WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 12, 948-953. Research Article ISSN 2277– 7105

STUDY ON WEEDS OF WHEAT CROP FIELD IN TILDA, RAIPUR CHHATTISGARH

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Article Received on
01 May 2018,

Revised on 21 May 2018,
Accepted on 11 June 2018

DOI: 10.20959/wjpr201812-12698

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ABSTRACT

The wheat cropping system is very important in India. Also, the weed infestation is a major problem in the productivity of wheat. The present work is based on field research conducted from March, 2018 to April, 2018 in Tilda (Raipur) region of Chhattisgarh state, India. Multiple field visits were performed to investigate weed species in wheat crop. The plants were identified with the help of available literature and through comparison with the already identified plant species. Data inventory has been documented in the form of family, Botanical name, vernacular name, life form and habit. Total (36) weed species were collected, related to (35) genera and (18) families. Maximum number of species were of family Poaceae (7 species) followed by family Asteraceae (6 species) and Fabaceae (04 species). Out of the 36 weed species, there were 29 annuals and 02 perennials 5 annual/perennial. This study will be helpful as an additional tool in maintaining the floristic composition of Tilda (Raipur) region as well as in controlling the weed problem. From this survey the two weeds Specific for the rabi wheat field and not from other crop fields the Tulsi (Tilda), i.e. chenopodium album Li and gajar ghass.

INTRODUCTION

Weed science as a discipline has a long history of Research across agriculture system (Zimdahl 2010). Agriculture weeds (i.e. those in cropping system planted and managed by human for food fiber or for age production) are the greatest continuing of crop yields globally (Oerk, 2006) and with continuing global demand for expended crop production on limited-arable acreage it is clear that weed science has a vital rate to play in the future yet how often do we reflect critically on the plant species which grows as a wild plant and competes with the growth of cultivated crops and generally has no aesthetic and economic values (Lesley,

1993). Weeds are undesirable due to competitive and allelopathic behavior (Zaman et al., 2011). Weeds usually have a negative association but on the other hand weeds may also have a large number of benefits. For example, *Chenopodium album*, *Melilotus alba* are extensively used as leafy vegetables (FAO, 2013).

Wheat (*Triticum aestivum* L.) belongs to family "Graminae" among the food crop. Wheat is a staple food and one of the most important cereals of the world. It is grown approximately one third of the total world population (Johnson, 1984). Weed infestation is one of the major impediments to wheat yield, besides disease, pest and climatic influences (Qureshi et. al., 2009).

Weeds consume available nutrients and compete for space and sunlight with crop plants. They compete for available N supply and light during the early growth stage (Cousen, 1996). Therefore, uncontrolled growth of weed plants in wheat crop is most important factor for reduction in wheat yield.

Tilda sub-division is a part of Raipur district of Chhattisgarh State, India. This region is characterized by hot summer and cool winter. Tilda branch canal is main source of irrigation besides tubewells and submersible pumps. The present work is an attempt to explore weeds diversity in Tilda regions. The main purpose of the study was to achieve knowledge about availability of some number of species in this region, because survey, Identification and documentation of weed diversity is necessary before solving the menace of weeds in a particular region. Many Botanical studies have been conducted by various researchers in different regions of India like Bentham-Hooker (1800-1817), Jain at. (2000), and Maheshwari (1963).

MATERIALS AND METHODS

The weed diversity of wheat crop fields in Tilda (Raipur) Region was studies as per the method of Herberium collection and photography described by Bantham and Hooker (1875).

Accordingly the weed survey of Tilda (Raipur) Region was made during March 2018 to April 2018. For convenience the Tilda (Raipur) Region was divided into 6 Agricultural Zones such as Tulsi, Kohka, Rajiya, Tandawa and Biladi.

All the six agricultural zones were surveyed and weeds were collected from different wheat crop fields. For this regular excursions were arranged to different wheat crop fields of each

and every agricultural zone in Rabi (January, February, March, April). At least twice in a month and later on oncw in a month the excursion were arranged in such a way that it Photography and Herbarium the entire study regions. The identified weeds were categorized as Herbs and Shurbd as per the Method described by –banthum & Hooker Angiosperms – G.L. Chopra, Taxonomy of Angiosperm-V.Singh & D.K.jain.

Identification

The collected weeds were identical on the Herbarium collection and Photography on the basis of their natural characters with the help of relevant literature like Banthum and Hooker (1876), jain at. Al(2000), Marwat (2013), Angiosperm – G.L. Chopra, Taxonomy of Angiosperm – V. Singh & D.K. Jain.

Herbarium

Prepared herbarium from identified weeds and stored in Herbrium section of Department of Botony, Dr. C.V. Raman University kota (Bilaspur).

RESULTS AND DISCUSSION

From the table, total 36 weeds were collected which belong to 18 families and 35 Genera from the Rabi seasion of wheat fields. Table -1/ The major families which Contributed to the weeds were paaceae 7 Species, Asteraceae with 6 pecies and Fabaceae, Eyoh with 4 species. Chenopodium album was reported all localities followed by parthenium hysterophorus L. and cynodon duatylon (L). Other dominant species were Ageratum Conyzoides L. Dichanthum annulatum etc.

Presence of chenopodium album as dominant species indicates the well irrigated soil conditions. Chenopodium album being the dominant weed may decrease the grain yields of wheat considerably if this weed happens to attain a dense growth. The other members of Poaceae are inhabitants of a wide range of ecological conditions.

Weed plants like *Cynodon dactylon* being acidophilus up to large extent are known to be well suited to saline conditions. Tilda region has been characterized by both types of weed i.e. grassy weed and broad leaved weeds.

Therefore, edaphograghy of Tilda region is not uniform in all localities. Therefore, soil properties as well as mode of irrigation like ground water, Nahar water, pond water also affects the weed diversity in study area. It indicates the great adaptability of weeds to wide

range of soil environment.

The problem of weed control, especially in the canal irrigated areas is very much intricate. Canal water is principal sources of dissemination of weed seeds.

Their survival better than other weeds. There may be deep root system (Phragmites hysteron phorous) different mode of propagation like root suckers Cynodon) adaptations enable (them to consume large amount of habitat resources and wheat resulting in mixing of their seeds with wheat grains. Seeds of these weeds are sown accidently along with wheat seed every year growing season. In this way, livestock. Chenopodium album is cooked as villagers. Finally, this study will provide a brief in information on weed composition of Tilda (Raipur) region.

Table 1: Weeds of wheat crop recorded in Tilda(Raipur) region during the present study.

Families	**Botanical**	**Local**	**Life**	**Habit**
	Names	Name	Forms	
	Parthenium hysterophorus L.	Congress Ghas	Annual to Perennial	Herb to Shrub
	Sphaeranthus Indicus	Guradiya	Annual	Herb
1. Asteraceae	*Eclipta alba* (L.)	Bharangraj	Annual	Herb
(Compositae)	*Blumea eriantha* DC	Kukurmutta	Annual	Herb
	Tridex procumbens	Coat buttons	Annual	Herb
	Ageratum conyzoides L.	Gandhila (Bill Goat weed)	Annual	Herb
2. Chenopodiaceae	*Chenopodium album*	Bathua Bhaji	Annual	Herb
3. Euphorbiaceae	*Euphorbia hirta* L. *Phyllanthus niruri* *Croton sporiciflbrus*	Dudh Ghas Butti Anwla Dudh Ghas	Annual Annual Annual	Herb Herb Herb
4. Amaranthaceae	*Amaranthus virdis* L.	Chaulai Bhaji	Annual	Herb
5. Fabaceae (Sub.F. Papilionatae)	Lathyrus Aphece L.	Jungli Matter	Annual	Herb
	Trigonella polycerata Auct.	Mungesa	Annual	Herb
	Trifolium alexandrianum L.	Berseem	Annual	Herb
	Medicago Polymorph	Chanouri Bhaji	Annual	Herb
6. Malvaceae	*Malvestrum coromandelianum*	*Jungli Chech Bhaji*	Annual	Herb to Shrub
7. Polygonaceae	*Polygonum plebejum* R.Br.	Machechi/Knotweed	Annual	Herb
	Rumex dentatus L.	Jangli Palak	Annual	Herb
		Yard Grass	Annual	Herb
	Eleusine Indica			
	Eragrostis cilianesis All.	Stink Grass	Annual	Herb
	Poa annua L.	Blue Grass	Annual	Herb
	Cynodon dactylon (L.) Pers.	Doobdi, Doob Ghas	Annual	Herb
	Bothriochloa Pertusa (L.).	Pitted Blue Stend	Annual to Perennial	Herb
	Dactyloctenium Aegyptium	*Crow Foot Grass*	*Annual to Perenial*	*Herb*
8. Poaceae (Gramineae)	*Echinochloa Colona*	*Jungli Rice*	*Annual*	*Herb*
9. Solanaceae	*Solanum Xanthocarpum*	*Bhata Kateri*	*Annual*	*Herb*
10. Convolvulaceae	*Impomoea Reniformis*	*Muscaini Bhaji*	*Perenial*	*Herb*
11. Cyperaceae	*Cyperus Eragrostis*	*Umbrella Sedge*	*Annual*	*Herb*
	Cyperus Iria	*Rice Flat Sedge*	*Annual*	*Herb*
12. Portulaceae	*Portulaca oleracea* L.	Gol Bhaji Luniya	Annual	Herb
13. Papaveraceae	Argemone Maxicana L.	Katiri	Annual	Herb

14. Acanthaceae	Hygrophila Auriculata	Mokholakana	Annual	Herb
15. Commelinaceae	*Commelina benghalensis*	Kauaa kani	Annual to Perenial	Herb
16. Verbenaceae	*Lantana indica*	Goti fool	Annual	Shrub
17. Asclepiadaceaue	*Calatropis procera*	oak	Perenial	Wild/Shrub
18. Tiliaceae	*Tricumfelta Shomboidey*	Latkana	Annual	Shrub/Herb

Table 2: Taxonomic data of explored weed plants with their families, genera and species.

Sr. No.	Families	Genera	Species
1.	Poaceae	07	07
2.	Asteraceae	06	06
3.	Fabaceae	04	04
4.	Euphorbiaceae	03	03
5.	Polygonaceae	01	02
6.	Cyperaceae	01	02
7.	Chenopodiaceae	01	01
8.	Amaranthaceae	01	01
9.	Malvaceae	01	01
10.	Salenace	01	01
11.	Convolvulaceae	01	01
12.	Portulaceae	01	01
13.	Papaveraceae	01	01
14.	Acanthaceae	01	01
15.	Commelinaceae	01	01
16.	Verbenaceae	01	01
17.	Asalepiaclaceae	01	01
18.	Tiliaceae	01	01
Total	18	35	36

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