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## **Effect of Sowing Date and Planting Density on Growth, Yield and Anthocyanin Content of Purple Corn 'sakso 1'**

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### **[Abstract]**

Purple corn Saekso 1 was developed by Maize Research Institute (Hongcheon, Gangwon, Korea) and registered in 2011. Saekso 1 is a anthocyanin-rich hybrid variety that is yellow grain, purple husk and cob. Purple husk and cob of Saekso 1 is as a resource for the bioactive material by health food. In order to investigate optimum sowing date and planting density of Saekso 1. Agronomic characteristics were compared by sowing times April 25, May 15 and June 5. Husk dry weight were 68, 72 and 70kg·10a<sup>-1</sup>, respectively. Cob dry weight were 90, 92 and 92kg·10a<sup>-1</sup>, respectively. Content of cyanidin-3-glucoside in husk were 0.56, 0.62 and 0.56% and in cob were 0.19, 0.14 and 0.17%. Therefore, the sowing time to increase husk and cob weight and content of cyanidin-3-glucoside is appropriate for planting in mid-May. The number of plants in planting density trial was 9,400, 7,000, 5,700 and 4,700 plants in 10a area. Plant height at each trial were 249, 250, 246 and 248cm, respectively. Husk dry weight were 76, 67 and 63 and 60kg·10a<sup>-1</sup>, respectively. Cob dry weight were 112, 92, 87 and 81kg·10a<sup>-1</sup>, respectively. Content of cyanidin-3-glucoside in husk were 0.70, 0.71, 0.71 and 0.75% and in cob were 0.21, 0.28, 0.26 and 0.20%. Therefore, appropriate sowing time was in mid-May and planting density was 5,700 ~ 7,000 plants·10a<sup>-1</sup> in order to increase the yield and content of cyanidin-3-glucoside of purple corn in South Korea.

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