

## F-F1-05

### The Effect of Resistance Disease Grafting Cultivation of *Capsicum annuum* L.

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Grafting techniques have been used to estimate the effects of shoot and root factors on the physiological aspects of plant growth and plant-microbe interactions. This grafting study was conducted to further characterize the regulating phenomena originating in the shoots and roots on the resistance to phytophthora blight, growth, and yield in pepper (*Capsicum annuum* L.). Grafts were made among five genotypes (Pe276, Pe334, Pe395, Pe453, and Pe502) as a rootstock and five genotypes (Pe231, Pe522, Pe531, Pe580, and Pe724) as a scion. Grafted pepper plants was better resistant to Phytophthora than non-grafted plants and the R-safe was most the strongest resistance to Phytophthora in all rootstock but Konesian was most weakest. The resistance was sustained after raining because of its good root growth. The R-safe is good rootstock to grow under low cover cultivation which is major in a seaside area of Chennam province because it showed little grit fruit, high fruit setting and good growth ability under the low temperature. The Konesian hot was thought to be good for open field cultivation with high productivity in spite of its weak resistance to Phytophthora.

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## F-F1-06

### Identification and Characterization of Six Korean *Gymnosporangium* Species

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This study was conducted to identify and characterize *Gymnosporangium* species causing the cedar-apple rust in Korea. Rust specimens at aecial and telial stages were collected from twenty three locations of nine provinces in Korea in 2005 and 2006. In this study, two *Gymnosporangium* species new to Korea, namely *G. fuscum* and *G. nidus-avis*, were identified with their new hosts. Revised geographical distributions of six *Gymnosporangium* species such as *G. asiaticum*, *G. cornutum*, *G. fuscum*, *G. nidus-avis*, *G. japonicum*, and *G. yamadae* were examined, and the diagnostic key for Korean *Gymnosporangium* including the two new species was constructed. *Gymnosporangium asiaticum*, *G. yamadae* and *G. japonicum* were widely distributed throughout Korea with the number of specimens decreasing in that order. Differences in size and shape of teliospores and peridial cells of *G. asiaticum*, *G. yamadae* and *G. japonicum* were investigated by comparing specimens from China and Korea. The teliospores of Korean *G. asiaticum* and *G. japonicum* were larger than those from China, except *G. yamadae*. Furthermore, peridial cells of these Korean species were larger in size than those of the Chinese species. In addition, the peridial cell size of Korean *G. asiaticum* was found to be negatively correlated with regional temperature, while those of other species were correlated with neither temperature nor humidity.

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