

PC-13

Characteristics of high β -glucan resources quality of Barley

Seul-Gi Park^{1*}, Young-Mi Yoon¹, Jin-Cheon Park¹, Chang-Hyun Lee¹, Tae-II Park¹

¹National Institute of Crop Science, RDA, Wanju 55365, Republic of Korea

[Abstract]

β -glucan, a nonstarch polysaccharide, is one of the main functional component in the cell wall of barley. This study was quality characteristics to use a korean variety with a high β -glucan as an original material for developing functional food. The high β -glucan 'Jeonju528' and 'Betaone' were compared with 'Hyeyang', 'Dahyang', 'Hwanggeumchal' and 'Glacier AC38' total 6 varieties. Seed section dyed to classify of Waxy/non-waxy type, starch granule was tested and moisture, protein, amylose, and β -glucan of whole grains and pearl barleys were experiment. Whole grains were the average protein of 13.2% and were the average starch 50.1%. β -glucan of whole grains were 5.3~10.0%, and amylose were 3.0~23.4%. Pearl barleys were the average protein of 11.7% and were the average starch of 65.0%. β -glucan of pearl barleys were 6.5~12.3%, and amylose were 3.6~31.1%. As a results of the correlation analysis were recognized significance among varieties for protein, starch and β -glucan but there was no difference in other traits. It was concluded that amylose showed a positive correlation with starch and β -glucan showed a negative correlation with amylose.

[Acknowledgement]

This research was carried out with the support of "Development of molecular marker with β -glucan and disease resistance for improving barley breeding efficiency (project No. PJ01682202)" RDA, Republic of Korea.

*Corresponding author: E-mail, ahsia1004@korea.kr Tel. +82-63-238-5225