

Effects of soil-heavy metal on the vegetation of Dalseong abandoned mine, Kyeongsangbuk-do, Korea.

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During the period 1993-94, the survey was carried out to investigate effects of heavy metals on soil, plant tissue and vegetation in Dalseong abandoned mine, Kyeongsangbuk-do, Korea, which has been abandoned since 1974, the survey sites were sampled for four sites, such as the entrance of abandoned mine(site I), muck field (bare land, site II), *Robinia pseudoaccasia* community of abandoned mine(site III) and *Robinia pseudoaccasia* community of control area (site IV).

The contents of Pb and Cu in each site were about two to ten times higher than those of uncontaminated soils, but the contents of Cr, Zn, Fe, Mn and Al were lower. The contents of heavy metals on abandoned mine were relatively higher than those of control area except Cr and Al. The contents of Pb on leaves of *Miscanthus sinensis* var. *purpurascens*, *Artemisia princeps* var. *orientalis* and *Robinia pseudoaccasia* was about 20-50 times higher than that of uncontaminated plant tissues. Therefore *Miscanthus sinensis* var. *purpurascens*, *Artemisia princeps* var. *orientalis* and *Robinia pseudoaccasia* might be used as lead indicators on Dalseong abandoned mine.

The vegetation cover of site I was very low for 5% and dominant species were *Miscanthus sinensis* var. *purpurascens*, and *Artemisia princeps* var. *orientalis*. The vegetation cover of site III was relatively

high for 80% and dominant species was *Robinia pseudoaccasia* on tree layer and *Artemisia princeps* var. *orientalis*, *Miscanthus sinensis* var. *purpurascens* and *Robinia pseudoaccasia* on herb layer. The important value of *Quercus serrata* on shrub and herb layer of control area (site IV) was relatively higher than that of site III.