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WEED INFESTATION AND WEED DENSITY OF WHEAT AS AFFECTED BY PLANTING DATES, SEEDING RATES AND WEED CONTROL METHODS

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Abstract.

Field study was conducted on sandy loam soil at Cereal Crop Research Institute, Pirsabak (Nowshera) NWFP, to study the weed infestation and weed density of wheat crop as affected by planting date, planting rate and weeding method. The treatments comprised three planting dates viz., October 15, November 15 and December 15, three planting rates viz., 50, 100 and 150 kg per hectare and the weeding methods viz., no weeding, hand weeding and chemical weeding. Weed density was significantly affected by planting dates, maximum weeds were in November 15 sown and minimum weeds were in December 15 sown crops. Weed density decreased as crop density increased and minimum weeds were in those treatments where seeding rate was 150 kg per hectare followed by 100 kg per hectare, while maximum weeds were in seeding rate of 50 kg per hectare. Further results demonstrated the significant differences of weed control methods and chemical weeding was more effective in controlling weeds than hand weeding and no weeding plots produced maximum weeds. The highest infestation was of ***Phalaris minor*** of grassy weeds and ***Convolvulus arvensis*** L., ***Sperquta arvensis*** L. and ***Melilotus parviflora*** were the major weeds of broad leaved weeds.

Introduction

Wheat belongs to the family "Gramineae" like Hordeae and genus "Triticum". It is cultivated all over the world in both irrigated and non-irrigated areas. Even though high yielding varieties of wheat are under cultivation, but the average yield is still far below the potential yield. Among factors which adversely affect the crop yield, weed infestation is the most harmful for wheat. Weed comprise the most undesirable aggressive and trouble some element of world's vegetation. Weeds are plants which grow out of their proper places and whose virtue have not yet been discovered. Traditionally, farmers control weeds in wheat through crop rotation and hand weeding. But at present the use of herbicide is becoming popular in some parts of the country and majority of farmers still depend upon tillage practices for weed control and are not prepared to use herbicides in wheat crop. Where as many agriculture experts have ranked that planting dates of wheat crop have significant effect on suppressing of weeds for longer period.

Bhan (1987) reported that delay in planting of wheat after November the weed population and growth decreased and the seeding rate from 100 to 150 kg per hectare significantly reduced the dry matter production of weeds which resulted in increased grain yield of wheat. Woodward (1956) reported that higher seeding rates of small grains, with delay planting dates, helped in controlling weeds and diseases under irrigated conditions. Geisler *et al.* (1984) observed that before the advent of 2,4-D, adjusting wheat seeding rates and dates of