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## Adaptability Test on Low Organic Soil and Selection of Varieties of Soybean Cultivars

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### [ABSTRACT]

Food productivity in North Korea is about 50% lower than in South Korea. In order to increase the productivity of major crops, it is necessary to develop early maturing, disease resistance, and high-yielding varieties and apply them early. Since the late 1990s, North Korea has been actively developing potatoes, rice and corn as major food crops, and soybeans are considered important as a protein-supplying crop. Domestic cultivated varieties, which are expected to be most adaptable eco-climatologically, are mainly selected from soil with high nutrient soil. It is necessary to test separately for adaptability in low organic soil. So it is very necessary to apply technology to improve soil improvement through rotational crop selection in the middle and long-term. Therefore, this study was conducted to test the adaptability to low organic soils of domestic cultivars and to select varieties. In 2021 there are twenty two (22) varieties of soybeans were grown in low organic soil at the field of Chungbuk National University. This year twenty two (22) varieties of soybeans were also grown in low organic soil at the field of Chungbuk National University. Sowing was done on June 10, the planting distance was 70cm x 15cm, after opening the cotyledons fully, the soybeans were thinned and leaving two plants per hole. In addition, various types of growth characteristics and quantitative components were investigated to evaluate the adaptability to low organic soil of domestic varieties.

This study was conducted to investigate the growth characteristics and quantitative components of soybean varieties grown in low organic soil. The flowering period of 22 varieties of soybeans was about 14 days from July 22 to August 4. The flowers of the beans were white, purple, light purple and the pubescence color was gray and brown where most of them were gray. The highest plant height was up to 130.4 cm and lowest was 20.3 cm, highest stem length was up to 119.5 cm and lowest was 15.3 cm. Highest first pod height (FPH) was up to 34.0 cm and lowest was 3.0 cm. Highest stem diameter was up to 15.76mm and lowest was 1.76 mm. Number of main stem nodes was up to 19 and at least 1. Number of branch was up to 10 and at least 0. The number of pod per plant was up to 121. Bacterial pustule has been spread in soybean field.

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