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COMPARISON OF THE β-GLUCAN CONTENT IN DIFFERENT BARLEY GENOTYPES

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poster presentation

Among cereals, the largest amount of β-glucan is contained in oat and barley. The content of β-glucan varies from 2.5% to 11.3% in the whole barley seed. β-glucans have a number of positive effects on human health and a wide range of potential applications in the food and pharmaceutical industry.

The aim of our research was to analyze the variability of β-glucan content in ten varieties of barley. For determining the content of β-glucan ICC Standard method No. 168 was used.

Based on the identified variability of β-glucan content, a similarity between barley varieties was established and was shown by dendrogram. Three clusters of similar varieties were noticed. Within the Cluster 1 with the highest content of β-glucan, there are two varieties - Oplenac (7.08%) and Pek (6.93%) with a degree of similarity 91. This pair shows the distance from the other cluster of 35, and is in relation to the third cluster 51. The other cluster consists of four varieties (the distance between them is 12 to 18), with a slightly lower concentration of β-glucan: Orion (6.35%), Jastrebac (6.06%), Dinarac (5.80%) and Kraguj (5.65%). In the third cluster, varieties with the largest distance from the previous two clusters are grouped: Novosadski 488, Profit, Dunavac and Midžor, with a concentration of β-glucan less than 5%.

The results indicate a genetic divergence in β-glucan content between the investigated genotypes and the ability to select the appropriate barley genotypes for breeding programmes.

Keywords: β-glucan, barley, genotypes