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Effect of Medium Reuse on Medium Properties and Seed Potato Productivity

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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, there is a hassle of exchanging the medium during cultivation of potato medium, and the medium is used once at the farm and is easily discarded. Therefore, it is necessary to study the medium reuse method. This study investigated the effect of medium reuse on medium properties and seed potato productivity

[Materials and Methods]

The potato cultivars were Saebong, Haryeong, and Geumsun, and the places were greenhouse of Sacheon-myeon, Gangneung. The test treatment was carried out using new commercial medium and medium reused 1~4 times, and was tested in spring cultivation from 14 April to 8 July. Disinfection treatment of the reuse medium was performed using a sterilizing agent, and gas was removed after plastic coating. The investigation were the physical and physicochemical properties of the medium, and the number of tubers, tuber weight, specifications, and occurrence of physiological disturbances.

[Results and Discussion]

As the number of times of medium reuse was repeated, the water content (physical properties) and inorganic nutrients (chemical properties) of the medium decreased. According to medium reuse, the number of tubers was 4.0-4.8 per plant, and the tuber weight was 209-250g per plant. Specific gravity and occurrence of physiological disturbance was not significant according to the medium reuse treatment. Therefore, when thoroughly disinfecting the medium, the medium could be used up to 4 times. If the medium is reused, it is possible to reduce the cost of purchasing new medium, which has an economic effect of saving 14,720 won per m².

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