

## عنوان مقاله:

.Breeding by In vitro Culture to Improve Tolerance and Accumulation of Lead in Cynodon Dactylon L

## محل انتشار:

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## خلاصه مقاله:

Turfgrasses are usually important groundcover plants in many landscapes. They occupy the lowest surface of the landscape, close to pollutant particles. So, they can be an attractive option for environmental remediation. Today, high concentrations of hazardous chemicals such as lead are among the most serious environmental problems. In vitro selection of turfgrass accumulator or tolerant of toxic ions may lead to production of plants that have better adaption to polluted sites. This study was undertaken to investigate the tolerance or accumulation potential in Bermuda grass to high concentrations of lead under tissue culture condition and identifying differences at the molecular level among accumulators by RAPD markers. Callus that were used for in vitro selection were exposed to different concentrations of lead in the media. After the first mowing, tolerant plantlets were evaluated for lead accumulation potential. All plants of Bermuda grass originating mainly from regeneration pathways had undergone genetic changes. The results revealed that occurrence of somaclonal variation via somatic embryogenesis and organogenesis of Bermuda grass culture with a frequency of ۳۳%. Although some in vitro derived plants showed increase in uptake potential of lead in their shoots (۲ times higher Pb extraction), there were some regenerates with decreased lead accumulation in shoot, and some varieties without any changes in lead uptake properties in comparison to the control. Molecular marker could be efficient in determining the genetic changes induced by somaclonal variation. The improvement of lead accumulation in lead extraction varieties indicated a successful mutation in Bermuda grass for breeding traits such as phytoremediation purpose.

## کلمات کلیدی:

Bermuda grass, Lead accumulation, Lead-RAPD

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