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Editor in Chief Wan-Quan CHEN

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POWDERY MILDEW RESISTANCE IN SERBIAN BARLEY GENOTYPES

Mirjana LALOŠEVI Ć, Radivoje JEVTI Ć

Small grains Department, Institute of Field and Vegetable Crops, 21000 *Novi Sad, Serbia.*
E-mail: *mirjana. lalosevic@ nsseme. com*

Powdery mildew caused by *Blumeria graminis* f. sp. *hordei* is very common barley disease in Serbia. Therefore, lot of effort is put into the breeding for resistance to this pathogen. In this study, collection of Serbian barley genotypes consisted of 172 genotypes, was evaluated for the resistance to *B. graminis* f. sp. *hordei*. The assessment was done repeatedly in the field trial, once a week, from growth stages 69 to 71. Types of infection and intensity of infection were determined. Coefficient of infection was calculated using the formula of the Levine and Basile, 1959. Furthermore, the Area Under Disease Progress Curve - AUDPC was determined. Relative AUDPC of each genotype was calculated as ratio of AUDPC of each genotype and sensitive control. For further investigation of resistance in controlled conditions, barley genotypes that expressed good level of resistance in the field based on AUDPC data, were selected. Resistance of seedlings (10 days old) was assessed in conditions of artificial lighting in the photoperiod of 12 h light-12 h darkness at the (19 ± 1)℃. Inoculum of powdery mildew used for testing was a mixture of population *B. graminis* f. sp. *hordei* collected all over the Serbia. Inoculation of the seedlings was performed using the settling tower. Latent period and infection frequency were measured. According to these parameters different levels of resistance to *B. graminis* f. sp. *hordei* were established. The total number of 23 (13. 37%) barley genotypes expressed good level of resistance to powdery mildew. These genotypes will be used for further analysis in Serbian barley breeding program.