

SEED YIELD OF RAINFED WHEAT AS AFFECTED BY CHEMICAL WEED CONTROL:

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ABSTRACT:

Field experiments were conducted on various rate of herbicide Buctril-M including hand weeding and control during both the rabi season under irrigated and rainfed conditions, during 1993-94 and 1994-95. The chemical rate sprayed @ 2 lit /ha appeared the best rate which significantly produced the heavier seed weight, maximum crop yield and reduced the weed density as well as weed dry matter respectively under irrigated conditions while during 1993-94 and 1994-95 under rainfed, the lowest rate 1 lit/ha appeared the economical rate among the treatments. The hand weeding was very much effective for weed control both the years but this method was to be expensive and time consuming.

INTRODUCTION

Wheat (*Triticum aestivum* L.) is often infested with numerous types of weed, which compete with crop plants for water, mineral nutrients, space, light, etc. resulting in yield depression. Thus weed control is considered an important tool to increase wheat production in Pakistan. These unwanted plants may reduce yield as much as 100 percent, depending on the weed species present and their density (Majid et al, 1985). The weed affect the quality of grain and also interfere with harvest.

Buctril-M applied @ 1506 ml/ha at postemergence increased the grain yield by 46.56 quintals/ha and other growth components like number of spikelets per spike and the 1000 grain weight, by controlling the maximum number of weed population (Jalis and Muhammad, 1980 b). The grain yield was enhanced by 41.22 and 35.5 percent in wheat cultivars, 'RS-17' and 'LU-26', respectively, with Brominal-M application @ 2.5 l/ha (Saeed et al., 1982).

A satisfactory control of *Chenopodium album* L., *Convolvulus arvensis* L. and *Asphodelus tennifolius* Cav. has also been reported with application of Buctril-M @ 4.39 l/ha, (Baluch et al., 1969). Use of Buctril-M @ 1.5 l/ha, at the postemergence stage in wheat, increased the grain yield by 13.55 percent which was primarily due to increase in the number of tillers, number of spikelets per spike and grain weight (Jalis and Mohammad, 1980a). The complete killing of the *Chenopodium album* L. was reported with the use of weedicide (Dicuran+MCPA) within 7-10 days after the application (Hamid, 1976).

MATERIALS AND METHODS:

The field experiments were conducted at Arid Zone Research Sub-Station, D.I.Khan during 1993-94 and 1994-95. Prior to seeding, soil samples were taken from the experimental sites for analysis. Results of the physical and chemical analysis of the soils are presented in Table-I. A basal dose of fertilizer @ 20-50-0 NPK kg/ha was broadcast and incorporated into the soil, using a rotavator for incorporation. wheat C.V. Pirsabak-85 was sown at @ 100 kg/ha by a manually operated single row drill in the 2nd week of November both the years respectively. Herbicide Buctril-M @ 1, 2 and 3 lit/ha including hand weeding and control were evaluated to determine the optimum/economical rate for broad leaf weeds (*Chenopodium Album* & *Convolvulus*) control in wheat crop. The site received 110 mm and 244 mm rain prior to planting in the month of June to September.