

# Smut: A New Woe in Cinnamon

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**C**innamon is one of the most sought after species among the spices. The genus *Cinnamomum* (*Cinnamomum verum*) belonging to the family Lauraceae contains over 300 species distributed both in the tropical and subtropical countries. The genus contains several economically important species like *Cinnamomum verum*, *C. cassia*, *C. tamala*, *C. camphora* etc.



**Uninfected fruits of Cinnamon**

Cinnamon (*Cinnamomum verum*) is one of the important species of this genus, grown for its inner bark which is used as a spice. Besides flavouring industry, cinnamon is also used in pharmaceutical and perfume industries. Cinnamon forms a major constituent

of several traditional medicines of India and China. Cinnamon is used to treat anorexia, diabetics, inflammation, menorrhagia and menstrual disorders. It is also reported to have antioxidant and antimicrobial properties. The oils derived from bark and leaf oil is used in perfumes, soaps, tooth pastes, face creams etc. It is commercially cultivated in Kerala, Tamil Nadu, Karnataka, Maharashtra, Goa and also grows naturally in the forests of Western Ghats of India.

***Cinnamon is one of the most sought after species and is grown for its inner bark.***

Cinnamon is an evergreen low branching tree which grows to a height of 6-15 meters. The mature leaves are dark green on the upper side and light green on the lower side and are triplinerved. The young flushes are either light or bright red in colour. The inflorescence consists of axillary or terminal panicles of about 20 cm long. Flowers are pale yellowish green. Fruits are ellipsoid to oblong, dark purple when mature and attains a length of about 12 mm. The flowering in cinnamon starts during January and fruits mature during May-June.

Cinnamomum is usually found free from diseases. However, the crop is susceptible to more than 30 diseases, of which the infection of the bark causes maximum economic losses.

But not much work has been done on diseases of cinnamon even in Sri Lanka where this crop has been under cultivation for centuries. The diseases reported in cinnamon include leaf spot/blight (*Colletotrichum gloeosporioides*), grey leaf spot (*Pestalotia cinnamomi*) rough bark disease, stripe canker, pink disease brown root rot, sooty mould and stem rot.

Recently in February 2018, which is the fruiting period of cinnamon, a new infection was noticed on fruits. The symptoms were manifested as abnormal enlargement of the fruits with a creamy outer encrustation.



Infected fruits of Cinnamon

The disease was spotted from a cinnamon tree of about 10 years old at Kawdiar in Thiruvananthapuram, Kerala, where all the young fruits of 2-5 mm size were invariably infested by smut like growth. This made the

fruit to become larger in size compared to healthy fruits and encrusted with creamish powdery spore masses.

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***A new infection was noticed fruiting period of cinnamon in February 2018. The symptoms were abnormal enlargement of the fruits with a creamy outer encrustation.***

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More than 80% of the fruits on the tree were infected and the infection was found very severe on the fruits but few leaves were also affected. The underside of the leaves were also brushed with creamy spore mass (Fig. 3). On shaking the tree, the powdery spore masses dispersed.

Once infected, it becomes difficult to collect seeds for raising seedling or for oil extraction. The fruits of cinnamon yields about 0.32% volatile oil. The unripe berries (cinnamon buds) are traded in very small scale.

The leaf of cinnamon is used for distillation of oil (yield 2-4%) and the oil is rich in eugenol (70-80%). Hence, this disease could have serious consequences leading to severe economic loss.

This is the first report of smut infection in cinnamon. So far no such infection was reported in cinnamon from India or from other cultivated countries. Hence, it warrants a detailed study on the etiology, epidemiology and management strategies to contain the problem.

