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## In vitro formation of shoots and bulbs for micropropagation of garlic

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### Objectives

We have carried out to study for inducing multi shoots from a shoot tip culture as a preliminary step before transferring to tank culture. Much favorable seed bulbs of garlic could be obtained by inducing favorable shoots on the preliminary step.

### Materials and Methods

#### 1. Material

Plant Garlic (*Allium sativum* L. cv Seosan)

#### 2. Methods:

The shoot tips of Garlic (*Allium sativum* L. cv Seosan) were cultured for 30 days at 25°C with 16/8 photoperiod on MS medium containing 3% sucrose, 0.2% phytigel and growth regulators. The medium was adjusted pH 5.8 before autoclaving at 121°C for 15 min. Kinetin or 2iP was added to the basal medium at 1, 2 and 4 mg · L<sup>-1</sup>, with or without IAA or NAA at 0.2 mg · L<sup>-1</sup>.

### Results and Discussion

After culturing for 30 days on MS medium containing cytokinin and auxin, favorable shoots proliferation for 2.9 shoots contrast violently with bulb formation for 0.9 on the MS medium supplemented with 4 mg · L<sup>-1</sup> kinetin and 0.2 mg · L<sup>-1</sup> IAA. However both shoot and bulb formations were increased significantly on the MS medium supplemented with 2 mg · L<sup>-1</sup> 2iP and 0.2 mg · L<sup>-1</sup> IAA. On this medium the average number of shoots was 3.3 and bulbs was 2.7. In some cases 10 or more shoots were formed on this medium. So, that culture of shoot tip on this medium before transferring to tank culture is highly recommended for its excellent method.