

EXECUTIVE SUMMARY

MINOR PROJECT: A STUDY ON BOTANICAL FUNGICIDES AGAINST *LASIODIPLODIA THEOBROMAE* THE CAUSAL ORGANISM OF FRUIT ROT AND POST HARVEST DECAY IN COCONUT

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TOTAL OUTLAY : Rs 110000/

Among 32 plants extracts tested *in vitro*, the extract of *Allium sativum* (Garlic), at 4% concentration were found to be very effective in inhibiting the growth of *Lasiodiplodia theobromae*. The extract of garlic bulb at 1 and 2 % concentration showed more than 70 % of inhibition on first day after inoculation. There were significant variations in growth inhibition on 2nd day after inoculation. Percentage of inhibition decreased with duration of incubation. The study also reported that plant extract of *Solanum insanum* and *Coleus blumei*, *Solanum torvum* and *Eryngium foetidum* at 4% concentration were superior in inhibiting the mycelial growth, sporulation and spore germination of *L.theobromae*. The present study is first report of antifungal activity of these plants against *L.theobromae*. The leaf extracts showed difference in their potency against *L.theobromae*. The difference observed in fungitoxic activity of the extracts is likely due to the solubility of the active compound(s) in water or acetone or the presence of inhibitors. *theobromae*

The *in-vitro* evaluation of 10 locally pteridophytes against *L.theobromae* revealed acetone extracts of *Marselia* and *Gleichenia* at 4% concentration were superior in inhibiting the mycelial growth, sporulation and spore germination of *L. theobromae*. The present study is first report of antifungal activity of pteridophytes against *L.theobromae*. The *in-vitro* evaluation of 10 plant products against *L.theobromae* revealed that lemon grass oil, clove oil, garlic extract and turmeric oil were superior in inhibiting the mycelial growth, sporulation and spore germination

of *L.theobromae*. The antifungal properties of these plant extract, plant products may be used in developing novel fungicides against *L.theobromae*. Advantage of plant based product over synthetic chemicals is that plant products are highly effective and cheap, reduces the environmental pollution. The back ground information of this study will help future line of research in developing eco friendly pesticides / fungicides.