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Evaluation of Forage Production of Maize with Different Sowing Dates and Ridge Shape for Silage at Paddy Field in the Central Region of Korea

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[Abstract]

This study was conducted in 2021 using Kwangpyeongok and Gangdaok, that showed good yield performance both under upland and lowland conditions in the previous year. The experiments were carried out by sowing on April 22, May 14, May 30, June 19, and July 10, with aim to determine optimum sowing date in central region of Korea.

The growing degree days (GDD) required to reach the flowering stage were 1375.5-1725.3°C for upland and 1582.7-1982.4°C for lowland condition. The lowest GDD was observed in July 10 sowing regardless of ridge formation both under lowland and upland conditions for Kwangpyeongok. However, Gangdaok showed the lowest GDD under no-ridge in lowland and high-ridge in upland, both of which were sown on June 19. The difference in GDD between no-ridge and high-ridge treatment was little depending on the sowing date. In both lowland and upland, there was no significant difference between no-ridge and high-ridge treatments in stover dry matter, ear dry matter, and TDN between no-ridge and high-ridge treatments. Under upland condition, no significant difference in biomass and TDN was observed among sowing date treatments and between varieties. Under lowland condition, biomass production was severely reduced in May 30 sowing treatment, whereas no varietal difference was observed. Reduced biomass in May 30 sowing treatment may be due to excess waterlogging and lodging by rainfall.

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