

## Heavy Metal Content of serpentine and adjacent rhyolitic soils, and vegetations on their soils in Ulsan Mine, Ulsan

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This study is investigated for the degrees of toxification in the serpentine and adjacent rhyolitic soils, and vegetations on their soils in Ulsan Mine, Ulsan. The vegetations include *Artemisia vulgaris* and *Miscanthus sinensis*.

The serpentine soils are high in the nickel(1483-1524 ppm), chromium(372-435 ppm) and cobalt(74-79 ppm) and low zinc(45 ppm) content, whereas the rhyolitic soils show high zinc(~222 ppm) and low nickel(~74 ppm), chromium(~80 ppm) and cobalt(~41 ppm) content. The vegetations within the serpentine soils are high in the nickel(>108 ppm), chromium(>135 ppm) and cobalt(>10 ppm) content whereas those within the rhyolitic soils are high in the zinc(>126 ppm) content. Comparing with *A. vulgaris*, *M. sinensis* in the serpentine soil has high in the most of elements whereas that in the rhyolitic soils is low in the most of elements except cobalt content. Ratios of the iron to nickel content for the *A. vulgaris* and *M. sinensis* are low in the serpentine soil(45 ppm and 60 ppm, respectively) relative to the rhyolitic soil(793 and 925, respectively).

The vegetations are low in the most of elements relative to the soils. However, heavy metal uptakes by *M. sinensis* of the vegetations are similar to serpentine soil and those of *A. vulgaris* are similar to rhyolitic soils.

## Seasonal Variation in Appearance and Growth of Weeds in Zoysiagrass Lawn

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Studies were undertaken to investigate the seasonal variation in appearance and growth of both monocotyledonous and dicotyledonous weeds grown in zoysiagrass lawn in POSCO. Weeds found in the zoysiagrass lawn throughout the season were 70 species of broadleaved or grassy weeds. Most common weeds infested the turf area of POSCO were identified *Trifolium repens*, *Artemisia princeps* var. *orientalis*, *Bothriospermum tenellum*, *Poa annua*, *Kummerowia striata*, *Vicia angustifolia*, *Arthraxon hispidus*, *Cyperus amuricus*, *Digitaria sanguinalis*, *Hydrocotyle maritima*, although dominant weed species were different in season.