How is it spread?

The fungus produces spores which are spread naturally by wind or air currents over long distances. The spores can be released from diseased pods during harvesting or pruning and can remain viable for up to 9 months on a carrier such as tools, shoes, clothing, equipment, vehicles, shipping containers, etc.

How it is controlled?

1. Prevention

It is important that this disease be kept out of Trinidad and Tobago. Cocoa beans, pods and plants should not be brought into the country unless an import permit is issued.

2. Early detection

Routine surveillance is being conducted to ensure that our cocoa farms are free from frosty pod rot.

3. Growing of tolerant selections

Varieties with known tolerance to frosty pod rot are being evaluated under local conditions for characteristics associated with our 'fine-flavoured' cocoa.

What can I do?

We all have a part to play in ensuring that this disease does not reach our shores:

How can you assist?

- Do not bring into T&T cocoa beans/pods/plants from any country
- If you have travelled to infected countries and were in contact with cocoa farms or raw cocoa products, **sanitize** yourself and personal belongings by washing (hair, clothes, shoes, other accessories) before returning to Trinidad and Tobago.
- Do not enter cocoa fields in Trinidad and Tobago for at least one month upon your return from an infected country.
- Be vigilant! Report suspicious symptoms to

HOT LINE: 868 646-6284

For further information contact:
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KEEP FROSTY POD ROT OUT OF Trinidad & Tobago

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KEEP FROSTY POD ROT OUT OF TRINIDAD AND TOBAGO

Frosty Pod Rot on Cocoa

What is Frosty Pod rot?

Frosty pod rot of cocoa is caused by the fungus, *Moniliophthora roreri* and is one of the most devastating diseases of cocoa. This disease affects the fruits/pods and seeds of *Theobroma cacao* and other wild cocoa relatives - *Herrania* and *Theobroma* species.

In some countries the disease is also known by several other names including pod rot of cocoa, quevedo disease, watery pod rot of cocoa, podredumbre acuosa de la capsula del cacao, aguado del cacao, helada and pourriture aqueuse de la cabosse du cacaoyer.

Why should I care?

- Frosty pod rot is more destructive than Black Pod disease caused by *Phytophthora palmivora*
- Frosty pod rot is more dangerous and difficult to control than Witches' Broom disease caused by *Moniliopthora (Crinipellis) perniciosa*
- Frosty pod rot can reduce crop yields by 60-80%
- If Frosty pod rot is introduced into T&T it would devastate the islands' production of its world renowned 'fine flavoured cocoa' Frosty pod rot can negatively impact on our germplasm collection - at the International Cocoa Gene Bank.

Where is it found?

Frosty pod rot has been reported in South America {Ecuador, Colombia (1817), Peru (1950), Western Venezuela (1941)} and Central America (Costa Rica, Nicaragua, Panama, Honduras, Guatemala, Belize and Mexico).

Figure 1. Distribution of frosty pod rot (infected areas shown in red).

What should I look for?

The symptoms of frosty pod rot appear only on the pods and it usually takes 3– 8 weeks from initial infection for the external symptoms to appear.

Stage 1: External swellings and pod distortions
Young infected pod shows light-colored swellings and distortions.

Stage 2: Premature ripening of pod
Large pod shows partial or premature ripening

Stage 3: Internal pod rot and breakdown of seeds
Pod shows extensive internal breakdown, which spread to the placenta and endocarp with soft and watery seed mass.

Stage 4: Pod covered with external fungal growth
External fungal growth appears and quickly turns into a white dense frost-like mat which eventually becomes cream coloured.

Stage 5: Mummification of pods
Infected pod remains attached to the tree, gradually shrink and dry becoming necrotic hard mummies which are partly covered by the hardened remains of the fungus.

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