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Comparison of Antioxidant and yield Properties of of Adzuki Bean (*Vigna angularis* L.) Cultivars Under Different Air Temperatures and Sunshine Hours

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[Abstract]

This study investigated the antioxidant and yield properties of eight adzuki bean (*Vigna angularis*) cultivars under different mean temperature and sunshine hours in 2020 and 2021. The mean temperature in 2020 compared to 2021, which was normal, were lower during the pod extension and grain filling period. In addition, due to frequent rainfall during the vegetative period in 2020, there were fewer hours of sunshine compared to 2021.

The Adzuki Bean yield in 2020 was about 13% lower than that in 2021 due to the decreased number of pods per plant and 100 seeds weight. The stability of yields was higher in 'Hongda' and 'Hongjin' than in 'Arari', which is the most cultivated in Korea. Also, the yields of these varieties were all higher than those of 'Arari' varieties for two years.

Compared to 2021, in 2020, when weather conditions were not favorable, both antioxidant components and activity were higher. The cultivar 'Hongda' was a higher antioxidant component and activity than others for two years. The results suggested that the antioxidant component and activity were good in 2020 with about 13% decrease in yield compared to a normal year in 2021 due to mean temperature and sunshine hours.

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