

**B404**

Nitrification of Soils in *Artemisia princeps* var. *orientalis*

Ho Nam Kang\* and Jong Hee Kim  
Department of Biology, Kyungnam University

The nitrification processes (ammonium oxidation and nitrite oxidation) were investigated to evaluate the role of *Artemisia princeps* var. *orientalis* on inhibition of the nitrification in agricultural land with *A. princeps* plants (testing site) and without that plant (control site). And added terpenoids experiment on the soil were performed to demonstrate that the nitrification might be inhibited by terpenoids among of chemical compounds of *A. princeps* var. *orientalis*. Both of ammonium oxidation and nitrite oxidation processes are linear pattern during the incubation. Both of those processes in *A. princeps* plants site was higher than non *A. princeps* site. The seasonal variation of ammonium oxidation rate between testing site and control site was summer season (July, Aug., Sep.), and that of nitrite oxidation rate was represented in all season except October. There was no significant between terpenoids added site and plants added site. These results are indicated that the nitrification was inhibited by some compounds in *A. princeps*, and one of that compounds might be terpenoids.

**B405**

Comparison of Environmental Factors and Herb Responses  
between Gaps and Non-gaps in Mt. Jumbong.

Si-Yeon Kim\* and Do-Soon Cho  
Department of Biology, The Catholic University of Korea

This study was carried out to elucidate the seasonal changes of herb responses and environmental factors in gaps and non-gaps in Mt. Jumbong, Kangwon Province, from April to August 1996. Experimental gaps were created by cutting subcanopy trees and saplings on ridge, valley and north-facing slope. Forty 1m×1m permanent quadrats were established from the gap center to intact forest in each gap. Rates of growth and reproduction were examined weekly for dominant herbs, *Erythronium japonicum* and *Symplocarpus nipponicus*. Importance value and species diversity of herbs were determined monthly. Three environmental factors were measured bimonthly. Relative light intensity and soil temperature were the highest at the gap center and decreased toward non-gap at the valley and ridge. However the difference was not significant in the gap on north-facing slope. The growth and emergence rates of *S. nipponicus* and density, frequency and seed production of *E. japonicum* were higher in gaps than in non-gaps on ridge and valley. Species diversity of herbs showed seasonal changes between gaps and non-gaps on ridge, valley and north-facing slope.