Common Diseases of Rubber and their Management

1. Foliar Diseases

1. Leaf spot/bird’s eye spot

Symptom
- Numerous small circular spots scattered on the leaf surface
- Spot have transparent centers and distinct brown borders
- Infected young leaves - black & wrinkled
- Infected older leaves - necrotic tissues produce shot-holes

Causal Organism

*Helminthosporium heveae*
Control Measure
- Weekly spraying of Dithane M- 45 (6 tbsp./16 li of water) on fully expanded leaves

2. Anthracnose and leaf blight

Symptoms
- leaves affected are unhealthy and yellowish green
- in poorly grown seedlings, more or less circular brown spots up to 5 mm diameter with distinct brown margins
- lesions occur more at the edges of the leaves and move towards the center

Causal Organism

*Colletotrichum gloeosporioides*
Control Measures

- Proper drainage of the area planted
- Correct nutrition of the seedlings/trees
- Fungicide treatment by spraying the expanding leaves with either Vitigran blue, Daconil or Cupravit at the rate of 2 g a.i./liter of water (10-11 tbsp/4 gal.) at least 4 rounds at weekly intervals

3. Powdery mildew

**Symptoms**
- Fungus appears as white dusty colonies on leaf surface
- Translucent yellow blotches

**Causal Organism**

*Oidium heveae*
Control Measures
- Routine dusting of sulfur @ 5-7 days interval during disease season
- Fungicide treatment at plants’ young stage

4. Tip blight

Symptom
- Brown lesions on young leaves

Causal Organism

*Fusarium sp.*

Control Measure
- Fungicide treatment
5. Leaf blight of mature rubber tree and budded seedlings

Symptoms
- brown and yellowish lesion on mature leaves
- vascular discoloration of budded seedling

Causal Organism

*Phytophthora palmivora*
Control Measure
• Fungicide treatment

6. Algal spot

Symptom
• Small translucent spots usually on the upper surface (2-5 mm diameter)

Causal Organism

Cephaluroös virescens Kunze

Control Measure
• Apply fungicide
II. Stem and Trunk Diseases

1. Pink Disease

Symptoms
- Cobweb-like film of silky white mycelium
- Latex drops/exudates
- Formation of open wounds in the bark
- Salmon-pink incrustations on the fork region of the tree or branches where moisture is easily trapped.

Causal Organism

*Corticium salmonicolor* B. & Br.
Control Measures

- Mix fungicide solution. Wear mask, goggles, and boots when mixing fungicide solution. After mixing, scrape off fungal growth and apply the solution to infected area. Make sure to use a ladder to reach an infected portion of rubber tree.
- Apply organic foliar fertilizer high in potassium to stimulate bark regeneration.
- Control the weed in rubber plantation to suppress disease development and reduce humidity during the long period of rainfall.
- Plant seedlings in full sunlight
- Prune out diseased leaves and twigs and discard them properly
- Apply adequate fertilizer at pre-tapping stages
- Remove dead stumps and branches to help reduce disease inoculum
- Observe proper distance of planting

2. Stem Bleeding

Symptom
- Releases of black exudates from the stem
Causal Organism

Control Measure

- Fungicidal treatment

3. Knob gall

Symptom
- Formation of galls that protrude and burst
Causal Organism

Control Measure
- Galls should be cut away neatly and resulting wound should be treated with wound dressing/fungicide

4. Black Stripe and Stem Cracking
Symptoms
- Black thread/stripe on pared off bark
- Bark cracks, bleeds, and decays

Causal Organism

Phytophthora palmivora

Control Measure
- bi-monthly application of fungicide treatment after latex collection (Dithane M-45/Ridomil)

III. Root Diseases

1. White Root Rot
Symptoms
- Root rotting due to Basidiocarps
- General discolouration of foliage
- Die back
- Fructifications of rhizomorphs
- Off-season and pre-mature flowering and fruiting are also indications of the root rot of rubber infection.
- Exposed infected collar and roots of rubber showing profusely branched white rhizomorphs of the fungus.

Causal Organism
- Rigidoporus lignosus

Control Measures
- Eradication of infected roots/cutting
- Protectant dressing w/ fungicide
- Removal of dead tree to avoid disease spread
- Drenching of fungicide on the infected area to kill the fungus
2. Brown Root Rot

Symptoms
- Leaves turn yellow and fall
- Twigs die back
- Hard dark brown fructification

Causal Organism
- Phellinus noxius

Control Measures
- Eradication of infected roots/cutting
- Protectant dressing w/ fungistatic chemical

IV. RUBBER DISEASE WITH POTENTIAL THREAT OF OUTBREAK
1. Fusicoecrum Leaf Blight (FLB)
Symptoms
• Large lesions with concentric brownish zone and rusty brown pinhead size spots on rubber leaves
• Lesions are prominent on upper surfaces of fully expanded leaves
• The lesions are similar to rubber anthracnose disease, but the affected portions are more extensive with the target like concentric zones
• Under prolonged moist conditions, orange-pink colored spores oozed out from pyenidia
• Infected young leaves fall about four months after
• The disease usually initiated on young leaves developing later into symptoms such as brown spots on the midrib of the leaves
• Affected leaves gradually turned bronze-colored before falling

Causal Organism
• *Neofusicoccum ribis*

Economic Impact
• canopy defoliation reached over 50%
• latex yield decreased more than 25% of several clones

Control Measures
• improve plant health through fertilizer application
• eradicate inoculum by spraying fungicide
Symptoms
● Shows partial dryness of the tapping panel to total dryness of the tree.
● Under severe condition, the bark develops hard galls or cracks, dries up, disintegrates or falls off and the production of latex is totally stopped.

Causal organism
● Physiological disorder; not caused by biotic microorganism/pathogen
Control measure
• The most effective method to treat this is to stop it from spreading along the latex vessels, by creating a separation between the dry and the yielding areas of the bark.
• Apply Antico solution or organic-based vermitea evenly on the opened bark through brushing after all infected bark was removed, leaving 3 mm of bark from the cambium.
• It is also recommended to rest the tree for at least 1 year while treating the tree until the bark grows back again before re-tapping.
References:

1. DA-WESMIARC. Farmers Information and Technology Service (FITS) Sanito, Ipil, Zamboanga Sibugay.

2. International Rubber Research Institute, Facebook Page 2018 “Developing and Adopting Location-Specific Control Measures for Major Diseases of Rubber in the Philippines”


For more information, please visit or contact us:

Philippine Rubber Research Institute
Department of Agriculture
Interim Office: D.A-Research Complex, Sanito, Ipil, Zamboanga Sibugay
Tel: (062)333-2879; Email: prri_office@yahoo.com.ph
Liaison Office: 2nd floor D.A, Elliptical Road, Diliman, QC
Tel: +632 9288755 local 2265