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Effect of Cultivation Period on Standard Seed Potato Production

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[Introduction]

In the production of seed potatoes, cultivation of substrate culture is widely used because it is convenient to manage. However, productivity is lower than that of hydroponic cultivation, and it is necessary to standardize related cultivation technologies such as cultivation period and cultivation method is insufficient. This study investigated the effect of cultivation period on the production of standard seed potatoes.

[Materials and Methods]

The potato cultivars were Saebong, Haryeong, and Geumsun, and the places were greenhouse of Daegwallyeong-myeon and Sacheon-myeon. The cultivation period was Lowland in spring and autumn (Sacheon-myeon) and Highland in summer (Daegwallyeong-myeon). The cultivation period is spring (April 14th to July 8th, 2021) and summer (May 25th to August 24th), and autumn (September 2nd to November 18th). Tissue culture plantlets were planted in a commercial substrate (Chamgrow Co. Ltd.). Three replications of 24 plants were used for the measurement of plant height, root length, tuber weight and standard size tuber.

[Results and Discussion]

The daily average temperature and daytime (7 am to 6 pm) temperature of spring cultivation were 22.2°C and 27.9°C, respectively, summer cultivation was 21.6°C, 26.2°C, and autumn cultivation was 17.6°C and 22.2°C. Leaf growth and root length were significantly vigorous in summer cultivation. Standard size tuber and tuber weight were also excellent in summer. On the other hand, leaf stem dry matter and specific gravity were high in spring cultivation, and autumn cultivation generally showed poor growth. Therefore, summer cultivation in Highland was suitable for the production of standard seed potatoes.

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