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Regeneration of Bottle Gourd Inbred lines and Induction of Putative Embryogenic Callus

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Objectives

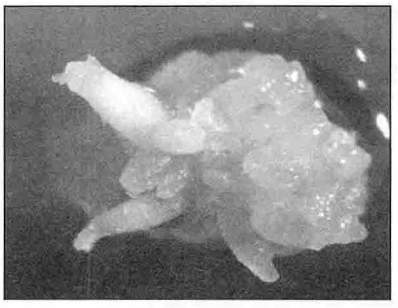
The objective is to develop a regeneration system of gourd inbred lines and to obtain an induction system for embryogenic callus. The ultimate objective for this research is to establish a transformation system of gourd crops.

Materials and Methods

1. Cotyledons from 10 inbred lines of gourd (*Lagenaria siceraria* Standl.) were used for explants
2. To obtain the regeneration condition, cytokinin (BA 0, 0.5, 1.0, 2.0, 4.0 mg/l) and auxin (IAA 0, 0.1, 0.5, 1.0 mg/l) concentrations were combined in MS medium.
3. For embryogenic callus induction, 2,4-D (0, 1.0, 2.0, 4.0, 6.0 mg/l) was supplied in MS medium.

Results and Discussion

1. A total of 10 inbred lines were tested for the regeneration rate and the rate was dependent on each line. Generally, cytokinin over 2 mg/l and IAA 0.5 mg/l was required for the shoot formation.
2. For the first time, embryogenic calli, although not confirmative yet, were obtained from the inbred line #8 and #10 by inducing callus at 2,4-D 2mg/l.
3. Putative embryogenic cell aggregates in suspension culture were able to undergo normal embryo mass propagation on 2,4-D 2mg/l over and zeatin at 0.2 mg/l. In solid culture (on the plate), the putative embryogenic callus was propagated well.



Putative Embryogenic Callus

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