

We found the antifungal activity of MeOH extract from *Acorus gramineus* rhizome against *Botrytis cinerea*. The MeOH extract of *Acorus gramineus* rhizome was partitioned *n*-Hexane, Chloroform, Ethylacetate, *n*-Butanol one by one. In order to isolate the antifungal substance, *n*-Butanol fraction was purified by preparative silica gel open column and sephadex LH-20 column chromatography. In ODS thin layer chromatography and LC-mass analysis, antifungal substance was identified to be asarone. *In vitro* assay, the inhibition rate of the mycelial growth on PDA containing asarone was achieved 70% at 100 μ g/ml concentration, while the antifungal activity was little even 1mg/disk concentration on agar diffusion method. These contrastive results showed that asarone has antifungal activity in case of direct contact only, unlike other volatile essential oils.

D-55 Evidence for plant growth promotion by fungal volatiles from a strain of PGPF, *Cladosporium* sp. CL1 on tobacco plant. Kyungseok Park and Eun-Young Kim. Biological Control Lab., Division of Plant Pathology, National Institute of Agricultural Science and Technology, Suwon 441-707 Korea

A large number of fungal volatiles have been reported as fungal metabolites in cereal grains in plants because fungal growth in cereals decreases their nutritional value and can pose health hazards. In recent research in other microbially produced volatiles exhibit an unpleasant odor and might be harmful in public health. Here, A strain of plant growth-promoting fungi was isolated from rhizosphere of wild plants showed plant growth promotion and induce systemic resistance on tobacco plants. The result of I Plate assay, tobacco plants showed significant plant growth promotion by unknown volatiles of a plant growth promoting-fungi, *Cladosporium* sp. CL1. Recently, C.M. Ryu et al convincingly demonstrated that airborne volatiles from growth-promoting strains could stimulate the growth of Arabidopsis plants. The related compound from culture filtrates were identified as 2,3-butandiol and acetoin. But still did not report the evidence for volatile which related plant growth promotion in PGPF strains. We provide the evidence that the plant growth of tobacco plants activated by volatiles from *Cladosporium* sp. CL1. Furthermore, when the isolate inoculated on the roots of tobacco, plant showed induces systemic resistance against *Erwinia carotovora* SCC1. The results suggest that volatiles from a strain of CL1 involve plant growth promotion as well as induce systemic resistance.