

Research Paper :

Influence of foliar application of growth hormones and fertilizers on the field and ascorbic acid content in chilli cv. PARBHANI TEJAS

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ABSTRACT

The present study was undertaken with 'Parbhani Tejas' variety of chilli. This Solanaceous vegetable was cultivated in order to observe the vegetative growth parameters like height of plant, spread of plant during monsoon and summer season of 2000 to 2001 was measured. The vegetable was sprayed with four types of growth hormones and two types of fertilizers and control (water-spray), twice *i.e.* 25 days and 50 days after transplanting. Results regarding this clearly showed that in monsoon season-Chilli plant foliage spread with NAA, CCC, GA urea showed significantly more ascorbic acid content in green Chilli fruits than other treatments. The lowest ascorbic acid content was recorded 197.67 mg./100g. in green matured Chilli fruits of ether treatments followed by control and SSP, respectively.

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The branch of horticulture, which deals with the cultivation of vegetables is popularly known as Olericulture. Among all the vegetable crops grown, chilli (*Capsicum annum*) is the most popular vegetable grown through out the country. It is used in preparation of pickle ketch-up 'thecha' and as a spice. The total acreage under this vegetable in Maharashtra state in 1,46,000 ha. The present production of 71.5 million tones of vegetable enable supply only 145 gram per capita per day against daily requirement of 285 gm. Beside this population of the country by 2002 AD has reached 1050 million tones of vegetables. This will need a planned development of area and production (Ghosh, 1998). Thus vegetable production is mainly govern by genetics and physiology of vegetable of growth regulators like Auxins, Gibberellins, Cytokinine, Ethylene along with growth hormones. Fertilizer application is also most effective as well as most expensive input in vegetable production. Beneficial effects of growth regulators in chilli are reported by various workers in different varieties (Devsabai, 1974; Chandra *et al.*, 1976; Patil, 1977; Desai *et al.*, 1993; Pandita *et al.*, 1980).

In view of these findings, the present paper assess the effects of foliar application of growth hormones and fertilizers like NAA (25 ppm), GA (25 ppm), Cycocel (1000 ppm), Ethrel (300 ppm) control (water spray) and foliar and soil application if Nitrogen (urea 2%) and Phosphorus (SSP 2%) on vegetable growth of improve variety of chilli *i.e.* PBN Tejas.

MATERIALS AND METHODS

The experiment was conducted on the farm located

at Talegaon in Nanded district. About 283.5 sq. ml and was equally divided into 63 plots. Each plot bearing an area 13.5 sq. m. The recorded data in the present work was subjected to statistical analysis as per the cadre given by Panse and Sukhatme (1998).

Estimation of ascorbic acid:

Ascorbic acid was estimated by 2, 6- dichloro phenol indophenols titration method (Raghuramulu *et al.*, 1983).

Raising of seedlings:

The pure seeds of improved variety of Parbhani Tejas of chilli, was prepared at Talegaon farm. The seeds were sown in rows across the beds 10 cm apart on 1st June 2000 and 1st January 2001 for *Kharif* and summer season, respectively Watering was done regularly by rose can. Themate was applied after germination of seeds between two rows at the rate of four per bed. Seedling were sprayed twice with solution of 15 ml of rogar + 25 gm CuSO₄ (fungicides) in 10 lit of water to protect seeding from insect. Pest and diseases weeding and loosening of soil was done regularly at interval of 8-10 days.

Preparatory tillage:

The experimental area was ploughed deeply and was harrowed thrice to bring the soil to fine tilth. The fields was divided into plots as per required dimensions. Ridges and Furrows were prepared at 60 cm apart. FYM was applied at the rate of 2.5 tones per hectare. Recommended dose of fertilizers were applied at the rate of 120:80:50 kg. NPK (suphala 15:15:15).