Analysis of carotenoid contents of corn lines for development of high carotenoid varieties

Jongyeol Park, Gunghui Kim, Sihwan Ryu, Heeyeon Kim, Youngho Seo, Jaekeun Choi Sanghyun Im and Kijin Park
Gangwondo Agriculture Research and Extention Services, Korea

Carotenoids are natural pigments existing in red and orange colors, playing roles such as antioxidant, and extracting from fruits and vegetables. There are about 300 known carotenoids. Carotenoids have various derivatives such as Lycopene, β-Carotene, Lutein, Capsanthin. Lutein and Zeaxanthin are the pigments related to prevention of eye disease, β-carotene is a vitamin A precursor having an activity for eye health. This study was conducted to develop high carotenoid varieties in corn grain by analysis of carotenoid contents of corn lines. We used 52 inbred lines developed from 2002 to 2012 in Hongcheon, South Korea and analyzed the contents of lutein, zeaxanthin, and β-carotene using corn grains. The range of carotenoid contents analyzed by HPLC for lutein, zeaxanthin, and β-carotene were 0–4.81, 0–4.14, 0–0.75µg/g, respectively. The average contents for the three carotenoids were 0.80, 1.57, 0.24 µg/g, respectively. We selected 10 inbred lines from the analysis. These selected lines will be used for making hybrids, then the hybrids will be tested for yield and adaptability. The selected hybrids will be utilized to industrialize corn pigments supporting eye health.

Biography
Jongyeol Park has completed his PhD from Kangwon National University in republic of Korea. He is maize breeder in Gangwon Agricultural Research and Extension Services.

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