

## عنوان مقاله:

Impact of environmental pollution on the growth and production of Egyptian clover

## محل انتشار:

مجله تولید گیاهان، دوره 10، شماره 3 (سال: 1395)

تعداد صفحات اصل مقاله: 14

## نویسنده:

T.M. Galal - Botany and Microbiology Department, Faculty of Science, Helwan University, Cairo, Egypt

## خلاصه مقاله:

The present study investigated the impact of environmental pollution, represented in soil, irrigation water and air heavy metals, on the growth and production of Egyptian clover cultivated at south Greater Cairo, Egypt. Plants were sampled through five quadrats (0.5×0.5m), distributed equally in four cultivated farms in unpolluted and polluted sites, at the harvesting time. In addition, soil, air and irrigation water were collected from each farm. Significant differences in air, soil and irrigation water between the polluted and unpolluted sites were recognized. Plant density, shoot and root lengths; as well as biomass and yield were remarkably lower in the polluted site. In contrast with chlorophyll b; chlorophyll a and carotenoids contents were lower in clover cultivated in the polluted site. However, chlorophyll a/b ratio was significantly higher in plants from the polluted site. It was found that, As, Cr, Ni, Zn, Ag and V were significantly higher in clover shoots than roots, while Pb, Cd, Cu, Fe, Mn and Co concentrations were higher in the roots. The bioaccumulation and translocation factors of most heavy metals were greater than unity indicating high potential of the study species for phytoremediation in polluted areas. Egyptian clover accumulated toxic concentrations of Fe, Pb, Ni, Zn, Cd, Cr and Co, which have adverse effects directly on livestock and indirectly on human health through its flow in the food chain. In order to use Egyptian clover as a forage crop, its cultivation should be avoided in polluted areas.

## کلمات کلیدی:

Egyptian clover, Pollutants, Heavy metals, bioaccumulation, Translocation

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/939145>

