

## عنوان مقاله:

Effect of Soil Physico-Chemical Characteristics on Cyanobacterial Communities in Arid Lands

## محل انتشار:

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## نویسنده:

## خلاصه مقاله:

Cyanobacteria are a group of prokaryotes that can live under stressful environmental conditions due to their high metabolic flexibility. In this study, we examined the terrestrial cyanobacterial communities in the wheat fields adjacent to the industrial areas of Yazd province. The physical and chemical properties of the soils were evaluated, including pH, EC, salinity, and the concentration of two heavy metals, lead, and cadmium. In addition, the diversity and abundance of cyanobacteria were investigated in the soil of the studied stations. The frequency of taxa was determined based on the colony count method. According to the results, the amount of cadmium was very low (lower than 0.1 ppm), but the lead concentration in the studied stations varied between 1.602 ppm and 4.044 ppm. The sodium concentration in the soil ranged from 16.18 to 89.54 mEqL<sup>-1</sup>. The present results show that with a slight increase in the concentration of lead in the ground, the diversity of cyanobacteria does not decrease. Still, an increase in the concentration of information from a specific range causes a reduction in their biodiversity. Moreover, the cyanobacteria abundance does not show any significant decrease in this range of lead concentration. This result may indicate the relative resistance of the dominant taxon to lead metal and the development of these taxon communities in stressful conditions.

## کلمات کلیدی:

Cyanobacteria, Diversity, Heavy Metal, Salinity, soil texture

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