

Evaluation of chilli genotypes for ghataprabha left bank command area in Karnataka

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ABSTRACT

Thirty seven genotypes were assessed for their growth and yield potential to identify a superior variety for commercial cultivation under Ghataprabha Left Bank Command area conditions in north Karnataka. Maximum plant height was recorded in DCS-104 (75.48 cm), maximum plant diameter was recorded in DCA-127 (1.40 cm), maximum crown size was recorded in DCA-104 (59.14 cm). Matured dry chilli yield varied from 12.44 quintals per hectare to 37.79 quintals per hectare. Genotype DCA-101 emerged as superior high yielding variety with dry chilli yield of 37.79 quintals per hectare closely followed by DCA-104 (35.66 q/ha) and highest ascorbic acid content (134.61 mg/100 g) was found in DCA-127.

Key words : Genotype, Chilli, Plant height, Crown size, Primary branches.

Chilli (*Capsicum annuum* L.) is an important spice cum vegetable crop grown on a large area in Karnataka. In India, chilli is being grown on an area of 0.92 million hectares with a production of 1.01 million tonnes of dry chilli with a productivity of 1.11 tonnes per hectare (Kallapurackal and Ravindran, 2004). In Karnataka, the area under chilli cultivation is 1.86 lakh hectares with annual production of 4.45 lakh tonnes (Anon., 2001). Many improved and high yielding varieties have been released and recommended for commercial cultivation for different agro-climatic regions of our country. Farmers of Ghataprabha Left Bank Command (GLBC) area are still in the use of local cultivars which are very poor yielders. There is an urgent need to identify a superior variety of chilli for GLBC area in north Karnataka.

MATERIALS AND METHODS

The study was conducted at Spices and Plantation Crops unit of Kittur Rani Channamma College of Horticulture, Arabhavi in Belgaum district (Karnataka) during *kharif* 2006-07. The experiment was conducted with 37 genotypes in a randomized block design with three replications. Healthy and uniform seedlings were transplanted with a spacing of 75 cm x 45 cm of line planting in a plot size of 3.37 m² by accommodating 10 plants. For recording various observations, five plants in each experimental plot were randomly selected. The selected plants were tagged for taking observations on various growth and yield parameters like plant height, crown size, plant diameter, number of primary branches,

number of secondary branches, number of fruits per plant, matured ripe fruit weight, dry fruit weight, matured ripe chilli yield and dry chilli yield.

RESULTS AND DISCUSSION

The results obtained on different growth and yield parameters are presented in Tables 1, 2 and 3. Significant differences were observed for the characters studied. The plant height ranged from 44.25 to 75.48 cm. Genotype DCA-104 recorded maximum plant height (75.48 cm) which was at par with DCA-101 (73.29 cm), DCA-131 (71.59 cm), DCA-118 (70.95 cm), DCA-134 (70.09), DCA-111 (69.66 cm), DCA-102 (69.21 cm) and DCA-132 (68.60 cm) and minimum was recorded in DCA-116 (44.25 cm). There are several reports, which indicate the variation in plant height among the chilli genotypes under different agro-climatic situations (Elangovan *et al.*, 1982; Natarajan *et al.*, 1988; Abusaleha, 1998; Natarajan *et al.*, 1994 and Usharani, 1996). The plant diameter was highest in DCA-127 (1.40 cm) followed by DCA-118 (1.37 cm), DCA-126 (1.31 cm), DCA-104 (1.29 cm) and the lowest plant diameter (0.76 cm) was recorded in DCA-116. The crown size varied from 38.23 cm to 59.14 cm. Higher crown size (59.14 cm) was noticed in the genotype DCA-104, which was at par with DCA-101 (56.88 cm), DCA-131 (55.75), DCA-129 (55.21 cm), DCA-132 (54.20 cm), DCA-102 (53.20 cm) and lower size was noticed in DCA-116 (38.23 cm). Maximum number of primary branches (5.18) was recorded in DCA-104, which was at par with DCA-101 (4.93), DCA-131 (4.88) and DCA-127 (4.68). The least number of primary branches