AN ESTIMATE OF THE LEVEL OF POLYMORPHISM BETWEEN FORMS OF SPRING BARLEY (*HORDEUM VULGARE* L.)

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AFLP and RAPD molecular markers have wide application as tools for the estimation of genetic diversity, and polymorphism and for DNA fingerprinting. We used these techniques to designate the level of polymorphism between three pairs of spring barley forms. Three of these forms, Mla 20, Bryl and Mla21, are wild types of barley with powdery mildew resistance alleles. Scarlett and Orthega are agronomically important but suseptible to powdery mildew. Barley powdery mildew resistance genes are under extensive study. Polymorphisms were detected between three pairs of the barley forms: Mla21 and Orthega, Bryl and Orthega, and Mla20 and Scarlett. 440 random RAPD primers were used for each pair of barley forms, and we obtained 86 polymorphic primers for the first, 74 for the second, and 89 for the third. In addition, we performed AFLP analysis. Using 64 pairs of AFLP primer combinations, we detected 3876 loci, of which 351 were polymorphic (representing 9% polymorphism) for Scarlett and Mla 20. Orthega1 and Bryl were analysed with 47 pairs of primer combinations, and 2760 AFLP bands were obtained; 135 of them were variable (4.8% polymorphism). Only 750 loci were generated from 14 pairs of primer combinations, and only 70 of them were polymorphic (9.3% polymorphism). For further analysis, we would like to find the RAPD and AFLP molecular markers linked to the loci confering powdery mildew resistance.