

Studies on planting time, method and plant density on yield and yield attributing characters on pointed gourd (*Trichosanthes dioica* roxb.) in Gangetic diara of Bihar

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ABSTRACT

It was found that under alluvial soils of Gangetic Diara planting of pointed gourd done on 16th October with planting density of 2m x 2m under straight method of planting is beneficial for achieving maximum fruit yield with best yield attributing characters and registering substantially higher benefit: cost ratio with the given sets of treatments. This may have resulted due to favourable soil and climatic conditions for better initiation of growth characters and development of pointed gourd vines which prevailed in October planting at 2m x 2m plant spacing under straight planting method.

Key words : Gourd, Planting time, Plant density and Planting method.

Pointed gourd (*Trichosanthes dioica* Roxb.) is an important perennial and dioecious cucurbitaceous vegetable grown widely in eastern part of U.P. and Bihar for fresh market consumption. Due to its perennial growth habit is mostly propagated through cutting and rarely by seeds in few cases due to appearance of large number of undesirous male plants. It has been observed that on recession of flood water most of the growers cultivate local cultivar and follow poor agro-techniques leading to low fruit yield. Pointed gourd vines are grown in Basin as well as Straight method but among the two which one is better is not known. The lack of information on the package of practices of this important crop such as time of planting, plant density and method of planting does not allow the growers to have desirable harvest. Besides these, cost of vines is also very high. In view of above facts in mind, the present investigation was therefore undertaken on pointed gourd under Diara land situation of Bihar from yield optimisation and economic return points of view.

The experiment under ICAR's Adhoc Project was laid out in randomised block design with three replications and 12 different treatments (Table-1) in diara belt of Sabour under Ganga diara with important cultivar of Parwal (Rajendra Parwal-2). The physico-chemical soil properties of the experimental plot indicated that the soil was sandy loam in texture. The values of organic carbon ranged between 0.40 and 0.42 per cent; available N-180 ;and 182 kg ha⁻¹, P₂O₅-18.0 and 18.4 kg ha⁻¹, available

K₂O-210.0 and 215.0 kg ha⁻¹ during two years of experimentation. The pH value was 8.0 and 7.9 i.e; slightly alkaline in reaction with E.C. value of 0.18 and 0.20 dsm⁻¹ during the year 1999-2000 and 2000-2001, respectively. Thus, the soil fertility indicated low in organic carbon and available nitrogen and medium in available P₂O₅ and K₂O in the test plot during both the years of experimentation. The total amount of annual rainfall received during first and second year of experimentation were 1375.5 and 1257.4 mm, respectively.

MATERIALS AND METHODS

Under the aegis of ICAR's Adhoc Project present experiment was conducted under Bihar Agricultural College, Sabour, Bhagalpur at Babupur Ganga Diara during the year 1999-2000 and 2000-2001 to study Agro-techniques as planting time, method of planting and planting density (spacing) of pointed gourd under diara land situation utilizing promising variety Rajendra Parwal-2. The vines of crop were planted in the month of October and November 2000 in a randomised block design with three replications at spacing of 1m x 1m, 1.5m x 1.5m and 2m x 2m. All the cultural operations were done in time and plant protection measures were also taken. 5% male plants were also planted as pollen donor. The harvesting had been commenced from 1st week of April, 2001 and continued till 1st week of July in both the years of experimentation. Weekly picking was done in the month of April and May and picking twice a week was done in the month of June and July 2000 and 2001 and total fruit yield and other ancillary characters were recorded. The benefit cost ratio was calculated year wise and on pooled