عنوان مقاله:

The effect of two humic substances on the growth and lead Uptake of corn in calcareous soil

محل انتشار:

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نویسندگان:

Raziyeh Kazemi - Department of Soil Science, College of Agriculture, Shiraz University, Shiraz, I. R. Iran

N. Karimian - Department of Soil Science, College of Agriculture, Shiraz University, Shiraz, I. R. Iran

A. Ronaghi - Department of Soil Science, College of Agriculture, Shiraz University, Shiraz, I. R. Iran

J. Yasrebi - Department of Soil Science, College of Agriculture, Shiraz University, Shiraz, I. R. Iran

خلاصه مقاله:

ABSTRACT- In the past few decades, accumulation of heavy metals, such as lead (Pb), in soils has increased as a result of human activities.The environmental hazard associated with soil enrichment in heavy metals is related to their mobility and plant availability. Application of various materials such as humic may influence the amount of Pb taken up by plant. Four levels of each of liquid and solid commercial humic substances were applied in this study which were performed as two completely randomized factorial design experiments in a calcareous soil polluted with three levels of Pb. Results of a greenhouse study with corn (Zea mays L., cv Hido) showed that the two commercial humic substances with different chemical composition, affected dry mater yield differently. Influences of humic substances on dry mater yield were most likely dependent on their chemical composition. Maximum dry mater yield was observed at manufacturer's recommended levels of humic substances. But, the solid humic treatments had no significant effect on dry mater yield. Application of both liquid and solid commercial substances significantly increased uptake of Pb in corn shoots. Addition of humic substances significantly increased the enrichment factor in both experiments but affected the micronutrient uptake only slightly.

کلمات کلیدی:

Keywords:, humic substance, lead, calcareous soil, corn