F320 Characterization of *Pseudomonas syringae* pv. *actinidia* Strains from Kiwifruit

Hye Young Nam, Young Jin Koh[1], and Jae Sung Jung
Department of Biology and Faculty of Applied Biology and Horticulture[1],
Sunchon National University

Pseudomonas syringae pv. *actinidia,* which cause bacterial canker on kiwifruit, has been found in Korea since 1980s. In recent year, bacterial canker was spreaded rapidly in major cultivation area of kiwifruit and resulted in lethal damages enough to destroy the whole kiwifruit orchard. In this study, we collected *P. syringae* pv. *actinidia* from healthy and diseased kiwifruit tissues sampled from several cultivation area in Korea and Japan and identified them using Biolog program based on biochemical data. Forty six isolates, 42 from korea and 11 from Japan, were finally selected as a test strain. With these strains, we investigated their pathogenecity and plasmid profiles. Resistance to copper and streptomycin bactericides, which have been utilized intensively for control of canker, was also analyzed by MIC test and PCR. The evolution of copper and streptomycin resistance in phtopathogenic bacteria was known to occur usually by the spread of a plasmid among bacterial species or genera. However, we could not find any relationship between antibiotic resistance and plasmids in strains isolated from Korea.

F321 Development of PCR Markers for the Identification of Male and Female in Dioecious Plant, *Schisandra nigra*

Hyo Sim Han*, Hyo Yeon Lee[1], and Jae Sung Jung
Dept. of Biology and Dept. of Resources Plant[1], Sunchon National University

Sex-associated DNA sequences were analyzed in a dioecious plant, *Schisandra nigra*. DNA was isolated from male and female plants and subjected to random amplification of polymorphic DNA. One primer, OPA-17, yielded DNA fragment of 770 bp, which was detected in male plants but not in any of the female plants tested. By contrast, a 749 bp DNA fragment was amplified in female plants by primer OPB-03, which did not amplified with male DNA samples. These two DNA fragments were cloned and used as probes in southern hybridization of genomic DNA. When the male and female DNAs were allowed to hybridize with these probes, the 770 bp male probe yielded some bands specific to male plants whereas the 749 bp female probe resulted some band only for DNA samples from female plants. The sequences of these fragments did not include long open reading frames and they exhibited no significant similarity to previous reported sequences. Two set of PCR primers were synthesized based on the nucleotide sequences of the cloned fragment, named male 1, female 1 and used for the identification of male and female plants by PCR analysis. These primer sets amplified 460 bp and 436 bp of DNA fragments, respectively.