

Elimination of Chrysanthemum stunt viroid (CSVd) from an Viroidinfected Chrysanthemum through Shoot Tip Culture

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Abstract. As the increase of chrysanthemum demand on chrysanthemum increases in Korea, the production of high quality chrysanthemum is needed. Chrysanthemum stunt viroid (CSVd) is one of the important viroid, which infects chrysanthemum and induces diseases that affects the decrease of quality and yield. To solve this problem, we used different size of meristem of chrysanthemum 'Ency' for shoot tip culture and also that of combined with heat treatment at 37°C. The efficiency of CSVd elimination was influenced by the size of shoot tip. The small-sized of meristems with 1 or 2 leaf primordia were regenerated into the highest number of CSVd-free plantlets. By RT-PCR, the 214-bp band corresponding to CSVd was not detected in 22.2% of the total number of tested regenerants from shoot tips with 2 leaf primordia. While, shoot tip culture combined with heat treatment of one-month-old in vitro shoots was not effective for CSVd-elimination. The CSVd-free plants grew more vigorously than CSVd-infected plants in the greenhouse.