Diversitatea genetică la câteva linii mutante de Lupin alb (lupinus albus l.) relevată cu ajutorul markerilor moleculari

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In 1996 the seeds from 51 cultivars of Lupinus albus were irradiated with three different doses of gamma-rays (5, 10 and 15 kr). Several mutant lines was obtained and selected in the period 1996-2001. In 2001 we tried to identify the genetic differences between 20 mutant lines, obtained from only 4 cultivars, using the RAPD and AFLP techniques using total genomic DNA from these 24 lupine cultivars. First, for the both methods we made a screening using 60 decamer primers for RAPD and 24 EcoRI+3/ MseI+3 primers combinations for AFLP. Finally, we chosen 14 primers for and 11 EcoRI+3/ MseI+3 primers combinations for AFLP (which generated polymorphic and clearly detectable bands). The RAPD fragments (generated by the 14 selected primers) analysed were ranging from 250 bp to 1632 bp. A total of 250 scorable bands were amplified and 99 (39.6%) were polymorphic. The genetic similarity was estimated between 0.881 and 0.937. The 11 AFLP primer pairs generated 500 scorable bands from which 139 (27.8%) were polymorphic. The fragments were ranging from 50 bp to 63 bp. Two primer pairs differentiated all cultivars. The genetic similarity was between 0.922 and 0.989. Dendrograms for both methods were generated. The Mantel test calculated for comparing the genetic similarity obtained with RAPD was r = 0.856 and for AFLP was r = 0.825. The cluster analysis was made on the base of unweighted paired group method of arithmetic means (UPGMA). The similarity between the dendrograms is discussed.