

## Research Paper

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## Effect of growth regulators and micro nutrient on growth and yield of cauliflower cv. 'SNOWBALL-16'

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**Abstract :** A field experiment was conducted to study the effect of growth regulators (GA<sub>3</sub> and NAA) and micronutrient (boron) on cauliflower (*Brassica oleracea* L.) cv. SNOWBALL-16 at Horticultural Research Farm, Anand Agricultural University, Anand during Rabi season of the year 2007-08 and 2008-09. The study conducted revealed that two foliar sprays (at 15 and 30 DAT) of gibberellic acid @ 100ppm and boric acid at 0.2 per cent were found better for growth attributes (*viz.*, plant height, number of leaves, stem length, stem diameter, days taken for marketable curd etc.), yield attributes (*viz.*, diameter, volume and weight of curd) and ultimately the early curd yield of cauliflower cultivar "Snowball-16".

**Key words :** Growth regulator, Boron, Hollowness, Photosynthates, Curd yield, DAT (Days after transplanting)

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Cauliflower [*Brassica oleracea* (L.) var. botrytis] is the most popular winter vegetable among cole crops. It is propagated through seed and healthy seedling is important to raise a good crop. The edible part, *i.e.* curd is a 'pre-floral fleshy apical meristem' and it is generally white in colour and may be enclosed by inner leaves before its exposure. Adopting various improved agro-techniques can enhance the productivity of cauliflower. The application of growth regulators has been found effective in stimulating growth and ultimately yields in vegetable crops. Among the growth regulators GA<sub>3</sub> and NAA exhibited beneficial effect in several crops including cauliflower. In cauliflower, boron deficiency has been reported in many parts of the country very frequently causing browning and hollow stem and ultimately resulting in lower yield having inferior quality. Considering this, the present investigation was taken up to find out most suitable treatment combination of growth regulators (GA<sub>3</sub> and NAA) and micronutrient (boron).

### RESEARCH METHODS

A field experiment was conducted at Horticultural Research Farm, B. A. College of Agriculture, Anand

Agricultural University; Anand (Gujarat) during Rabi season of the year 2007-08 and 2008-09. The soil of experimental site was typical sandy loam locally known as 'Goradu' which is well drained and fairly moisture retentive capacity. The experiment was laid out in Factorial Randomized Block Design with three replications, which included fifteen treatment combinations consisting of five levels of growth regulators *i.e.* GA<sub>3</sub> @ 0, 50 and 100ppm and NAA @ 100 and 200ppm and three levels of micronutrient *i.e.* boron (as boric acid) @ 0, 0.1 and 0.2 per cent. Two foliar sprays *i.e.* at 15 and 30 days after transplanting (DAT) were given during clear sun-shine hours.

For raising healthy seedling ideal seed beds were prepared as well as experimental block was well prepared and standard cultural, manurial and plant protection practices were followed to ensure a healthy crop growth. Five random sample plants were tagged in each plot and used for recording the observations of growth and yield attributes. No any serious insect-pest or natural hazard adversely affected the crop growth as well as yield.