



## Research Paper

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# Effect of the growth regulators on growth and yield of hybrid okra [*Abelmoschus esculentus* (L.) Moench]

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**Abstract :** An experiment was conducted to evaluate the effect of plant growth regulators on growth and yield of okra cv. Mahyco hybrid-10 under field conditions of Bihar Agricultural College, Sabour during July '2006. The crop was foliar sprayed twice, first at 3-4 leaf stage and second after one month of the first spray with 2,4-D (5, 10, 15 and 20 ppm), NAA (25, 50, 75 and 100 ppm) and CCC (400, 600, 800 and 1000 ppm). The maximum plant height (140.80 cm) and intermodal length (11.80 cm) were recorded with NAA at 100 and 75 ppm, respectively but the lowest plant height (108.70 cm) and intermodal length 8.65 cm were noted at 1000 ppm CCC. The number of leaves/plant, fruit diameter and fruit weight were highest under 20 ppm 2,4-D, with 46.33 leaves, 2.26 cm fruit diameter and 11.85 g fruit weight. The maximum number of branches/plant (6.67), number of fruits/plant (27.33) and yield/plot (8.937 kg) were obtained with CCC at 800 ppm which was at par with CCC at 1000 ppm and NAA at 75 ppm. Therefore, spraying of cycocel at 800 ppm or NAA 75 ppm in okra crop is beneficial for getting higher yield.

**Key words :** Hybrid okra, Growth regulators, Growth, Yield

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Okra [*Abelmoschus esculentus* (L.) Moench] a native of Ethiopia is one of the most important warm season as well as rainy season fruit vegetable grown in tropical and sub-tropical areas. It is grown mainly for its tender non-fibrous edible fruit extensively throughout India. It is very popular among the farmers because of easy in growing and has wider adaptability range. It has good nutritional value.

The discovery of plant growth substances has been considered as a revolution in the history of agriculture as it has brought amazing vast new possibilities of delicate and wonderful adjustment of development pattern in plants. Growth substances enabled man to control the plant growth and have become the greatest tool in the hands of horticulturists for increasing yield and better quality of vegetables. The use of plant growth regulators has gained a separate field of study besides varietal, manurial and cultural methods of vegetable improvement. Among the various methods, spraying of the whole plant at different stages with growth regulators has been found to be effective and useful

because this method can regulate the growth and development of plants from their active phase. The informations on okra as influenced by growth regulators in eastern zone of Bihar is meagre. Hence, the present investigation was undertaken to study the effect of growth regulators on hybrid okra.

## RESEARCH METHODS

The experiment was conducted at Bihar Agricultural College, Sabour during July '2006. The experiment was laid out in R.B.D. with three replications having thirteen treatments. The treatments comprised of the combination of four concentrations of each plant growth regulators. The plant growth regulator used were 2,4-D (5, 10, 15 and 20 ppm), NAA (25, 50, 75 and 100 ppm) and CCC (400, 600, 800 and 1000 ppm). Seeds were sown at the spacing of 60 cm x 45 cm in a plot of 3 m x 2.70 m. The hybrid used was Mahyco hybrid - 10. The crop was fertilized with 12 ton FYM along with NPK @ 120:60:60 kg/ha. The plant growth regulators solutions were used as