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## Screening of Maize Varieties in Barren Land

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### [Introduction]

Recently, as barren land has increased by clearing mountains, research is needed to select crops and varieties adapted to barren soil. In general, it is reported that if crops are grown on barren land, the yield is significantly lower than that of general field soil (Aono et al. 1981). This study aims to select suitable maize varieties that can adapt to barren land.

### [Materials and Methods]

This project was conducted by creating a barren land (reclaimed using mountain soil) at Dongguk University Ilsan Agricultural Research Station. A total of 20 corn hybrids (Ahndaok, Dacheongok, Cheongdaok, Pyeonganok, Shinhwangok, Shinhwangok 2, Gwangpyeongok, Hwangdaok, Jangdaok, Gangdaok, Kwangahnok, Daahnok, Dapyeongok, Suwon 19, Duruok, Cheonganok, Cheongsaok, Singkwangok, and Yanganok) was used. For the growth and yield characteristics of corn, days to silking date (day), plant height (cm), ear length (cm), ear width (cm), weight of 100 grains (g), and yield (kg/10a) were investigated.

### [Results and Discussion]

As a result of the growth characteristics of corn, it was confirmed that the days to silking date ranged from 79 to 88 days in most varieties except for Dacheongok (91 days) and Pyeonganok (95 days). The yield of corn was the highest in Shinhwangok 2 (994.2 kg/10a) and Gwangpyeongok (983.5 kg/10a), and the lowest in Pyeonganok (473.7 kg/10a) and Hwangdaok (451.8 kg/10a). As a result, Shinhwangok 2 and Gwangpyeongok grew normally in barren land compared to other varieties, and the results of growth and quantity survey were excellent. On the other hand, it was confirmed that Dacheongok, Pyeonganok, and Hwangdaok are sensitive to barren land and affect growth delay and yield. These results can be used as basic data to develop a fertilization method for improving corn productivity in barren land in the future.

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