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

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Carotenoid pigments are fat-soluble red-orange colored pigments found in plants. Carotenoids are the precursors of vitamin A and an essential nutrient for animals including humans. The objective of this study is to select high pigment hybrids by analysis of carotenoid contents in corn grain so as to increase pigment production. We selected 10 among 100 hybrids and analyzed yield and carotenoid contents at 2014 in Hongcheon, Republic of Korea. Grain yield is quite different among selected hybrids from 0.7 t to 0.9 tonne per hectare. We analyzed the 4 carotenoids including α-carotene, β-carotene, lutein and zeaxanthin. α-carotene was not detected. β-carotene was 0~0.5 mg/100 g, lutein was 0.5~0.8 mg/100 g and zeaxanthin was 0.2~0.4 mg/100 g. In order to develop varieties and industrialize corn pigments, it is necessary to select inbred lines containing high carotenoids and select parental lines having good combining ability among selected lines.

Biography

Sang Hyun Lim received PhD from Kangwon National University in Republic of Korea. He is the Section Chief of Quality Research Laboratory in Gangwon Agricultural Research and Extension Services.

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