

Storability study in bitter gourd (*Momordica charantia* L.) cv. PUSA VISESH

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SUMMARY : The field experiment was conducted during *Rabi* season of the year 2009 at College of Agriculture, Raichur, in order to find out the efficacy of NAA, triacontanol and boron on initial seed quality and storability in bitter gourd cv. Pusa Vishes. The experiment was laid out in randomized block design considering eight treatments *viz.*, NAA (25 and 50 ppm), triacontanol (0.5 and 1.0 ppm), boron (3.0 and 4.0 ppm), water spray and absolute control. Results revealed that NAA 50 ppm recorded highest initial seed germination. Whereas, boron at 4 ppm recorded highest seedling length and seedlings dry weight. Resultant seeds stored in cloth bags under ambient storage condition and seed quality tested after every month to end of storage period (Feb 10 – January 2011). The storage study revealed that boron at 4 ppm maintained highest seed quality parameters like seed germination, seedling length and seedling dry weight at the end of twelve months storage period.

KEY WORDS : Bitter gourd, Seed quality, Cloth bag, Ambient storage condition

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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.

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 cations 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. 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* L.) cv. PUSA VISESH.

Storage and preservation of quality seed stocks till the next season is as important as producing quality seeds. Farmers and scientists opined that safe storage of seeds is advantages as it reduces the burden of seed production every year, besides timely supplying of desired genetic stocks for the use in years following periods of low production. The germination and vigour which can be expected from stored seeds is another matter of great importance. Seed is said to be in storage on plant itself right from its physiological maturity and it continues to be in storage until next sowing or further use or death. Deterioration of seed during storage is inevitable and leads to different changes at different levels *viz.*, impairment or shift in metabolic activity, compositional changes, decline or change in enzyme activities, phenotypic, cytological changes apart from quantitative losses. Being hygroscopic in nature the viability and vigour of seeds under storage are known to be

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