

Cocoa white thread (015)

Common Name

White thread

Scientific Name

Marasmiellus (Marasmius) scandens

Distribution

Asia, Africa, South America, the Caribbean, Oceania. It is recorded from Fiji (cocoa, coffee), Papua New Guinea (cocoa), and Solomon Islands (cocoa).

Hosts

Cocoa is the main host, but it is recorded on many other trees and shrubs.

Symptoms & Life Cycle

The life cycle of this fungus has not been fully described. The white threads are a collection of strands of the fungus, and these grow over branches and leaves (Photos 1&2). The fungus produces toadstools, and these produce spores. However, the toadstools are not often seen.

Spread of the fungus is thought to occur as follows:

- It grows along the branches as white threads, extending onto the leaf stalks and then over the surface of the leaf blades, which turn brown and die.
- It spreads from tree to tree when branches of shade trees infected with the fungus fall on the cocoa trees below.
- As airborne spores released from toadstools that form in wet weather.

As the leaves are infected, they turn dark brown and die (Photo 3), but even though they are no longer attached to the branches, they remain suspended in place by the threads of the fungus (Photo 2).

Impact

White thread is a disease associated with poor tree maintenance. If management is poor, the fungus can destroy large numbers of leaves, but the impact on yield has not been recorded. Normally, the disease is of little economic importance as it is controlled by hygiene measures.

Detection & inspection

Look for the white strands of the fungus along the branches; look for patches of dead leaves, held in place by white threads. The fungus can be more clearly seen over the branches and leaf blades when they are wet. Compare with other thread blights, e.g., *Pellicularia koleroga* (see **Fact Sheet no. 199**) and horsehair blight (see **Fact Sheet no. 05**).

Management

CULTURAL CONTROL

During growth:

- Prune out the infected leaves and branches; this is the best way of managing outbreaks of white thread. The prunings should be taken out of the plantation and burnt.
- Make regular inspections for the disease, at least every 3 months.

CHEMICAL CONTROL

Chemical control is not recommended for this disease.



Photo 1. White threads of *Marasmiellus scandens* along a branch and then onto leaves. On some of the leaves the fungus follows the leaf margin and also the veins. The old leaves have been killed by fans of white thread growing over them.



Photo 2. Fans of the fungus, *Marasmiellus scandens*, growing over the underside of leaves. Note that the old leaves, killed by white thread, are held in place by strands of the fungus.



Photo 3. If the infected branches are not removed the damage from *Marasmiellus scandens* can become extensive.

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Information from CABI (2020) *Marasmiellus scandens* (white thread blight). Crop Protection Compendium. (<https://www.cabi.org/cpc/datasheet/32537>); CABI (undated) Plantwise Knowledge Bank. (<https://www.plantwise.org/knowledgebank/datasheet/32537#SymptomsSection>); and from Amoako-Attah L, et al. (2016) White thread blight disease caused by *Marasmiellus scandens* (Masse) Dennis & Reid on cocoa and its control in Ghana. *African Journal of Agricultural Research* 11(50): 5064-5070. (<https://academijournals.org/journal/AJAR/article-abstract/786884F62138>).

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