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Effect of Growth Regulation Substance on Plant Differentiation in Apical Meristem Culture of Amur adonis (*Adonis amurensis* Regel et Radde)

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Objectives

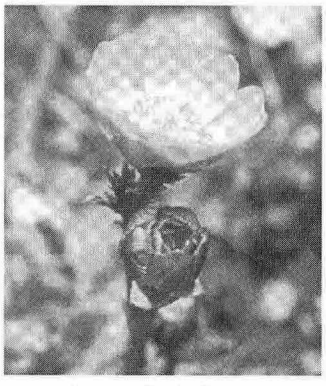
The amur adonis is promising native flower for flower bed. However, it takes 5-6 years from planting to flowering in case of propagating amur adonis by seed, and also there are limits in propagation by method of plant division. Therefore it is necessary to establish the method of mass production by plant tissue culture. This experiment was conducted to determine the effect of plant growth regulation substances on plant differentiation in apical meristem culture.

Materials and Methods

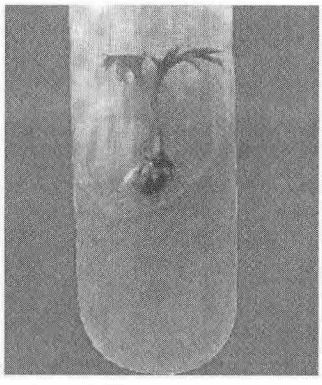
1. Materials: Amur adonis shoots grown after breaking dormancy were used
2. Methods: The 1/2 MS media with sucrose 30 g and agar 10 g per litter were used as basic media in this experiment, and growth regulation substances were added to media by combinations in which the level of NAA were 0, 0.1, 0.5 mg and that of BA were 0, 0.1 mg and that of kinetin were 0, 0.1, 0.5 mg per litter. The shoot growing points of amur adonis were cultured *in vitro* at 20°C and with 16 hours photoperiod for 60 days after culturing for 10 days in dark state, and the formation rate of callus, shoot and root were examined.

Results and Discussion

The rate of plant differentiation was higher in media with growth regulation substances than in control, and was the highest in 1/2 MS medium with NAA 0.5 mg, BA 0.1 mg and kinetin 0.1mg per litter of the media with growth regulation substances, as were 69%, 62% and 47% in callus, shoot and root formation rate, respectively.



Amur adonis flower



A plant differentiated *in vitro*

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