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EXISTENCE OF GENE DUPLICATION IN ADH-2 OF Dicpadi serotinum.

In Dicpadi serotinum (L.) Medic exist two zones of ADH activity on the basis of migrational distance: ADH-1 the most anodal zone in relation to the origin (which is expressed in roots, leaves, ovaries, seeds and anthers) and ADH-2 (only in pollen grains).

In a previous work (1) we have stated the possible existence of genic duplication at diploid level (2n=8) of this species for ADH-1.

Studying the pollen grains in different populations for analyzing the ADH-2 variability we have found the following electrophoretic phenotypes of ADH-2. (See figure). It is possible to identify a total number of seven electromorphs in the ADH-2 zone which we have named A, B, C, D, E, F and G.

The variation in ADH-2 of Dicpadi is fully consistent with a dimeric subunit structure.

We think that the gene which specifies this enzyme is duplicated because this species displays a fixed heterozygous electrophoretic phenotype for ADH-2 and also by the presence of individuals with more than three bands. Moreover, since pollen of diploid species is haploid the isozymic heterodimers produced in them would depend on the subunits coded by different loci present in the individual grains (2).