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Comparison of Agricultural Characteristics and Seed Quality for Suitable Natto Varieties

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[Abstract]

Natto is a soybean fermented food from Japan, which is made from steamed soybean, *Bacillus natto* and water. Demand of Natto has increased recently because it does not have smell compared to *Cheonggukjang*, which is Korean traditional fermented food. Currently, Pungsannamulkong is the most commonly used in Korea for Natto. Four candidate varieties of soybeans were investigated and compared in terms of Agronomic Traits, quality characteristics, hard seed rate, and water absorption rate in order to determine more suitable Korean soybean variety than pungsannamulkong. 'Haewon' had higher yield than other three varieties in Goesan-gun and Jinan-gun. The infected seed rate which affects soybean processing is higher in pungsannamulkong. 'Haewon' showed low 100 seed weight with 8.6 g in Goesan-gun and 9.5 g in Jinan-gun, which was the smallest of four soybean varieties. The water absorption rate was higher in 'Haewon' than in pungsannamulkong which is desirable characteristics for Natto process. The hard seed rate of pungsannamulkong was 6 ~7%, which is considered to be unsuitable to Natto process. The yield of Natto was significantly different for each variety. 'Haewon' showed the highest amino nitrogen content with 575.0 mg%. These results suggested that 'Haewon' can be considered as suitable candidates for yield and quality of Natto compared to pungsannamulkong.

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