

Common Diseases of Rubber and their Management



**Philippine
Rubber
Research
Institute**

Common Diseases of Rubber and their Management

I. Foliar Diseases

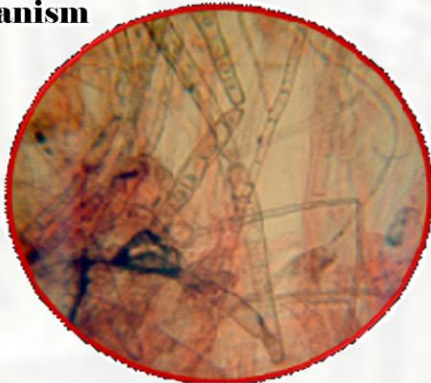
1. Leaf spot/bird's eye spot



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**

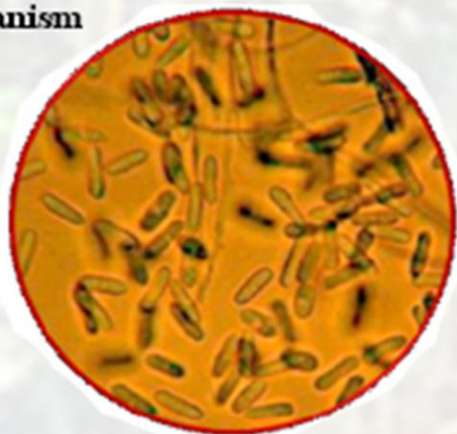
2. Anthracnose and leaf blight



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

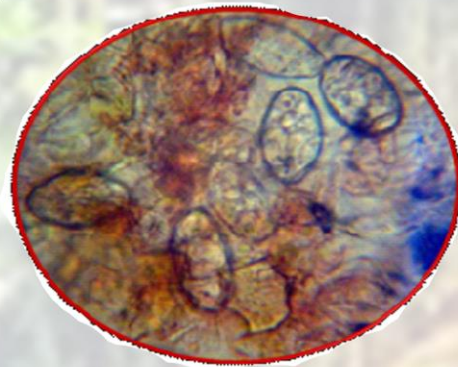
3. Powdery mildew



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**

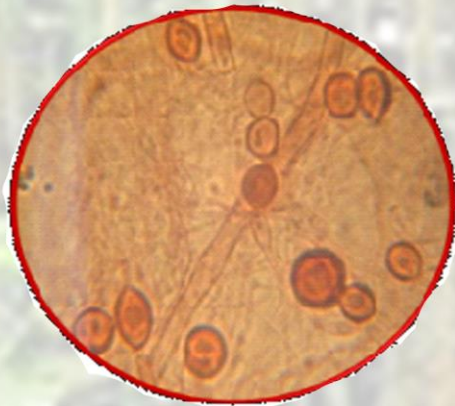
5. Leaf blight of mature rubber tree and budded seedlings



Symptoms

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

Causal Organism



Phytophthora palmivora

Control Measure

- **Fungicide treatment**

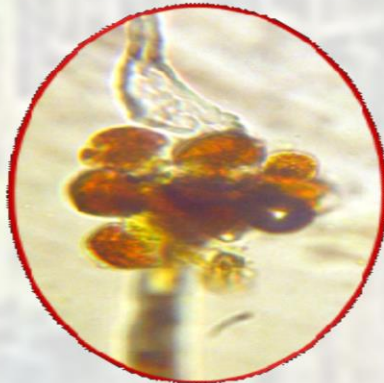
6. Algal spot



Symptom

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

Causal Organism



***Cephaleuros virescens* Kunze**

Control Measure

- **Apply fungicide**

II. Stem and Trunk Diseases

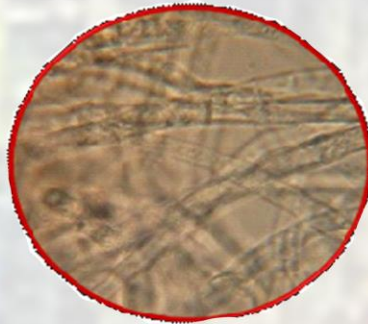
I. Pink Disease



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**

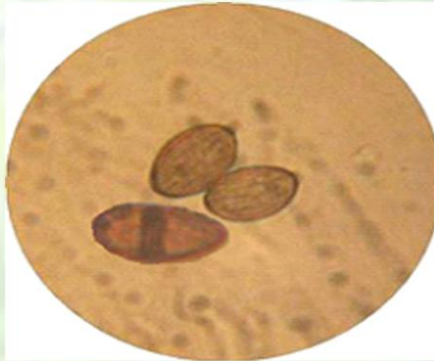
3. Knob gall



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

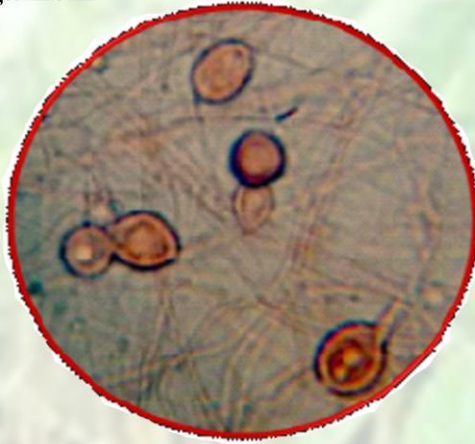
4. Black Stripe and Stem Cracking



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

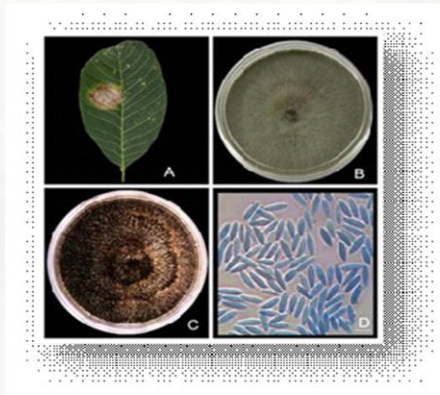
1. Fusicoccum Leaf Blight (FLB)



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 pycnidia
- 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

7. Tapping Panel Dryness (TPD) / Brown Bast



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”**
- 3. Silvestre JC, Evangelista RB, Tangonan RG, Parcon EGB, S Necito Jr. JA 2014, Developing and Adopting Location-Specific Control Measures for Major Diseases of Rubber in the Philippines. Department of Plant Pathology, College of Agriculture, University of Southern Mindanao, Kabacan, Cotabato, Mindanao, Philippines.**
- 4. Tangonan NG, Pecho JA, Parcon EGB 2012. Plant Pathology Research Laboratory, USMARC-USM, Kabacan, Cotabato.**

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***