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Optimum Sowing date of Spinach–Sesame Inter Cropping System in the North Central Region of Korean Peninsula

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[Introduction]

The first and most important advantage of cropping system is to increase output per area as multiple cropping involves cultivating two or more crops in the same field during one season. The techniques of cropping systems allow farmers to achieve better results by making practical use of resources such as soil, water, fertilizers etc. Various types of crops can be cultivated in mixed cropping practice, such as food crops, vegetables, silage crops. This helps farmers become self-sufficient in food production while also providing them the option to sell additional products for making money. This experiment was conducted to find out optimum sowing date related to economic crops in the central northern area of Korea.

[Materials and Methods]

The experiment was conducted at Yoencheon area in 2020 to develop inter-cropping system of spinach and sesame. Each different sowing dates of 3.10, 3.20, 3.30 in preceding crop and 5.15, 5.30, 6.15 in succeeding crop were applied in view of cultivation stabilization, yield potentials. Spinach variety ‘Woosung’, sesame variety ‘Yangbaek’ were used as experiment materials. The experiment plot was mulched to preserve soil water, temperature and control the weed. General cultivation methods were applied and surveyed general agronomic characters and yield related characters.

[Results and Discussion]

Vegetable crops related food crops inter-cropping system were studied in the central northern region. We analyzed statistical difference of the yield response in view of different sowing dates. As a result, variety, sowing date and variety x sowing date were statistically different. As sowing date was late, fresh yield of spinach was reduced. Sowing date, March 10, showed relatively higher yield. Otherwise, sowing date, May 10, showed highest seed yield in sesame. The reducing slope of spinach was more sharp than sesame. The conclusion of the study was that optimal sowing date of spinach and sesame was early March, middle May respectively. Unfortunately, weather condition in 2020 was not helpful to growth sesame crop and could not evaluate detailed data collection. Even though the study result showed March 10 and May 30 were optimum sowing date, more study is needed to reproduce the same result of year 2020 in the future.

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