

## عنوان مقاله:

Evaluation of cement dust effects on soil microbial biomass and chlorophyll content of *Triticum aestivum* L. and *Hordeum vulgare* L.

## محل انتشار:

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## خلاصه مقاله:

Overall plant growth and microbial biomass can be effected by dust accumulation. The chloroform extraction method was used to evaluating the effect of cement dust pollution emitted from Kurdistan cement factory on soil microbial biomass carbon. Chlorophyll content (a, b and total) of plants species was measured in different distance from cement factory. Microbial biomass C (Cmic) amounts ranged from 0.138 to 1.102 mg/g soils in the polluted sites and from 0.104 to 1.283 mg/g soils in the control area. Soils polluted with alkaline cement dust resulted in meaningful reduction in Cmic levels compared to control soils. Pearson correlation coefficients (r) show Cmic was positively correlated to soil CaCO<sub>3</sub> content (r = 0.09). Cmic/Corg ratio was 2.54 and 1.92 in the control and cement polluted sites, respectively. Reduction in this ratio can be resulted from soil degradation in cement polluted soils. A significant decrease in the Cmic/Corg ratio in cement dust-polluted soils illustrated that this factor can be applied as a good indicator of soil quality. In the case of chlorophyll content of plant species, maximum reduction of total chlorophyll for *Triticum aestivum* L. was 45% compared to *Hordeum vulgare* L. with 60%. Therefore, results show higher sensitivity of *H.vulgare* than to *T. aestivum*.

## کلمات کلیدی:

Cement dust; Chlorophyll chloroform fumigation-extraction (CFE); Cmic/Corg ratio; *Triticum aestivum* L

## لینک ثابت مقاله در پایگاه سیویلیکا:

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