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Optimum Sowing Date of Sesame-Sesame Double Cropping System in the North Central Region of Korean Peninsula

Kang Bo Shim^{1*}, Won Tae Jeon¹

¹Crop Cultivation & Environment Research Division, NICS, Suwon 126, Korea

[Introduction]

The most important advantage of cropping system is to increase output potential per area with the use of two or more crops cultivation in the same field during one or two seasons. Farmers have to consider various factors such as crops, varieties, and cultural methods to earn benefic gains under cropping system. Various types of crops, such as food crops, vegetables, silage crops are used in mixed cropping practice. The benefit of cropping system is to provide farmers self-sufficient food production as well as additional products for making money. This experiment was conducted to find out optimum sowing date for economic crops relating cropping system in the central northern area of Korea.

[Materials and Methods]

The experiment was conducted at Yeoncheon area in 2021 to develop double-cropping system of sesame and sesame. Different sowing dates of 5.5, 5.15, 5.25 in the preceding sesame crop and planting date of 7.15, 7.25, 8.5 in succeeding sesame crop were applied in view of cultivation stabilization, yield potentials etc. Sesame variety '90 days' was used as experiment material. The experiment plot was mulched for soil water and temperature preservation and weed control. Standard cultivation methods were applied and general agronomic traits and yield related traits were surveyed.

[Results and Discussion]

Study for food crop related double-cropping system development in the central northern region was conducted. Yield potential according to the sowing dates was statistically different. In a first cultivation stage, sesame yield was increased as sowing date was late. Sowing date, May 15, showed 89kg per 10a seed yield of sesame which was relatively higher than other sowing dates. In a second cultivation, sesame yield was decreased as sowing date was late. Sowing date, July 15, showed 45kg per 10a seed yield which was relatively 10~68% higher than other sowing date treatments. We concluded that optimal sowing date of preceding stage and succeeding stage in sesame-sesame double-cropping system development in the central northern area of Korea were late May, early July respectively. However, In view of overlapping of cultural practice, such as harvesting and sowing period of first and second stage, we recommended the optimal sowing date of second stage was July 25 rather than July 15.

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*Corresponding author: E-mail, shimkb@korea.kr Tel. +82-31-695-0642