

## THE ROLE OF EDUCATION IN THE ADOPTION OF WEEDICIDES FOR WHEAT CROP BY THE FARMERS

Niaz H. Malik, Saeed A. Khan & Waqar A. Waraich

*Department of Agricultural Education,  
University of Agriculture, Faisalabad*

It is an established fact that weeds inflict heavy losses and this situation demands immediate measures to overcome the damage done by weeds in terms of quality and production of wheat. The weeds can be eliminated by traditional methods but these are time consuming and laborious and do not guarantee complete elimination of weeds in a short span of time as do the chemicals. A number of private agencies have, therefore, presented their products in the market for the said purpose, but their use is not simple and thus demands proper education and technical knowledge. In order to determine the impact of education on the adoption of weedicides of wheat crop, the study was conducted in Gojra Tehsil. The data were collected from 150 farmers drawn at random from 10 randomly selected villages. The interview schedule was the main instrument for data collection. The analysis of data revealed that education had significant relationship with the adoption and application of almost all the important weedicides.

### INTRODUCTION

Wheat being the most important food crop of Pakistan is grown on a vast area in all the four provinces of Pakistan. According to Economic Survey of 1988-89, it is cultivated on 2727.6 thousand hectares with an annual production of 14,419.2 thousand tonnes. In spite of great importance of this crop, Pakistan is rated eighth at the world level with an average yield of 1735 kg ha<sup>-1</sup> (FAO, 1988). Thus in order to meet the food requirements of our rapidly increasing population, we have to import wheat from abroad mainly due to the low potential of wheat. A number of factors may be held responsible for low productivity and per acre yield of wheat crop. According to Chaudhri (1987), weeds not only caused upto 25% losses in wheat production but also deteriorated the quality of seed. This situation demands immediate steps to control the weeds of wheat crop for getting the maximum

yield. Though, the farmers render utmost efforts to control and eliminate the weeds of wheat through the application of traditional methods and chemicals (weedicides) to some extent, yet the target has not been achieved fully. There exists the need to turnover from the most laborious and time consuming traditional techniques to the most effective and rapid mode of eliminating weeds through the application of weedicides.

The extent to which the application of weedicides may be adopted successfully depends upon a number of factors including capital, machinery and knowledge regarding the use of weedicides. Even if we make other requirements available, the operation cannot be undertaken effectively due to the lack of education in this respect. That is why Akbar *et al.* (1990) reported that education helped in the acceleration of the adoption of recommended plant protection practices. The importance of education and technical knowledge is increased when one has to use

chemicals which may prove injurious to the users if not applied properly with full precautions. Keeping this in view, the study was undertaken to determine the extent to which the education as a factor was related to the adoption of weedicides for eliminating weeds.

### MATERIALS AND METHODS

The study was conducted in Tehsil Gojra comprising 23 Union Councils, out of which 5 were selected randomly. Then from each of the five randomly selected Union Councils, two villages were selected at random. By taking 15 farmers with at least four acres under wheat crop as respondents through randomisation, a total number of 150 farmers comprised the sample for this study. The data collected with the help of interview schedule were tabulated and statistically analysed to draw conclusions.

### RESULTS AND DISCUSSION

The value of  $X^2$  in Table 1 indicates a significant relationship between education and the adoption of Buctril M 40EC by the respondents. The above findings are in agreement with those of Hayat (1982) who stated that educational level of all of his respondents had a significant relationship with the extent of adoption of recommended insecticides when used for cotton crop.

Table 2 reveals a significant relationship between education and the adoption of Arelon 75WP by the respondents. It means the number of respondents adopting Arelon as a weedicide could be increased if they were educated.

The data embodied in Table 3 shows that there exists a significant relationship between education and the adoption of Dicuran MA 60WP by the respondents. It is further revealed that as the level of educa-

tion increases, so does the number of adopters of weedicides.

**Table 1. Relationship between education and the adoption of Buctril M 40EC by the respondents**

Educational level	Adopters	Non-adopters	Total
Illiterate	7	44	51
Middle	1	39	40
Matric	3	40	43
Intermediate	2	4	6
Above intermediate	3	7	10
Total	16	134	150

d.f. = 4;  $X^2_{tab.} = 9.49$ ;  $X^2_{cal.} = 11.27$ .

**Table 2. Relationship between education and the adoption of Arelon 75WP by the respondents**

Educational level	Adopters	Non-adopters	Total
Illiterate	4	47	51
Middle	4	36	40
Matric	6	37	43
Intermediate	3	3	6
Above intermediate	3	7	10
Total	40	130	150

d.f. = 4;  $X^2_{tab.} = 9.49$ ;  $X^2_{cal.} = 11.09$ .

Table 4 indicates a significant relationship between education and the adoption of Stomp 330E by the respondents. The above findings are similar to those of the findings of research study conducted by Ahmad

(1990) who reported a significant relationship between education and the adoption of insecticides/pesticides and other disease control measures in case of sunflower.

**Table 3. Relationship between education and the adoption of Dicuran MA 60WP by the respondents**

Educational level	Adopters	Non-adopters	Total
Illiterate	9	42	51
Middle	14	26	40
Matric	10	33	43
Intermediate	3	3	6
Above intermediate	6	4	10
Total	42	108	150

d.f. = 4;  $X^2_{tab.} = 9.49$ ;  $X^2_{cal.} = 10.59$ .

**Table 4. Relationship between education and the adoption of Stomp 330E by the respondents**

Educational level	Adopters	Non-adopters	Total
Illiterate	-	51	51
Middle	1	39	40
Matric	3	40	43
Intermediate	-	6	6
Above intermediate	2	8	10
Total	6	144	150

d.f. = 4;  $X^2_{tab.} = 9.49$ ;  $X^2_{cal.} = 10.25$ .

From these results it can be concluded that education plays a significant role in the weedicides like Buctril M 40EC, Arelon 75WP, Dicuran MA 60WP and Stomp 330E. The attitude of farmers could be changed favourably with the provision of better educational facilities to them. It is, therefore, suggested that all out efforts should be made to eliminate illiteracy and enhance the number of literate farmers for the rapid adoption of new agricultural practices.

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