

## عنوان مقاله:

Population genetic structure of *Ustilago maydis* in Iran

## محل انتشار:

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## خلاصه مقاله:

The fungus *Ustilago maydis* causes common smut disease in corn. Under favorable conditions, it can cause severe damage to corn. In this study, the genetic structure of *U. maydis* populations in Iran from the most corn-growing regions of seven provinces, including Ardebil, Fars, Isfahan, Kerman, Kermanshah, Khuzestan, and Qazvin, was evaluated using rep-PCR with primers; BOX, ERIC, and REP. Rep-PCR reactions with 109 isolates of *U. maydis* produced seven distinct clusters consistent with their geographical origin with few exceptions. The results of AMOVA revealed significant genetic differences within and between pathogen populations. The Euclidean similarity coefficient and the UPGMA algorithm indicate five distant clusters based on the disease severity index. The mean comparison of the disease severity index grouped target isolates into 18 clades using the Tukey test. Our findings showed that the pathogenicity assay-based grouping was not consistent with those of the geographical origin of the isolates nor their genetic similarity.

## کلمات کلیدی:

corn, common smut, pathogenicity, genetic diversity

## لینک ثابت مقاله در پایگاه سیویلیکا:

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