Research Article Dubey, 9(1): Jan., 2018:5687-5689]
CODEN (USA): IJPLCP **ISSN: 0976-7126**

INTERNATIONAL JOURNAL OF PHARMACY & LIFE SCIENCES
(Int. J. of Pharm. Life Sci.)

Effect of selective herbicides to control the wheat crop weeds in Satna district of Madhya Pradesh

Shipra Dubey
A.P.S. University, Rewa, (M.P.) - India

Abstract

The weeds are unwanted and undesirable plants which are developed where we either want other plants to grow or we wants no plants at all. In cropland weeds compete with the beneficial and desired vegetation, reducing the yield and quality of produce.

Key words: Weed, Madhya Pradesh, Satna

Introduction

Herbicides a substance that is toxic to plants use to destroy unwanted vegetation. Herbicides also commonly known as weed killers are chemical substance use control unwanted plants. Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides sometimes called "Total Weed Killers". Weeds have existed from the beginning of Agriculture. From the earliest periods of their existence, the primitive farmer had tried to pull them out by hand and this has prevented them from competing with cereal crops, even thought this was a tedious agricultural operation. Most of the weeds complete their life cycle within a very short time when completion is very much complicated because of various factors involved. Competition between crops and weeds is most several when the competing plants are having similar demand upon available resources. Hence, if weeds are not smoothened at early stages, they become serious competitors in later stages and cause considerable reduction in crop yield. Weed competition mostly depends upon certain factors like type of weed species and its duration competing ability of crop plants, severity of infestation and especially soil moisture and climatic condition for its favorable growth.

*** Corresponding Author**
E.mail: shipradubeyapsuniversityrewa@gmail.com

The weed flora of pure wheat crop fields comprised of 42 species belongs to 38 genera of 20 families. The major weed belonged to families Asteraceae, Fabaceae, Euphorbiaceae and Poaceae while rest of the families was represented by only a single species. The fields having wheat crop comprised of 36 species of weeds belonging to 36 genera of 18 families.

Methodology

Sampling fields

Government Agriculture Farm of Satna District non irrigated fields. Other fields were weed flora of pure wheat crop fields.

Results and Conclusion

Effect of herbicides on wheat crop plant population

The effect of herbicides on wheat crop plant population in a unit area. The data had been obtained 15 days after the sowing and at the time of harvesting; had been noted that the number of plants were less at harvest, that in the early stage in all the herbicides treated plots, the number of plant were more particularly in pre-emergency treatments pendimethalie 1.5 kg/ha nad 2, 4-D EE and 2,4-D Na, cloptralid and is oproturon together with 2, 4-D in equal proportion Support more number of crop plants. This is an indication of control of weed plants triggering facilitating greater number of crop plants per unit area. Hand weeding had also produced comparable results. There happened to be a significant impact of certain herbicides on the total number of weeds per meter square.

The resultant decline had been very significant on subsequent days in almost all the herbicides treated plots. However maximum control could be achieved in the case of pendimethalin 1.00 kg in pendimethalin 1.50 kg./ha. 2, 4-D na 1.0 kg./ha furoxy pry 0.250

kg./ham and is oproturon + 2, 2-D(.75 + .75/Kg.ha). Hand weeding at 2.5 das also provided significant reduction in the weed plants per also at harrest stage.

Effect of herbicide on dominate weeds

Table presents the data on the effect of herbicides and hand weeding on 15 dominant weeds of wheat field. Hand weeding appeared to be the most effective method in reducing the population of most weeds as revealed but the data of weed biomass, except in the case of Vicia girsuta which persisted up to harvest stage (6.17 g/m2) similarly *Argemone mexicana* also had slightly weighed biomass (1.5 g/m2) pendimethalin 1.0 Kg.ha was this effective, particularly in checking *Arageallis arvensis* (6.1 g/m2), *Argemone mexicana* (5.9 g/m2), *Cynodao dactylon* (5.5 g/m2), *Alysicarpus morilifer* (4.6 g/m2), *Chenopodium album* (2.6 g/m2), *Medicago denticaleta* (2.3 g/m2) & *Fumaria indica* (2.0 g/m2)

Table 1: Effect of herbicides of wheat Crop Plant Population/M2

Symbol	Treatment	Mean number of plants at	
		15 D	Harvest
T1	Control	109.7+10.02	98.7+12.03
T2	Pendi. 1.000 kg/ha	112.5+11.05	106.7+12.05
T3	Pendi. 1.500 kg/ha	110.5+10.02	108.2+8.07
T4	Oxyflu 0.230 kg/ha	108.7+19.05	104.2+10.06
T5	Isopro. Pre 1.000 kg/ha	110.0+14.02	104.7+10.07
T6	Isopro. Post 1.000 kg/ha	110.0+12.02	102.5+14.02
T7	2, 4-D NA 1.000 kg/ha	110.2+13.02	107.0+13.12
T8	2, 4-D EE 1.000 kg/ha	109.2+8.06	106.0+11.03
T9	Clopy 0.500 kg/ha	112.0+9.04	105.5+11.03
T10	Fluro 0.250 Kg/ha	103.5+7.03	106.0+12.03
T11	Isport + 2, 4-D.75+.75 kg/ha	111.2+11.04	105.5+13.03
T12	Hand weeding at 25 DAS	110.5+12.03	107.0+12.04

Table 2: Effect of herbicides on weed control efficiency (%)

Symbol	Treatment	Dry weight of weed
T1	Control	-
T2	Pendi. 1.000 kg/ha	70.4 ± 10.11
T3	Pendi. 1.500 kg/ha	86.0 ± 17.22
T4	Oxyflu. 0.230 kg/ha	88.5 ± 8.10
T5	Isopro. Pre 1.000 kg/ha	55.7 ± 16.13
T6	Isopro. post 1.000 kg/ha	51.3 ± 16.10
T7	2,4-D Na 1.000 kg/ha	82.5 ± 30.09
T8	2,4-D EE 1.000 kg/ha	90.7 ± 16.15
T9	Clopy, 0.500 kg/ha	50.8 ± 20.25
T10	Fluro. 0.250 kg/ha	89.8 ± 30.10
T11	Isoprot. +2,4-D.75 + .75 kg/ha	65.0 ± 40.45
T12	Hand weeding at 25 DAS	93.0 ± 14.21

Conclusion

The weed control efficiently computed on the basis of weed shoot dry weight reduction due in different treatments increased in comparison to weedy check. Almost similar trend was revealed at all the sites during the study year. The highest WCE (Weed Control Efficiency %) was obtained with hand weeding (93%) among the herbicidal treatment fluroxupyr (89.8%), 2, 4-D- DEF 100 kg/ha (90.7%) and oxyfluorfen (88.5%) were the significant acquirers. pendimethalin 1.5 Kg/ha was effective than in its lower dose (70.4%) Table 2.

References

1. Dubey Shipra (2010). Ethno medicinal study of weeds of wheat crop fields of Satna District with special reference to their control measure Ph.D. Thesis, APS University, Rewa, (M.P.)
2. Balyan R.S. (2001). Evaluation of new herbicides against mixed weed flora in wheat Indian. *J. Weed Sci.*, 33 (384): 104-106.
3. Khan A.A. (2006). Observation of some insecticidal plants among the tribal's of

District Anuppur (M.P.) India, *Indian J. Applied and Pure Bio*., 21(1), 65-68.
4. Khan A.A., Dhriti Singh and Manoj Kumar Singh (2006). Enumeration of Certain Members of Family Euphorbiaceae and their medicinal use(s) among the tribal of Bandhawgarh National Park, *Indian J. Applied and Pure Bio*., 21(1), 47-54.
5. Mandal R.C. (1990) Weed weedicides and weed control principle and practice Agro-botanical publishers, (India) IVE-176, J.N. Vyas, Bikaner-334001 P.-2.
6. Pandy Jitendra (1983). Nutrients removal by paddy and weeds as affected by Mitoxuron application. *Indian J. Weed Sci*. 15(1): 29-37.

Shipra Dubey

How to cite this article
Dubey S. (2018). Effect of selective herbicides to control the wheat crop weeds in Satna district of Madhya Pradesh. *Int. J. Pharm. Life Sci.*, 9(1):5687-5689.
Source of Support: Nil; Conflict of Interest: None declared

Received: 03.12.17; Revised: 18.01.18; Accepted: 28.01.18