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Cryopreservation of Winter Buds of Herbaceous Peony (*Paeonia lactiflora* Pall.) by Desiccation

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Objectives

This study was carried out to establish the suitable cryopreservation conditions for the winter buds of herbaceous peony. We compared with the survival of cryopreserved winter buds according to the desiccation times and methods.

Materials and Methods

1. Materials : Winter buds of herbaceous peony(*Paeonia lactiflora* Pall.)
2. Methods.
 - 1) Desiccation procedures
 - Desiccation by air drying for 0, 1, 3, 5 and 7h
 - Desiccation with silica gel for 2 and 4h
 - 2) Effect of cold acclimation on cryopreservation : 4°C, dark condition for 16days

Results and Discussion

The survival rate of non-desiccated winter buds was low(23.3%), but that of desiccated winter buds

was increased with expanding desiccation times. The highest survival rate(79.2%) was obtained from the cryopreserved winter buds which were desiccated for 5h by air drying. The survival efficiency of winter buds by desiccation with silica gel was relatively low(55%) in comparison with that of buds desiccated by air drying.

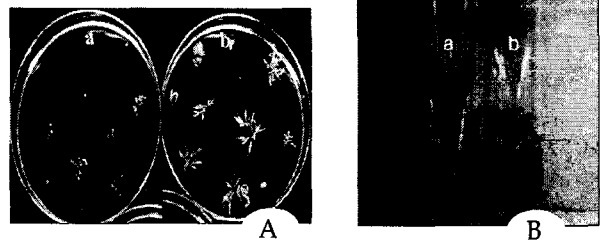


Figure 1. Shoot regeneration from cryopreserved winter buds

A: Shooting from non-desiccated winter buds(a) and desiccated winter buds(b) for 5h by air drying, B: Shoot development from non-cryopreserved(a) and cryopreserved winter buds(b)