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# Evaluation of Effective Weedicide for Onion Crop

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**Abstract:** Weedicides were compared with hand weeding during 1999-2000 and 2000-2001 at Agricultural Research Station Serai Naurang, Bannu, NWFP, Pakistan. The trial was laid out in RCB design replicated three time it five treatments (ronstar, stomp, two time weeding, four time weeding and control). Weedicide effected height, fresh yield and bulb yield significantly during Ist year while significant variation was found in height and bulb during 2nd year. Weedicide ronstar achieved better place among the treatments.

**Key words:** weedicide, ronstar, stopmp and weeding

## Introduction

Onion is the most valuable cash crop in Bannu division. It is grown on 39 hectares of this division with average production as 555 tonnes per year and tonnes $ha^{-1}$. (Anonymous, 2000). Despite the use of contemptory scientific measure and techniques, its production is still lower. Major causes for poor yield are lack of proper technology and particularly heavy weeds infestation in this crop. weeds communities have become the most serious problem and its association particularly with onion has been a major constraint with respect to labor cost. It reduces yield by competing for nutrients, moisture light and space. They also facilitate diseases, insects and their pests by serving as their host. Traditionally weeds are being controlled through hand weeding or by various cultural practices. However, with the scarcity of costly annual labor and intensive crop production, introduction of chemical weed control is necessary to replace the congenital control measures. Chemical weed control certainly has its merits over the existing methods. Still it is not so common as it should have been practiced on commercial scale.

The objectives of this study is to highlight the most effective and economical weedicide among the farming community. Keeping in view this important issue, experiments were designed to recommend the best suitable weedicide for onion crop.

## Materials and Methods

The study was conducted at Agricultural Research Station Serai Naurang Bannu during 1999-2000 and 2000-2001. The trails were laid out in RCBD. Plot size was 1.6x3.7$m^2$ with rows 45 cm and plant 6 cm apart. All phosphorous and half of nitrogenous fertilizer was applied at the time of sowing. Remaining nitrogen was applied after two months. Two different weedicides were compared with hand weeding. The treatments were as follows: ronstar, stamp, hand weeding two times, hand weeding four times and control.

Data was recorded on height, bulb weight along with leaves and bulb weight alone. The data were analyzed using computer package MSTATC.

## Results and Discussion

Data revealed that weedicide affected the onion height significantly during 1999-2000, While in 2000-2001 the results shown the significantly variation. The maximum height 57.3 cm was recorded for treatment year weedicide ronstar was applied during 1999-2000. While two and four time weeding shown the peak height 63.0 and 63.68 cm during 2000-2001 (Table 1).

Data indicated that the fresh yield was significantly different in both years. The heights fresh yield (52850 and 31250 kg $ha^{-1}$) was obtained for weedicide ronstar during 1999-2000 and 2000-2001. Porwal and Sing (1993) reported weedicide ronstar as the most effective weed control while the result of Suleman *et al.* (2001) reported similar result and stated that the fresh yield of garlic was increased with the application of weedicide ronstar. Data revealed that weedicide effected the bulb yield significantly. Highest yield 39900 kg $ha^{-1}$ was obtained by ronstar followed by rest of the treatment during 1999-2000, while the lowest yield

Tabel 1: Height, fresh weight and bulb yield data of onion weedicide trails 1999-2000 and 2000-2001

| | Height | | Fresh yield (kg $ha^{-1}$) | | Bulb yield (kg $ha^{-1}$) | |
|---|---|---|---|---|---|---|
| Treatments | 1999-2000 | 2000-2001 | 1999-2000 | 2000-2001 | 1999-2000 | 2000-2001 |
| Ronstar | 57.33a | 51.00 NS | 52850a | 31250a | 39900a | 23648 NS |
| Stamp | 47.33a | 49.50 | 43750b | 30828a | 30450b | 23226 |
| Two hand weeding | 46.67b | 63.00 | 42880b | 29848a | 29508b | 19707 |
| Four time weeding | 50.67ab | 63.68 | 46380b | 27872a | 33080b | 22522 |
| Control | 41.67b | 40.00 | 34130c | 16892b | 20910c | 17454 |
| LSD | 10.66 | | 4572 | 6834 | 4843 | |

29508 and 19707 kg $ha^{-1}$ was obtained by control. Similar result was achieved by Kolesnikov *et al.* (1991) and found that herbicide (stomp) with better control of common weeds in onion.

These results are in accordance with those recorded by Pandey *et al.* (1991), they found herbicide stomp with best performance for weeds control in onion. Sing *et al.* (1997) indicated that 0.37 kg. Oxyfluorfen was the most effective treatment for reducing population of weeds. Suleman *et al.* (2001) recorded similar result and stated that weedicide ronstar gave better performance in garlic. Means having different letters are significantly variable at 5% level of probability.

## References

Anonymous, 2000. Agricultural Statistics NWFP Peshawar, pp: 73.

Kolesnikov, V.A., M.A. Fedosenkov, V.A. Ignatov, V.E. Smirnov and A.P. Shindin, 1991. For onion weed control. Zashcita-Rastenii- Moskva- Russian, No. 3: 40-41.

Pandey, U.B., J.B. Singh, J.P.N. Pandey and K.P.S. Chauhan, 1991. Studies on weed control in onion. Associated Agric. Development Foundation, Karnal, Haryana, India. Newletter, 11: 2-3.

Porwal, M.K and M.M. Sing, 1993. Affect of nitrogen and weed management on onion (*Allium cepa*). Agri. Res. Sta. Rajastan Agri. Univ. Banswara 327-001, India, Indian. J. Agro., 38:1, 74-77.

Sing, R., U.K. kohli and T.R. Nandal, 1997. Efficancy of some selected weedicide against onion weeds in Himachal Pradesh. J. Hill Res., 10:2, 200-201.

Suleman, M., K. Bahadarand and M.S. Baluch, 2001. Relative efficancy of weed control strategies in garlic. OnLine J. Biol. Sci., 1: 54-55.

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