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Effect of sowing date and planting distance on the growth and yield of sesame in the middle area of Korea.

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Abstract

Studies were conducted to select the optimum sowing date and planting density of sesame in the middle area of Korea. To select the optimum sowing date, sesame seeds sowed from 20 April to 7 July with 15-day intervals. To select the optimum planting density, sesame seeds investigated under four different planting distances (30×10, 30×15, 30×20 and 30×25cm)respectively in the experimental field. As seeding date was delayed, days to emergence were shortened flowering and maturing date were delayed. Delayed sowing date resulted in decreased length, capsule setting stem length and number of capsules, and branchs per plant. Number of Capsules was high sowing date on 5 May in the range of 90~95ea/plant in sesame. Also yield of sesame seeds was most high on 5 May in the range of 142kg/10a by sowing date. Sowing date up to 5 May showed no effect on grain yield, but from 5 June to 5 July decreased 27%, 68% and 86%, respectively. For all planting distances, weight of 1,000 grain was not significantly different. However, number of branches and capsules tended to increase. Number of Capsules was high planting distance of 30×20cm and 30×25cm in the range of 146.7~165.7ea/plant in the Geonbaekkae. Areumkkae also showed the same tendency on planting distance of 30×20cm and 30×25cm in the range of 122.0~147.5ea/plant, respectively. Yield of Geonbaekkae and Areumkkae seeds was most high 116kg/10a, 117kg/10a, respectively on planting distance 30×20cm. Decreased in the planting distance of sesame has increased the incidence of disease and lodging. Based on the results, we suggest a planting distance of 30×20cm maximal growth and yield of sesame in the middle area of Korea. Considering growth characteristics, sesame yield ability, the optimum sowing date was 5 May and optimum planting pattern was founded to be two rows planting in one ridge and planting densities was 30×20cm.

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