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Analysis of anthocyanin contents for development of high anthocyanin varieties in corn grain

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Anthocyanin pigments are extracted from various plants and its extracts are used for food additives. Quite a number of the effectiveness of anthocyanins is widely known such as antioxidant and the pigments play important roles for human health. The objective of this study is to select high pigment hybrids by analysis of anthocyanin contents in corn grain so as to increase pigment production. We selected twelve among 100 hybrids and analyzed yield and anthocyanin contents at 2014 in Hongcheon, republic of Korea. Grain yield is quite different among selected hybrids from 2.0t to 5.5t per hectare. The total contents of three anthocyanins including cyanidin-3-glucoside (C-3-G), pelargonidin-3-glucoside (Pg-3-G) and peonidin-3-glucoside (Pn-3-G) vary from 30 mg to 140 mg per 100 g. C-3-G is a dominant anthocyanin and the contents of C-3-G, Pn-3-G and Pg-3-G are 80%, 12.6% and 7.4% respectively. The more C-3-G in corn grain, the more Pg-3-G and Pn-3-G therefore, C-3-G can be used for selection indicator of high anthocyanin hybrids. In order to develop varieties and industrialize corn pigments, it is necessary to select inbred lines containing high C-3-G and select parental lines having good combining ability among selected lines.

Biography

Jong Yeol Park has completed his PhD from Kangwon National University in Republic of Korea. He is the researcher of Maize Research Institute in Gangwon Agricultural Research and Extension Services.

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