



Effect of seed treatment with GA₃ and NAA on growth and yield of okra [*Abmelmoschus esculentus* (L.) Moench] cv. GO-2

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ABSTRACT

A study was conducted to find out the response of okra [*Abmelmoschus esculentus* (L.) Moench] cv. GO-2. The treatments comprised of three concentrations of GA₃ (15 mg/l, 30 mg/l and 45 mg/l), NAA (10mg/l, 20mg/l and 40mg/l), soaking of seeds in distilled water and control (unsoaked seeds), experiment was laid out in Randomized Block Design with three replications. GA₃ at 15 mg/l recorded the highest percentage of seed germination, stem girth, number of branches, number of leaves per plant, early flowering, fruit girth, fruit length, fruit weight, fruit yield per plant and fruit yield per hectare. While GA₃ at 45 mg/l found to be beneficial with respect to plant height, number of internodes and interodal length. However, GA₃ at 30 mg/l produced maximum number of fruits per plant. From the economics point of view, NAA 10 mg/l was found to be profitable as compared to rest of treatments.

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Key words : Okra, GA₃ and NAA

Okra one of the important summer and rainy season vegetable crops is grown extensively throughout India, okra fruits have good nutritional and medicinal value, it requires long and warm growing season and is susceptible to frost. The optimum day temperature for its well growth is between 25 to 40°C and that of night is over 22°C. Okra seeds do not germinated when temperature is below 29°C (Chaudhary, 1979).

The area under cultivation for various crops has almost reached a saturation point in current years. Scientist are forcing their research towards regulation of plant growth as a most important factor in improving the yield and quality with application of plant growth regulators. A wide variety of techniques of applying plant growth regulators are in practice. Treatment of seed with plant growth regulators is one of the most popular methods.

The germination and vigour can be improved by pre-sowing soaking treatments with different chemicals and growth regulators. So taking into consideration the vital role played by GA₃ and NAA in modifying the growth behaviour of plants resulting in increasing growth rate of shoot and root and finally increase yield, the present investigation has been undertaken to study the effect of seed treatment with GA₃ and NAA on germination, growth

and yield of okra, variety Gujarat okra-2

MATERIALS AND METHODS

A field experiment on the effect of seed treatment with GA₃ and NAA on growth and yield of okra (*Abmelmoschus esculentus* L. Moench) cv. 'GUJARAT OKRA-2' was carried out at Instructional farm Block F-3, Plot-2 of ASPEE College of Horticulture and Forestry, Gujarat Agricultural University, Navsari Campus, Navsari during February to May 2002. The design followed was Randomized Block Design with three replications. There were 8 treatments comprised of three concentrations each of GA₃ (15, 30 and 45 mg/l) and NAA (10, 20 and 40 mg/l) and soaking of seed in distilled water and unsoaked seeds (control) for 24 hours. The treated seeds of okra were used for sowing. The seeds were dibbled manually with a recommended seed rate of 10 kg/ha, these seeds were dibbled at each hill 30 cm apart within row and 45 cm between rows. The gross plot size was 3.15 x 2.4 m and net 2.225 m x 1.8 m. Treated seeds were tested for assessing the percentage of germination. Thinning was done to keep only one healthy seedling at each hill by removing weak seedlings after 20 of days sowing. Cultural and plant protection measures were taken up uniformly in all plots as when required. Observations on plant growth