

Frosty pod rot

Moniliophthora roreri

	Prevention	Monitoring	Direct Control
 <p>Advanced symptoms (CABI)</p>	<ul style="list-style-type: none"> • Use varieties that show a degree of resistance • If the plantation is very high, old or abandoned, use formation and maintenance pruning to rehabilitate the trees. Reduce the height of the trees to a maximum of 3 meters and remove crossing twigs and buds • To improve airflow, reduce humidity and obtain proper entry of light, keep tree canopy low and thinned by light pruning at least twice a year. Keep the trunk and main branches free of sprouts, suckers and crossing twigs within the tree or adjacent trees • Regulate permanent shade: prune trees associated with the plantation at the end of the main harvest to maintain levels of shade at 30-50% and ensure good air circulation • Establish an adequate draining system in the plantation and keep it clean to reduce high relative humidity within the plantation and prevent waterlogging • Frequent and timely control of weeds at least 4 times a year to facilitate air circulation • Remove wild hosts of the pathogen, such as Sterculiaceae, from the adjacent forest • Promote agroforestry systems associated with timber species • Every 15 days, harvest ripe fruits with a knife or secateurs. Do not let overripe fruits on trees 	<ul style="list-style-type: none"> • Monitor the plantation regularly to detect symptoms • <i>M. roreri</i> attacks pods at any development stage and the nature of the symptoms depends on the age of the pods when they become infected. Pods less than 3 months old are most susceptible to the fungi infection • On pods less than 2 months old, the disease first appears on the surface as swellings and/or distortion. Then irregular brown spots appear and extend until they cover the entire fruit surface on which a white powder (mycelium) begins to appear • On pods 3-4 months old, oily spots appear and merge after a few days to form an irregular brown spot. After 3 to 6 days, an abundant mass of cream coloured powder starts forming on the brown spot • Early ripening and oily spots • The pods may appear healthy, but when opened a liquid is found as a result of tissue degeneration. Seed rotting can be partial or total 	<ul style="list-style-type: none"> • After each harvest, remove all healthy and sick fruits before the rainy season and new fruit formation begins • Remove any fruit that show symptoms of the disease twice a week during the rainy season and rehabilitation process of the farm, and every 15 days the rest of the year. Remove the fruit before the white powder appears and infects new fruits. Leave them on the soil where you removed them and cover completely with leaf litter or soil to prevent spore dispersal and hasten decay • Apply natural enemies available in your country such as <i>Trichoderma</i> spp., <i>Bacillus</i> spp., <i>Pseudomonas</i> spp. • For effective pathogen control, prevention and cultural control should be applied to all the neighbouring plantations
 <p>Various symptoms on cocoa pods (Luis C. Gonzalez)</p>			
 <p>Internal symptoms (CABI)</p>			

Note: Pesticides may be available to control this pest. Please check with the Ministry of Agriculture in your country to find out which pesticides are registered in your country and the local restrictions for their use.