Red Ring Disease Management Strategy for Trinidad and Tobago

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Coconut Industry Development for the Caribbean:

Towards a Shared Vision & Road Map

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Red ring disease

- **Causal agent**(nematode)**:** *Bursaphelenchus*(=*Rhadinaphelenchus*) *cocophilus* **Host range:**
  - Major Host: Coconuts (*Cocos nucifera)*; African Oil Palm (*Elaeis guineensis) ;* Date palm *(Phoenix dactylifera).*
  - Under green house conditions *West Indian Royal palm (Roystonea oleracea);* Gru Gru palm (*Acrocomia aculeata);* Moriche Palms*(Mauritia flexuosa) and* Cucurite palm *(Maximiliana maripa)* were infected artificially
  - Minor Host: affects 17 species in Palmae Family

Red ring disease vector

Adult

Larva

Distribution of red ring disease vector: palm weevil (*Rhynchophorus palmarum*)

- **Central America & Caribbean**
  - Barbados, Belize, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guadeloupe, Guatemala, Honduras, Martinique, Nicaragua, Panama, Puerto Rico, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago
- **North America**
  - Mexico

Distribution of red ring disease vector: palm weevil (*Rhynchophorus palmarum*)

- **South America**
  - Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela

Distribution of red ring disease and its vector

Symptoms

- Common in trees 2.5-10 years old
- Chlorosis of oldest leaves tips and spread towards their bases
- Browning of lower leaves
- Breaking of the petiole
- Nut shedding
- Crown toppling
- In cross section of stem, brick-red coloured ring
- In roots, white soft cortex becomes orange to faint red in colour

Chlorosis and necrosis of older leaves

Advanced field symptoms-RRD

Advanced symptoms - RRD

Discolouration of stem - RRD

Spread

- Vector, the palm weevil (*Rynchophorus palmarum*) carries the nematode, *Bursaphelenchus cocophilus* (Cobb) Baujard 1989 in the haemocoel of the weevil larvae via the gut tract
- In adult weevils, the nematode can be found in the gut, body cavity and the region of the ovipositor
- Nematode is transferred through burrowing and feeding by adult and larvae of the palm weevil

Management

- Aggressive phytosanitation
- Mass trapping with baited traps (e.g. chopped sugarcane and synthetic aggregation pheromone, racemic 6-methyl-2-hepten-4-ol (Rhyncholure®)
- Combination of perimeter and internal traps is most effective for mass trapping

Baited traps with insecticide

Trinidad and Tobago Strategy

- Coconut Industry Transformation Committee – Appointed by Food Production Minister
  - Chair-Permanent Secretary – Ministry of Food Production and members from Planning, Research and Extension Divisions, Regional Administration North and South
  - St. Patrick Coconut Growers Association
  - Coconut Growers Association
  - CARDI

Term of Reference - Purpose

- To drive the transformation of the coconut industry in TT to facilitate the development of a competitive and sustainable sub-sector

Term of Reference - Mandate

- To recommend, develop and oversee the implementation of plans and initiatives for the redevelopment of the industry

Term of Reference

- Identify critical areas e.g. RRD
- Develop project proposal(s)
- Seek funding
- Identify areas of responsibility for implementation, operations and delivery of work programmes

Project

THE MINISTRY OF FOOD PRODUCTION COCONUT INDUSTRY TRANSFORMATION COMMITTEE

PUBLIC SECTION INVESTMENT PROGRAMME

DRAFT ESTIMATES

2013-2014

ERADICATION
OF RED RING DISEASE AND POTENTIAL PESTS OF QUARANTINE SIGNIFICANCE IN COCONUT

Ministry of Food Production
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St. Clair, POS
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Email: ps@fplma.gov.tt

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OTHER ACTIVITIES

- Replanting
  - Identify local seed sources
  - Develop seed gardens
  - Transplant (GAP)
  - ID new/improved germplasm
  - Conduct PRA
  - Introduce
  - Evaluate
  - Expand

OTHER ACTIVITIES

- Continuous monitoring for RRD symptoms
- Removal and destruction
- Baiting and trapping
- Surveillance for **new pests**

Most estates with old trees

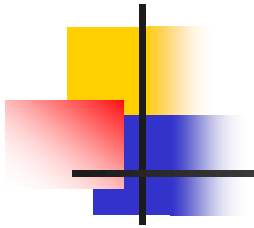
Small acreages replanted

Seed garden - Manzanilla

Need to achieve – productive trees

Visit by team from Embrapa

Visit by team from India



Thank You