

**BIORUB™**  
*Microbial consortium*  
Biological Management of Rubber Pink Disease  
**APPROVED FOR USE IN ORGANIC AGRICULTURE**

### Introducing BIORUB™

BIORUB™ is a biological microbial consortium that controls Rubber Pink Disease of Rubber Plant that is caused by a fungus *Corticium salmonicolor* / *Erythricium salmonicolor*

BIORUB™ contains spores, mycelial fragments and vegetative cells of several antagonistic microbes. . It is formulated as Wettable Powder with CFU count of  $1 \times 10^8$  / g.

### The Pink Rubber disease

Pink disease is a disease that affects the stems and branches of rubber plant. It is primarily a disease of the bark, in advanced stages the infection spreads from the bark into the underlying wood.

The characteristic symptom of pink disease is the appearance of a salmon pink encrustation produced by the growth of the fungus found on the surface of the bark.

The secondary symptoms of Pink Disease are wilting and subsequent death of the leaves. The leaves turn brown and remain attached to the infected branch for some time. Bleeding of the branches or stem followed by formation of black streaks of coagulated latex are seen. Green lateral shoots are seen arising from dormant buds. Open wounds or cankers are seen as a result of the death and shedding of limited areas of bark.

### Mode of Action

It is a unique formulation of several microbes which exhibit an antifungal effect against *Corticium salmonicolor* / *Erythricium salmonicolor* which is the causal organism of Pink disease of Rubber .The metabolites and toxins secreted by each of the microbes in the consortium pathogenise the target fungus and inhibit its growth eventually colonizing and killing the target pathogen.

### Method of Application

#### Prophylactic Control

Soil Application: Mix BIORUB™ @ 1 Kg per 100 Kg of Neem Cake and maintain 15% moisture and incubate in shade for 4 days. Apply treated Neem Cake @ 2 Kg per plant and incorporate in soil.

Foliar Application: Spraying two rounds of BIORUB™ @ 5 g / L of water (during May and August) on to the fork and branches reduces disease incidence.

Plant Swabbing: For 2-year-old plants, the topmost brown portion has to be applied with BIORUB™ paste (20 g BioRub + 250 g Talc powder in 1 L of water) with in a 30 cm wide band all around.. The forking region also has to be applied with the paste.

In leaning plants, in addition, a 30 cm wide band on the convex side of the bend has to be applied.

In 3 years old plants, application has to be made on all major forking regions except the lowermost one and also on all the leaders of the topmost brown regions.

### Curative Control

Plant swabbing: Follow frequent tree inspection during June to October for detecting infection and application of BioRub™ paste (20 g BIORUB™ + 250 g Talc powder in 1 L of water) in early stage on infected part and up to 30 cm above and below. In advanced cases, BIORUB™ paste may be initially applied and then the affected portion scraped to remove mycelium and decayed bark, followed by a second BIORUB™ paste application. Dried branches should be pruned after disinfection.

### Target Diseases

Pink disease of Rubber

### Crops

BIORUB™ is suitable for application on all types of Plantation Crops

### Compatibility

BIORUB™ is compatible with BioPesticides and not with Chemical Fungicides.

### Shelf Life

BIORUB™ is stable for a period of 12 months from the date of manufacturing.

### Mass Composition

A Proprietary consortium of microbes

*Free from Salmonella, Shigella, E.Coli*

### Cautions for handling and use of product

1. Avoid inhalation and skin contact while diluting as there could be spillage / splashes of the product.
2. Mixing and spraying equipment is to be thoroughly rinsed with water and detergent before using the same equipment for other agricultural chemicals.
3. Surplus paste/solution should not be disposed in crop lands / stagnant water / flowing water where there is a possibility of causing pollution to natural resources
4. Do not eat / drink / smoke during application.
5. Direct incidence of BIORUB<sup>™</sup> may cause irritation and therefore it is recommended that the operator should use protective gear viz gloves, apron, mask, eye gear and hood.

### Symptoms and Antidotes

**Symptoms:** Occasional symptoms include head ache and nausea.

**Antidote:** In the case of ingestion: symptomatic treatment is advised and vomiting may be induced. In the case of contact with Eyes: Flush with water liberally for 20 minutes. In case of Skin contact, wash the affected area with plenty of water and soap.

### Citations

This is a proprietary product and public citations of this product is not available

### Commitment to Nature

- BIORUB<sup>™</sup> is approved for use in organic agriculture.
- BIORUB<sup>™</sup> can be used as an effective component in IPM programmes, thereby leading to a reduction in use of chemical pesticides/ fungicides and creating a safer environment.
- BIORUB<sup>™</sup> does not lead to residue problems and doesn't cause resistance or resurgence problems.

### Benefits from BIORUB<sup>™</sup>

- BIORUB<sup>™</sup> effectively controls one of the most economically important fungal disease of Rubber plant: Pink disease of Rubber
- Pathogenic fungi load reduction leads to improved plant health and thereby increased crop productivity.
- BIORUB<sup>™</sup> is earthworm friendly , pet friendly , eco friendly and infant friendly