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## Multiple Shoot Regeneration and *in vitro* Bulblet Formation from Garlic Callus

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### Objectives

To determine, optimal concentration of plant growth regulators and sugars for callus induction, multiple shoots regeneration and *in vitro* bulblet formation

kinetin, NAA, IAA

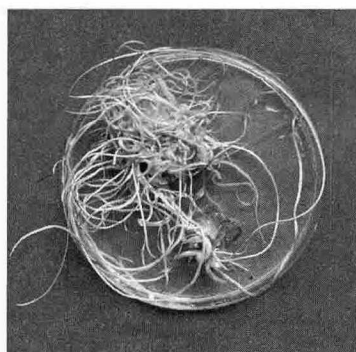
4. *In vitro* bulblet formation: GA, jasmonic acid, sugars

### Materials and Methods

1. Plant material: Korean garlic cultivar (*Allium sativum* L. cv *Euisung*)
2. Callus induction: MS with kinetin, BA, 2,4-D, NAA, 30 g/L sucrose, 8g/L agar at pH 5.8 using leaf segment
3. Multiple shoot regeneration: MS with various conc. of BA,

### Results and Discussion

Highest yields of callus from leaf segment was observed on MS/1.0 mg/L 2,4-D, 30 g/L sucrose and 8 g/L agar. Regeneration of multiple shoots from callus was high in the MS/kinetin 3.0+NAA 3.0 mg/L or BA 1.0+NAA3.0 mg/L, containing 30 g/L sucrose. The frequency of *in vitro* bulblet formation was closely associated with the concentration of JA in medium, whereas addition of GA significantly suppressed bulblet formation. The rate of *in vitro* bulblet formation was highest in MS medium supplemented with 2.0 mg/L JA and 120 g/L sucrose.



Multishoot



In vitro Bulbet

Figure 1. Multishoot regeneration and *in vitro* bulblet formation from garlic callus.