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Determination of Sowing Date under Double Cropping of Sesame in the North Central Area of Korean Peninsula

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[Introduction]

Important advantage of double cropping system is to increase output per area as cropping involves two times cultivating of one crop 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. Corn and sesame are typical crops applied to double cropping practice in the north central region of Korean peninsula. This helps farmers increase yield production while also providing them the option to sell additional products for making money. This experiment was conducted to find out optimum sowing date under the double cropping system of sesame in the north central region of Korean peninsula.

[Materials and Methods]

The experiment was conducted at Yoencheon area in 2020 to develop double cropping system of sesame. Each different sowing dates of 5.5, 5.15, 5.30 in the 1st cropping period and 7.10, 7.20, 7.30 in 2nd cropping period were applied in view of cultivation stabilization, yield potentials. Sesame variety '90ilkkae' was used as experiment material. The experiment plot was mulched to preserve soil water, temperature and control the weed. General cultivation methods were applied and surveyed agronomic characters and yield potential according to the physiological status of sesame characters.

[Results and Discussion]

Determination of optimum sowing date of sesame crop under double cropping system were surveyed in the north central region. Meteorological factors such as temperature, rainfall were analyzed during crop growth period. Especially, long rainy season during July and August much negatively affected sesame growth and yield potential. The results showed that as sowing date was late, number of capsule per plant and yield of sesame was increase during 1st cropping period. Otherwise, it showed opposite results in 2nd cropping period. It concluded that optimum sesame sowing date under double cropping was May 5 at the 1st cropping and July 10 considering that 1st times of sesame harvested and continuously 2nd times of sesame sowed(transplanted). We also compared total growth duration depending on the sowing dates. Growth duration ranged from 75 days to 97 days. Sowing date, May 5th showed longest growth duration as 97 days and July 30th showed shortest growth duration as 75 days. This year meteorological conditions was one of the worst situation to cultivate sesame crop in the north central region. Therefore, more study to determine double cropping system in the region was needed in the future.

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