Internat. J. Agric. Sci. Vol.2 No.1 January 2006 : 93-94

Influence Of Integrated Weed Management On Growth And Yield Of Cabbage

Anuradha Nandanwar, V.S. Gonge, A.D. Warade*, Anjali Mohariya and Y.L. Jagdale

Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola – 444 104
E-mail : awarade@indiatimes.com

ABSTRACT

A field experiment on integrated weed management in cabbage was laid out with five herbicides alone and in combination with one hand weeding at 30 DAT to see the performance of the various herbicides on growth and yield of the cabbage crop. The experiment was conducted at the Main Garden, University Department of Horticulture, Dr. PDKV, Akola with three replications. Pre-plant and Pre-emergence application of Oxyfluorfen @ 0.2 kg/ha in combination with one hand weeding at 30 DAT proved, significantly the most effective in controlling annual weeds followed by the treatment of Oxyfluorfen @ 0.2 kg/ha. While, an application of Isoproturon @ 1 kg/ha showed phytotoxic effect on cabbage crop. In unweeded control plots, the yield of cabbage heads was significantly reduced.

Key words : Influence of Integrated Weed management Growth, Yield cabbage.

INTRODUCTION

Cabbage (*Brassica leracea* var. *capitata*) is the most important cole crop grown in the country. India ranks third in production of cabbage in the world. Cabbage is a good source of vitamin A and C and minerals like iron, copper, potassium and sulphur. Annual and perennial weeds reduce the yield and quality of the cabbage heads. The yield losses varies from 10 to 90 % Van Der Zweep (1995). Considering the acute problem of weed management and non-availability of labours in time at economic rate, the present investigation was undertaken to study the effect of herbicides alone and in continuation with hand weeding practice.

MATERIALS AND METHODS

A field experiment was conducted during *rabi* season of the year 2002-2003 at University Department of horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The soil of the experimental plot was clay loam in texture. The experiment was laid out in randomized block design with three replications and twelve treatments. The treatments comprised of Fluchloralin @ 1.0 kg/ha (T_1-Fluchoralin), Alachlor @ 2.0 Kg/ha (T_2-Alachlor), Pendimethalin @ 1.0 Kg/ha (T_3-Pendimethalin), Oxyfluorfen 0.2 kg/ha (T_4-Oxyfluorfen), Isoproturon @ 1.0 kg/ha (T_5-Isoprpturon), Fluchloralin @ 1.0 kg/ha + 1 HW (T_6-Fluchloralin+1 HW), Alachlor @ 2.0 kg/ha + 1 HW (T_7-Alachlor + 1 HW), Pendimethalin @ 1.0 kg/ha + 1 HW (T_8-Pendimethalin + 1 HW), Hand weeding at 20 and 40 DAT (T_{11}-Two HW) and Unweeded control (T_{12}-Control). Before transplanting of cabbage, all the herbicides were applied as a pre-emergence of weed. The forty days old seedlings of cabbage variety Pride of India were transplanted on 3rd December, 2002. The plants were spaced at 60 x 45 cm in ridges and furrow beds. The crop was fertilized @ 75 kg and 50 kg P_2O_5 per ha. Half dose of nitrogen in the form of urea and full dose of phosphorous in the form of Single Super Phosphate were applied at the time of transplanting. Remaining half dose N was applied 30 days later of transplanting. The observation were recorded on crop stand, plant height, number of leaves, days required for head initiation, days required for harvesting, diameter of head, height of head, dry weight and yield of cabbage.

RESULTS AND DISCUSSION

The data from Table -1 revealed that, the crop stand at 10 DAT and at harvesting were maximum under the treatment of Alachlor @ 2.0 kg/ha (98.01 and 97.81%, respectively). Whereas, minimum crop stand at 10 DAT was observed under the treatment of Isoproturon 1.0 kg/ha + 1 HW (76.03 %). Similarly, at the time of harvesting, minimum crop stand (75.86 %) was recorded under the treatment of Isoproturon receiving @ 1.0 kg/ha. Significantly the tallest plant (26.32 cm) was produced under the treatment of Oxyfluorfen @ 0.2 kg/ha + 1 HW. Whereas, significantly shortest plant (15.91 cm) was noticed under the treatment of Isoproturon @ 1.0 kg/ha. This might be due to the reason that, the crop faced minimum crop weed competition and due to this, it would

***Author for correspondence**