

A-04 Morphological and phylogenetic analysis of *Penicillium* species associated with blue mold of grape in Korea. Mi Sun Ko, Hye Sun Cho¹, Myung Soo Park and Seung Hun Yu. Plant Pathology, College of Agriculture and Life Sciences, Chungnam National University, ¹KT&G Central Research institute, Suwon 441-480, Korea

A total of 57 isolates of *Penicillium* species were isolated from grape in Korea. According to cultural and micromorphological characteristics, the *Penicillium* species were divided into approximately 5 groups. On the basis of previous description by Pitt(1991), each group was identified as *P. solitum*, *P. expansum*, *P. citrinum*, *P. camemberti*, and *P. echinulatum*. The predominant species was *P. solitum*(61.4%) followed by *P. expansum*(29.8%). To elucidate relationships among *Penicillium* isolates, -tubulin gene sequence from the isolates were determined. Based on phylogenetic analysis of the -tubulin gene sequence, the isolates were clustered into 5 distinct species-clades, which correlated well with morphological species. This is the first report on occurrence of *P. camemberti* and *P. echinulatum* from grape in Korea.

A-05 Some characteristics of dimethomorph-resistance (DR) mutants of *Phytophthora capsici*. H.K Lee, JY Song, Y.S Lee, M. Nam, H.G Kim. Department of Applied Biology, Chungnam National University, Daejeon, 305-764, Korea

Dimethomorph was one of the fungicides released for use against phenylamide-resistance isolates of *Phytophthora capsici* in Korea. For surveying chemical resistance mechanism, dimethomorph-resistance (DR) mutants of *P. capsici* were induced by repeated subculturing on dimethomorph-amended media. These mutants grew well on v-8 agar media mixed with 250 $\mu\text{g/ml}$ of dimethomorph, and infected pepper plants treated dimethomorph contrary to parental isolates. The PCR analysis using the URP and OPA primers detected mutation on genomic DNA of A2 mating type mutants. The mutation of A1 and A2 mating type mutants were also identified from AFLP analysis. DRc-1 and DRc-2 primer designed from the AFLP results could discriminate DR-mutants among *P. capsici* isolates, specifically. These results suggest that dimethomorph-resistance population of *P. capsici* in the cultivation fields could be increase by repetitive dimethomorph practices and give difficulty in employing control management strategies.