B528 **Allelochemicals of *Perilla frutescens* and their Allelopathy Effect**

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The seasonal concentration and composition of essential oil in the *Perilla frutescens* leaf were determined quantitatively and identified with Gas Chromatography and Mass Spectrophotometer(GC-MS). The total concentration was very high(nearly 1% of total dry wight), but the composition was very simple (only seven) and 2-butanoyl furan composed 93% of the total concentration. The total concentration was much different with season and the highest concentration was investigated in July. The 2-butanoyl furan had high stability to temperature. The volatile compounds and essential oil of leaf both had high allelopathy on the selected shootgrowth, especialy on the *Oenothera odorta*, *Achyranthes japonica*(wild plant). Aqueous extract of leaf and root had an inhibition effect on the germination of selected seeds and the root case was higher than the leaf case. The highest inhibition effect both resulted in *hot pepper* and *lactuca sativa*.

B529 **An Assessment of Heavy Metal Contamination in the Onsan Bay Using Biological Indicators**

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The concentrations of cadmium, copper and zinc were determined in three molluscan species including *Sacculosiphonaria japonica*, *Reishia clavigera* and *Crassostrea gigas* to assess heavy metal contamination in the Onsan Bay. And the concentrations were compared with those in *Littorina brevicula* (Song *et al.* 1997) and *Mytilus edulis* (Paek and Lee 1998) in previous studies. In the present work, we confirmed that all of these species, *S. japonica*, *R. clavigera*, *C. gigas*, *L. brevicula* and *M. edulis*, could be used as biological indicator to monitor heavy metal contamination. Most of all, *L. brevicula* , effectively showing concentration gradients of the heavy metal contamination, was proved to be suitable bioindicator of cadmium, copper and zinc contamination.