the United Nations

[Read trap](#)

**Read trap**

• GPS coordinates:

• Trap code: **slide list**

• Date & Time: Automatic filled

• Counts:

• Male: **Number**

• Female: **Number**

• Unknown: **Number**

• Other insects: **Number**

[Submit](#)

[Register trap](#) [Maintain trap](#)

Food and Agriculture Organization of the United Nations

[Maintain trap](#)

**Maintain trap**

• GPS coordinates:

• Trap code: **slide list**

• Date & Time: Automatic filled

• Maintenance:

Change Pheromone

Change Kermone

Change food bait

Adding water

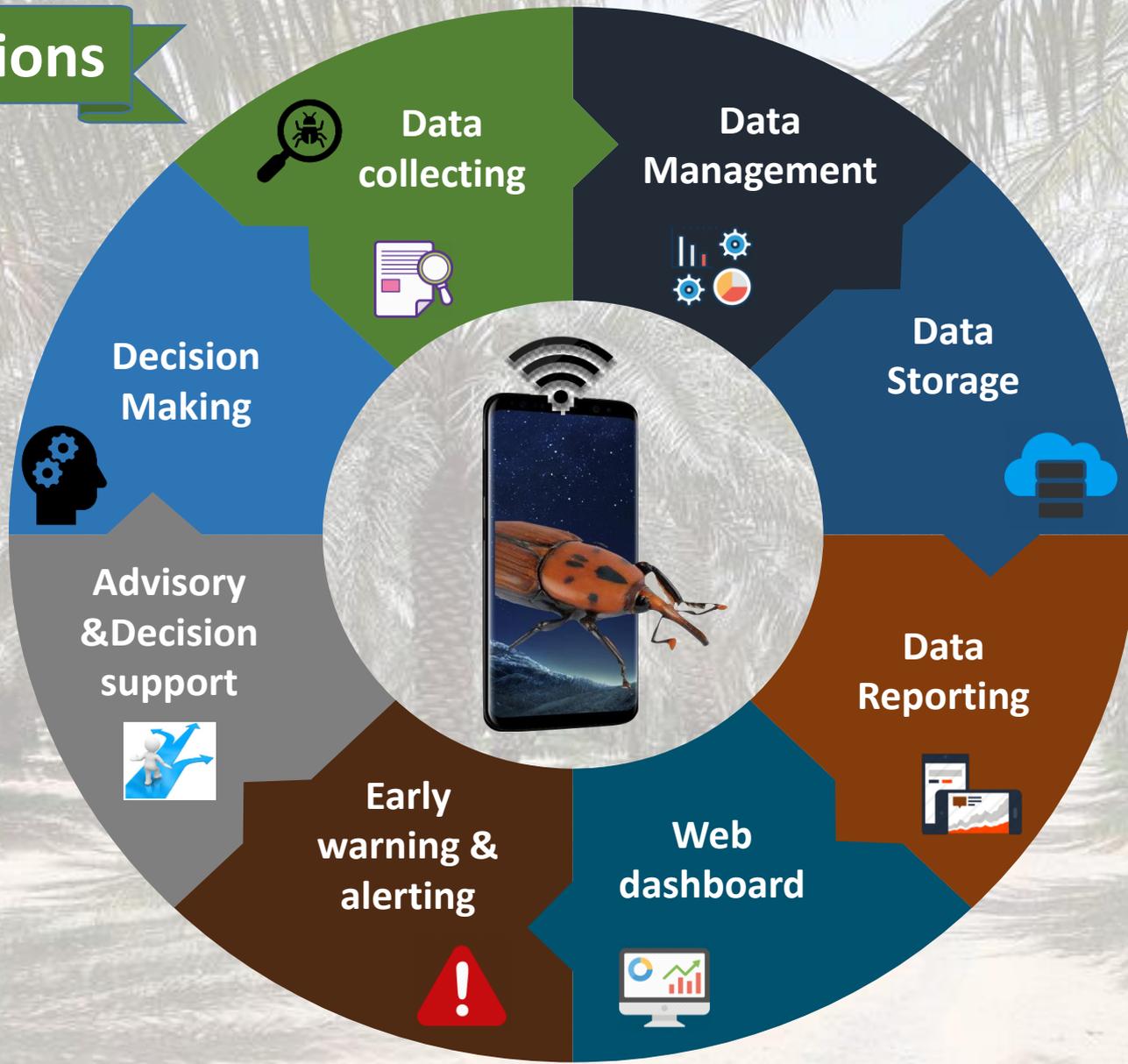
Report on a broken trap need to be replaced

[Submit](#)

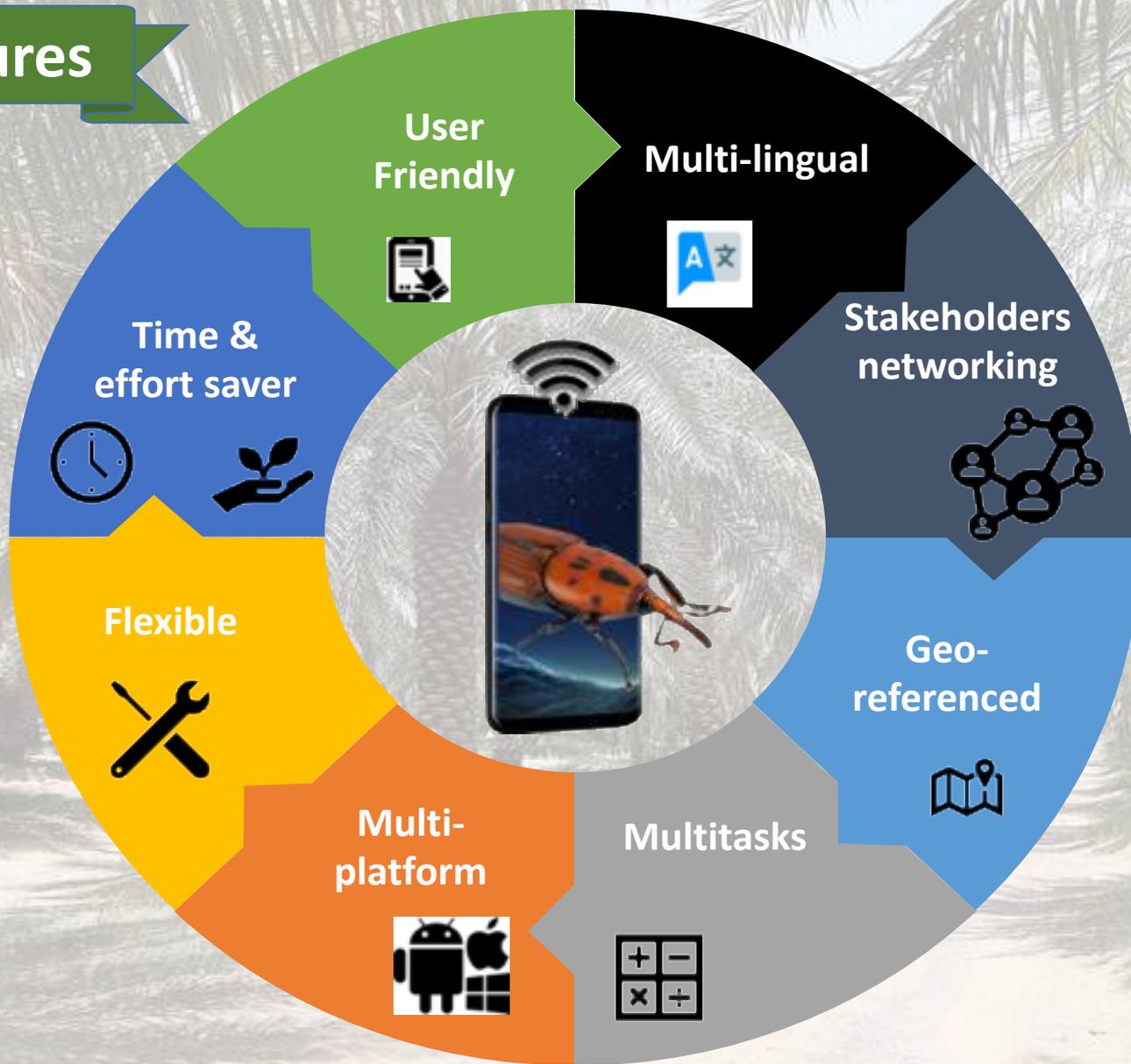
[Register trap](#) [Read trap](#)



# Functions



# Features

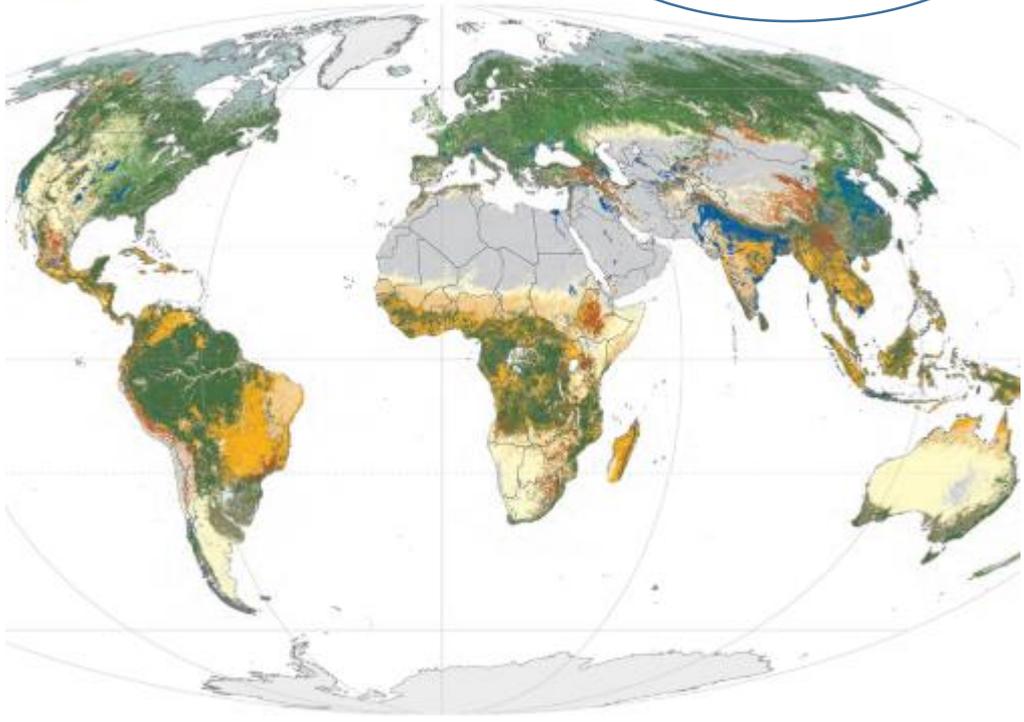


# Wheat Rust Diseases: *(Stem, Yellow and leaf rust)*

A common threat to wheat in all regions



Feste di  
**Robigalia**  
25<sup>th</sup> April



# Integrated Management of wheat rusts:

- **Prevention and Management**

- Deploying resistant varieties
- Preparedness – awareness
- Monitoring / early warning (Occurrence / races)

- **Timely response**

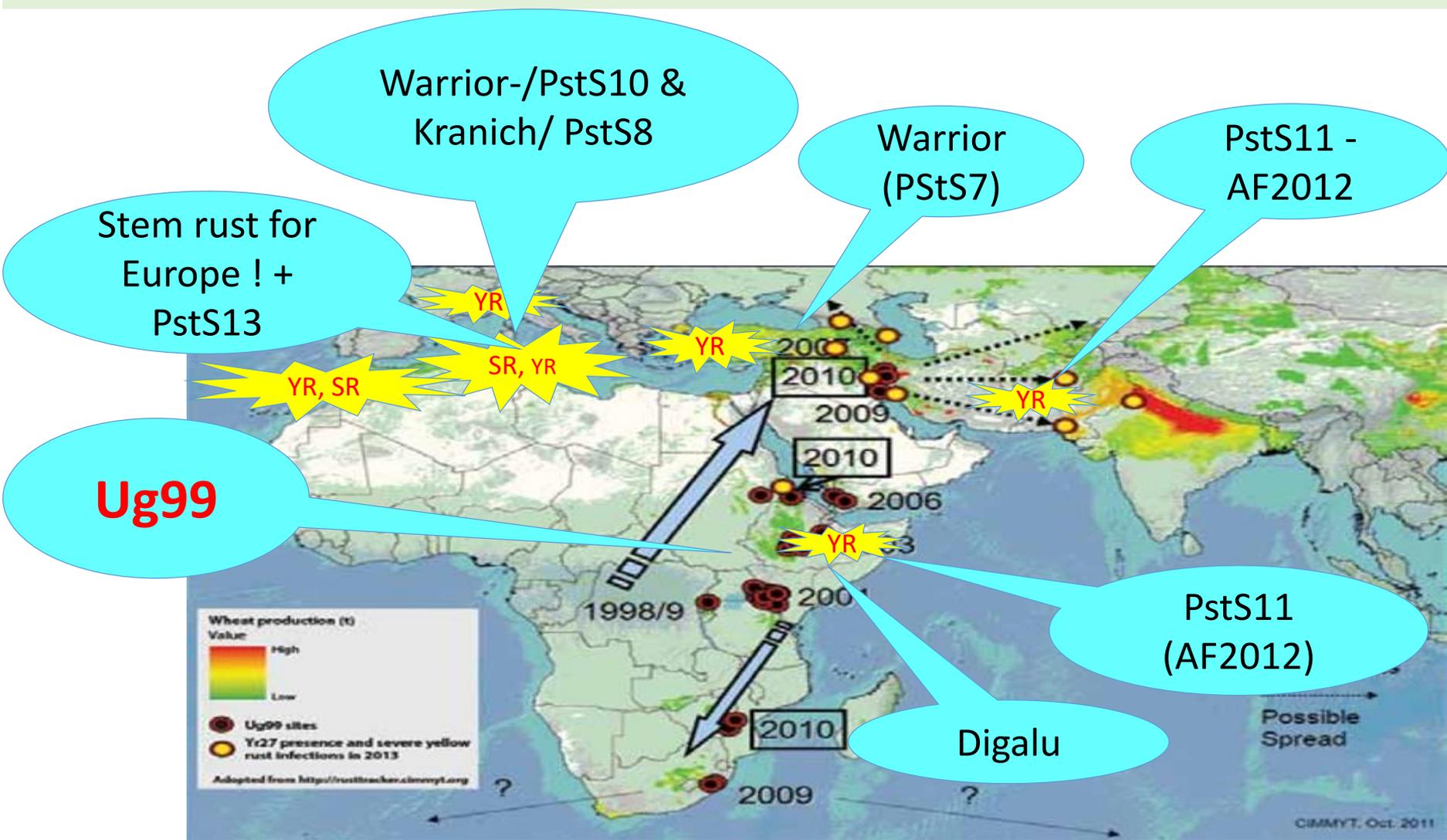
- Mobilizing teams and fungicides



Resistance first



# Rusts beyond Ug99 - Emerging threats



# Global Programme on Wheat Rusts

- Regional **collaboration** & info sharing
  - **Monitoring** & race tracking
  - Support for **Resistant** varieties
  - Contingency **plans** & IPM
  - **Capacity** building (Training etc.)
- 
- **Recent initiative for central and west Asia and North Africa (Supported by the FAO-Turkey Partnership Programme by USD 1.067 million)**
  - **Partners:** Turkey, ICARDA, CIMMYT, Aarhus Un., BGRI, countries



# Contribution to the Global Rust Monitoring System (coordinated by CIMMYT)

icker.cimmyt.org/?page\_id=6690

Yellow Rust Race Frequency... X

Tools Help

## RustTracker.org

A Global Wheat Rust Monitoring System

Home Stem Rust Yellow Rust Leaf Rust Resistant Cultivars Screening Results

### Country Pages

Country Pages

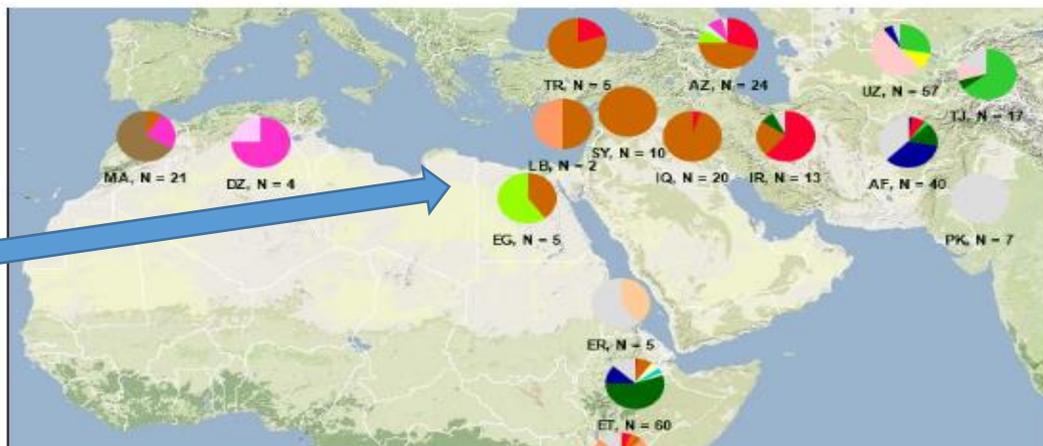
### Yellow Rust tools & Resources

- USDA Cereals Disease Lab, Minnesota – Fact Sheet: Yellow Rust
- Survey Mapper
- Yellow Rust Tools – Maps & Charts
- Screening Results
- Resistant Cultivars

## Yellow Rust Race Frequency Map

This pathotype information tool, developed by the [University of Aarhus Denmark](#), displays the frequency of yellow rust pathotypes in analysed samples. Selection of any specific combination of country(s) or year(s) is possible. Any new data incorporated into the underlying database will automatically be displayed on the graphs.

**NB: Only selective yellow rust pathotype data were available for some countries. Hence these graphs do not represent absolute yellow rust pathotype frequencies at the country level.**



# Fusarium Wilt Disease TR4

## - Tropical race 4

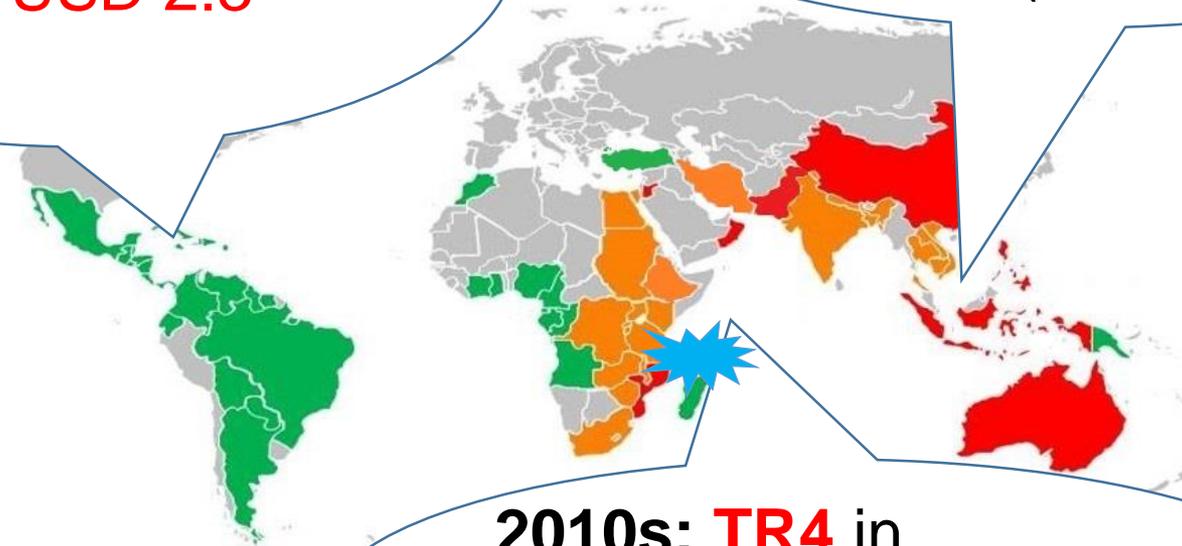


# Fusarium Wilt Disease – Past & current History and current status

**Past lessons:** Race 1 on Gros Michel costed **USD 2.3 billion**

**1990s: TR4 in SE Asia:** **100 000 ha** infested (Cavendish)

**2010s: TR4 in** Near East, South Asia & Mozambique



# Banana Fusarium wilt (*F. oxysporum* f.sp. *cubense*)

- **Spread:**
  - Infected plant materials
  - **Soil** particles: Shoes, Vehicles, Tools etc.
  - **Water**: Irrigation, Drainage, Floods
  
- **Challenges:**
  - Cavendish most susceptible
  - **No resistant variety**
  - **No chemical control**



# Banana Fusarium wilt (*F. oxysporum* f.sp. *cubense*)

- **How to stop ?**
  - **Prevention** of spread
  - Rigorous surveillance
  - Rapid containment
- **Awareness** at all levels
- Capacity strengthening, collaborations
- Information **sharing**.



# Global Programme on Banana Fusarium Wilt

A multi disciplinary partnership

Governance,  
policies,  
national and  
farmer linkages



Linkages with  
producers, NGOs  
and industry

Research,  
Knowledge, IPM  
and biodiversity



Research in  
Africa and  
breeding  
resistant varieties

**Prevention and  
containment**

**Int. Collaboration &  
capacity building**

**Disease  
management**



# Activities carried out

- Awareness raising (global, local)
- Capacity building (LAC, Asia, Africa)
- Emergency support (Mozambique)
- Surveys (Mozambique, Asia, Africa)
- International collaboration, dialogue
- Technology and information sharing: molecular, digital



A screenshot of the World Banana Forum website. The header features the forum's logo and the text "WORLD BANANA FORUM" in green. To the right, a green circular badge contains the text "Working together for sustainable banana production and trade". Below the header is a navigation menu with items: Home, About the WBF, Working groups, Projects (highlighted in orange), News and events, Third Conference, Resources, Statistics and data, and Get involved. The main content area includes a section titled "Good practices in the banana industry" with a sub-section for "Fusarium TR4 (Tropical Race Four)". This section lists "The disease", "Actions", and "Resources". To the right of this text is a photograph of banana leaves. Below the photo is the text "Task force on Fusarium wilt Tropical Race 4". On the far right, a "Contact us" section invites partners to contact the ad-hoc TR4 Task Force, providing the email address "wb4.fusarium-tr4@dggroups.org". In the top right corner, there are language options: English, Français, and Español.



# What to do ?

## *Prevention easy !*

- *Do not carry the risk*
- *Do not allow it in !*
  
- *Awareness and planning*
- *Clean planting materials*
- *Quarantine regulations*
- *Check on the borders, ports*

