

## ANTIFUNGAL ACTIVITY OF OXIDISED CASHEW NUT SHELL LIQUID

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In our search for novel and cheaper substances from locally available raw materials as an alternative to imported synthetic fungicides used in agriculture we have investigated several synthetic modifications of cashew nut shell liquid. Among these synthetically modified products, oxidised cashew nut shell liquid showed significant antifungal activity against a number of plant pathogenic fungi.

Cashew nut shell liquid was oxidised with potassium dichromate in dilute sulfuric acid and the product was isolated by solvent extraction after neutralization. The isolated product was examined for antifungal activity by TLC-bioassay using Cladosporium (1) and the agar plate method (2) using Poria hypolateria, Corynespora cassicola, Colletotrichum gloeosporioides, Sarocladium cryzae, Fusarium sp and Curvularia sp. The oxidised product had activity against all fungi examined at a concentration of 0.15%.

The analysis of the oxidised product by TLC showed the presence of two active compounds having  $R_f$  values of 0.35 and 0.47 (silica gel plates,  $CH_2Cl_2$  as eluent). Infra-red spectrum of the oxidised product showed peaks at 1643 and 1605  $cm^{-1}$  indicating the presence of a quinone type compounds.

- References: 1. Smith D.A. (1981), Toxicity of Phytoalexins. In 'Phytoalexins' edited by J.A. Bailey and J.A. Mansfield. Blackie, London, pp 218-248.
2. Shukla R.P. Singh R.K. and Dwivedi R.S. (1990), Toxicity of essential oils against Rhizoctonia solani Kuhn fungus causing sheath blight (sub) in rice. International Rice Research News Letter, 15, 27.