

## EFFECT OF TEA CATECHINS ON *MONACROSPORIUM AMBROSIUM*

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*Monacrosporium ambrosium* (ambrosia fungus) is the fungal symbiote of the shot-hole borer (SHB) beetle (*Xyleborous formicatus*), the major insect pest of tea (*Camellia sinensis*) in the mid-country tea plantations of Sri Lanka. We have reported previously that caffeine, the major alkaloid found in tea inhibits mycelial growth, sporulation and spore germination of the ambrosia fungus, and has an ovitoxic effect on the female beetle.

Catechins (flavan-3-ols) are the predominant polyphenolic component of young vegetative shoots of tea. Catechins which constitute 17 % of the dry weight of young vegetative tea shoots are known to be responsible for most of the health benefits of tea. In the present study we determined the effects, if any, of catechins on mycelial growth and sporulation of ambrosia fungus. A crude catechin extract and pure samples of epigallocatechin (EGC) and epigallocatechin gallate (EGCG) isolated using High Speed Countercurrent Chromatography (HSCCC), were used for the study. Crude catechine extracts from all tea cultivars contained caffeine and theobromine.

Mycelial growth was observed on agar plates and sporulation was studied using a haemocytometer. Mycelial growth and sporulation were decreased in the presence of the catechin mixture. This was attributed to the inhibitory effect of caffeine reported previously. However when pure samples of catechin were used no significant effect on mycelial growth of the ambrosia fungus was observed. An increase of sporulation was observed in the presence of pure samples of EGC and EGCG.

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