Response of promising linseed verieties to notrogen

SANJAI CHAUDHRY

Department of Agronomy, C.S. Azad University of Agriculture and Technology, KANPUR (U.P.) INDIA

A field experiment was conducted at Oilseeds Research Farm, Kalyanpur, Kanpur during to consequtive years of 2000-01 and 2001-02 in loam soil under irrigated conditions. Five nitrogen doses (0, 30, 60, 90 and 120 kg/ha) were tested for three varieties (Neelum, Garima and LCK 8657) in split plot design with nitrogen levels in main plots. Results showed that linseed varieties responded significantly upto 60 and 90 kg. N/ha during first and second year of study, respectively. Varietal differences were found significant only during second year when variety LCK 8657 yielded significantly maximum seeds. Interaction of variety × nitrogen was not found to be significant.

Key words : Nitrogen, Promising linseed varieties.

INTRODUCTION

Linseed is an important oilseed crop of industrial value. It is used mainly in the manufacture of paints, varnish, linoleum, oil, cloth and other similar products. Its oil cake is a good source of organic manure and also provides nutrition's feed to the cattle. Its such importance has attracted the attention of research workers to findout the cause of low productivity and ways to improve it. Growing of linseed without or with rare use of fertilizers appear to be one of the major causes of its low productivity. Therefore, the present study was undertaken to study the response of new promising linseed varieties to nitrogen application which is a mojor nutrient in crop production.

MATERIALS AND METHODS

The experiment was carried out at Oilseeds Research Farm, Kalyanpur, C.S.Azad University of Agriculture and Technology, Kanpur (U.P.) during the *rabi* seasons of 2000-01 and 2001-02. The soil of the experimental plot was loam in texture with 7.4 pH, low in available N and medium in available P_2O_5 and K_2O contents. The experiment was laid out in split plot design keeping five nitrogen levels (0, 30, 60, 90 and 120 kg/ha) in main plots and three varieties (Neelam, Garima and LCK 8657) in sub plots with three replications. The crop was sown behind plough in furrows 25cm apart on 16-10-2000 and 21-10-2001 by using 30 Kg seed/ha. A basal application of 30 Kg P_2O_5 and 30 Kg K_2O/ha was done uniformly in whole experimental area. Half of the total nitrogen as per treatment was applied at sowing while remaining doses were top dressed at the time of first irrigation. Crop was raised under irrigated condition where two irrigation in each year were applied. Harvesting was done on 27-03-

01 and 04-04-02 during two years of experimentations.

RESULTS AND DISCUSSION

The effect of different treatments was evaluated on seed yield and other yield contributing characters. The data of these characters have been summarized in Table 1.

Effect of varieties :

The data given in Table 1 indicated that in case of seed yield, varieties showed significant difference only during second year of study. Variety LCK 8657 yielded significantly maximum while remaining both varieties were found at par with each other. Similar varietal behavior was observed in first year also but the differences could not touch the level of significance. These higher yields of LCK 8657 seem to be mainly due to maximum number of capsules per plant and more number of seeds per capsule. Such higher characters of variety LCK 8657 might be due to the inheritance. Tomar and Mishra (1989) have also reported highest yield of linseed variety RLC-3 because of more number of capsules and more number of grains per capsule. Number of capsules and grains per capsule have been reported as inherited characters (Murty *et al.*, 1967).

Effect of nitrogen :

It is evident from Table 1 that seed yield increased with increasing levels of nitrogen upto 90 kg/ha but the increase over 60 kg/ha was found significant only during second year of study. At higher dose of 120 kg. N/ha there was a slight reduction in seed yield but it was not to the levels of significance. Results remained almost similar