



Research Paper

Article history :

Received : 14.11.2011

Revised : 26.01.2012

Accepted : 16.03.2012

Influence of NAA, triacontanol and boron spray on seed yield and quality of bitter gourd (*Momordica charantia*) cv. PUSA VISESH

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Abstract : A study was carried out in order to find out the influence of NAA, triacontanol and boron spray on seed yield and quality in bitter gourd cv. PUSA VISESH. The results revealed that NAA at 50 ppm produced highest vine length (192.33 and 260.67 cm), leaf area (1.890 and 2.965 cm²/vine), leaf area index (1.969 and 2.760) and leaf chlorophyll content (39.23 and 38.90 SPAD value) at 85 and 100 days after sowing (DAS), respectively. The fruits and seed attributes higher in NAA at 50 ppm produced higher number of fruits per vine (14.94), fruit yield (119.68q/ha), highest seed germination (83.25 %), seedling vigour index – I (1757) and lowest electrical conductivity (0.316 dSm⁻¹). Whereas, boron at 4 ppm produced highest number of seeds per fruit (29.00), seed yield (6.84 q/ha), test weight (185.11 g), seedling length (21.16 cm), seedling dry weight (129.51 mg), seedling vigour index – II (10749) and dehydrogenase enzyme activity (0.352 OD value).

Key words : Bitter gourd, Plant growth regulators, Fruits and seed attributes

How to cite this article : Arvindkumar, P.R., Vasudevan, S.N., Patil, M.G. and Rajrajeshwari, C. (2012). Influence of NAA, triacontanol and boron spray on seed yield and quality of bitter gourd (*Momordica charantia*) cv. PUSA VISESH, *Asian J. Hort.*, 7(1) : 36-39.

Bitter gourd (*Momordica charantia* L.) is one of the most important tropical vegetable crops. It belongs to the family Cucurbitaceae and popularly known as balsom pear, karela, or bitter melon. In India, it is cultivated on an area of 26,004 hectare (ha) with a production of 1, 62,196 tonnes and the productivity level is 6.23 tonnes per ha. In Karnataka, it is cultivated in an area of 1,872 ha with a production of 13,676 tonnes and the productivity is 7.0 tonnes per ha (Anonymous, 2008).

The plant growth regulators (PGR's) are considered as a new generation agrochemicals after fertilizers, pesticides and herbicides. In bitter gourd, it is possible to increase the yield by increasing the fruit set by using growth regulators. Use of PGR's and micro nutrient like boron might be a useful alternative to increase crop production. GA₃ and NAA are also important growth regulators that may have ability to modify the growth, sex ratios and yield contributing characters of plant (Shantappa *et al.*, 2007).

The micronutrient and cat ions are involved in enzyme systems as cofactors with the exception of Zn, Mn, Cu and B. These are capable of acting as 'electron carriers' in the enzyme systems and are responsible for the oxidative-reduction process in the plant system. To obtain the higher yield with better quality, a renewed interest on the role of micronutrients in nutrition of bitter gourd is very essential. In the present study efforts were made to know the effect of plant growth regulators (NAA and triacontanol) and chemical (B) on seed yield and quality of bitter gourd (*Momordica charantia*) cv. PUSA VISESH.

RESEARCH METHODS

A field experiment was conducted at College of Agriculture, Raichur, Karnataka during *Rabi* 2009 to know the effect of plant growth regulators (NAA and triacontanol) and chemical (B) on seed yield and quality of bitter gourd (*Momordica charantia*) cv. PUSA VISESH. Experiment consisted