THE COMPARATIVE FINGERPRINTING ANALISYS OF DIFERENT *OROBANCHE* ACCESSIONS

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Abstract

Orobanche cumana Wallr. is a parasitic plant spread on Republic of Moldova territory, which significantly affects the harvest. The broomrape accessions are highly variable and quickly evolve new races. Three DNA - based fingerprinting techniques - simple sequence repeats (SSR), inter simple sequence repeats (ISSR) and random amplified polymorphic DNA (RAPD) analyses, were applied in broomrape populations analysis to assess genetic diversity.

Broomrape seeds collected from 39 sunflower fields located in different parts of the Republic of Moldova and three samples belonged from Romania, Ukraine and Spain, as well as two accessions collected from *Nicotiana tabacum* L. were used in this experiment.

In fact, a total of 132 ISSR and 50 SSR products were identified by 14 and, respectively, 12 primers in the accessions collected from sunflower fields. The polymorphic information content (PIC) was 0.86 and 0.57, corresponding, in the case of ISSR and SSR analysis.

It is of great interest that broomrape accessions collected from tobacco have presented distinct profiles. Thus, one of them showed profiles similar to those of the broomrape belonged from sunflower fields, while other presented lack of amplification with all SSR and ISSR primers and different amplification with RAPD primers. Thereby, obtained data support idea that one of the populations represents another species of *Orobanche.* Following complex studies will be developed to identification of species.

Keywords: broomrape, sunflower, genetic diversity