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Survey of weeds from Sailu Tehsil of Parbhani District, Maharashtra, India

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Abstract: Weeds are harmful and unwanted plants that grow along with crop plant. They compete with crop plant for water, light and nutrients. Hence, they affect the growth and yield of crop plants. They create the problems from the beginning of crop cultivation and become negative value. The present work deals with the survey of weeds from the different agriculture and non-agricultural sites of Sailu tehsil. During the course of study number of extensive and periodical survey were conducted from June 2011 to June 2013 in different agriculture and non-agricultural sites. About 52 weed species were collected from different sites of Sailu tehsil. Weeds survey in this area was not much explored hence, the present investigation was taken up.

Keywords: Weed, Survey, agricultural and non agricultural sites, Sailu tehsil, Maharashtra

1 Introduction

Weeds are the unwanted plants, which grow along with crop plant. Weeds are directly affected on yield of crop plant and reduce water and nutrients level of soil. Weed plant produce large number of seeds due to it they easily spread on cultivated crop field. Weed flora and its composition in a crop is influenced by the type of cultivation, soil type, soil PH, climatic condition, cultivation practices like irrigation tillage systems, application of fertilizer and weed management¹. Weeds are undesirable and non-economic plant that competes with crop for natural resources like water, nutrient and sunlight². Weed decrease quantity and quality crop yield and causes health hazards for humans and animals³. Crop type and soil properties have greatest influence on the occurrence of weed

species. The type of irrigation, cropping pattern, weed control measures and environmental factors had significant influences on the intensity and infestation of weeds⁴. Weed usually absorb mineral nutrients faster and accumulate in their tissue in relatively larger amount as compared to crop plants thus the crops suffer from nutrient starved conditions and sometime leads to crop failure. Weeds transpire more water than crop plants thus the weed infested crops exhibit wilting and then reduce in yield⁵. Sailu is a tehsil in Parbhani District of Maharashtra State. It belongs to Marathwada region. Sailu is located at 19.442°N latitude 76.429°E longitude. It has an average elevation of 415 metres (1361 feet). Sailu Taluka is bounded by Manwat Taluka towards South, Pathri Taluka towards South, Mantha Taluka towards North, Partur Taluka towards west. It is

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too hot in summer. Sailu's highest temperature during summer season is in between 32°C to 42°C. Average temperatures in January is 26°C in February is 27°C in March is 31°C in April is 33°C and in May is 35°C.

2 Methodology



Fig 1: Shows the Map of Parbhani District

The present study was conducted to collect different weed plant from crop fields of Sailu tehsil. The study was based on extensive and intensive field survey. The weed survey was conducted repeatedly in different seasons and areas of the Sailu tehsil from June 2011 to June 2013. The collected weed plants were identified up to species level with the help of standard flora⁶⁻⁸. All the collected specimens were deposited in the Herbarium Department of Botany Nutan Mahavidyalaya sailu, Dist Parbhani. Weed plants were arranged alphabetically as per their botanical name.

3 Results and Discussion

The total 52 weed plant species belong to 20 family were collected from different cultivated crop fields. During the survey, it is observed that the most dominated weed is *Parthenum*, *Cynodon* is second dominated fast spreading weed in crop field. *Biophytum sensitivum* L.,

Cyperus rotundus L., *Cyperus compressus* L., *Eclipta alba* (L.) Hassk., *Commelina hasskarli* L. and *Commelina benghalensis* L. are luxuriantly grow in irrigated crop field. All these weed plants are directly affected on yield of crop plant. Family Asteraceae, Poaceae, Euphorbiaceae, Amaranthaceae and Malvaceae represents the weed genera. Total number of weeds was less in rabi season than kharif. An ecological survey of weed flora is must for a comprehensive idea of weed problem understanding the sociological structure of weed in crop fields is a prerequisite for its effective management. Identification and quantification of weed species present in different crop cultures and cropping systems is possible to provide strategies for weed control method in important crop that can be adapted by marginal farmer⁹. The weed such as *Cleome viscosa* L., *Cleome gynandra* L., *Cleome chelidonii* L., *Haplanthodes certicillata* (Roxb.) R.B., *Cajanus platicarpu* were found to be only in the Maize fields and not in other fields¹⁰. The weeds are tremendously grow in crop fields and these problems are almost always face by each farmer but now a day's these problematic unwanted weeds can be one of the major additional source of the ethnomedicinal importance of the human diet¹¹. For the control of weed to study phenology, flowering, fruiting period, general dispersal of the weed and change the crop pattern etc. is of paramount important¹². Weed identifiical and record keeping is essential in planning a successful control strategy¹³. Proactive inspection and surveillance programs should be encouraged to detect the weed before it become establish¹⁴. Chemical herbicides are the most effective immediate solution to most weed problems but increased and indiscriminate used of these results in resistant and resurgence¹⁵⁻¹⁷.

Table 1: List of weed species.

Sr.no	Botanical name of weed	Family
1	<i>Abutilon indicum</i> L.	Malvaceae
2	<i>Acalypha indica</i> L.	Euphorbaceae
3	<i>Ageratum conyzoides</i> L.	Asteraceae
4	<i>Alysicarpus heyneanum</i> Wt & Arn	Fabaceae
5	<i>Ammannia baccifera</i> L.	Lythraceae
6	<i>Andropogon pumilus</i> Roxb.Fl.	Poaceae
7	<i>Argemone mexicana</i> L.	Papaveraceae
8	<i>Aristolochia bracteolata</i> Lamk.	Aristolochiaceae
9	<i>Biophytum sensitivum</i> L.	Oxalidaceae
10	<i>Brachiaria ramosa</i> (L.) Stapf	Poaceae
11	<i>Cardiospermum helicacabum</i> L.	Sapindaceae
12	<i>Centrantherum anthelminticum</i> (L.) O.Ktze.	Asteraceae
13	<i>Chloris virgata</i> Roxb.	Poaceae
14	<i>Chrozophora prostrata</i> Daiz.	Euphorbaceae
15	<i>Cleome viscosa</i> L.	Cleomaceae
16	<i>Cleome gynandra</i> L.	Cleomaceae
17	<i>Cocculus hirsutus</i> L.	Menispermaceae
18	<i>Commelina benghalensis</i> L.	Commelinaceae
19	<i>Commelina hasskarli</i> L.	Commelinaceae
20	<i>Crotalaria retusa</i> L.	Fabaceae
21	<i>Cyperus rotundus</i> L.	Cyperaceae
22	<i>Cyperus compressus</i> L.	Cyperaceae
23	<i>Cynodon dactylon</i> (L.)Pers.syn	Poaceae
24	<i>Desmodium dichotomum</i> L.	Fabaceae
25	<i>Dichanthium pertusum</i> L.	Poaceae
26	<i>Dinebra retroflexa</i> (Vagk) Panz.	Poaceae
27	<i>Eclipta alba</i> (L.)Hassk.	Asteraceae
28	<i>Elusine indica</i> (L.)Gaertn.	Poaceae
29	<i>Eragrostis minor</i> Host.Gram.	Poaceae
30	<i>Eragrostis namaquensis</i> Schrad.Var.	Poaceae
31	<i>Eragrostis termula</i> Hochst.ex Stend.	Poaceae
32	<i>Euphorbia dracunculoides</i> Lamk.	Euphorbiaceae
33	<i>Goniocaulon indicum</i> (Klein ex Willd.)cl.	Asteraceae
34	<i>Heliotropium supinum</i> L.	Boraginaceae
35	<i>Indigofera glandulosa</i> Drum.	Fabaceae
36	<i>Ischaemum pilosum</i> (Klein ex. Willd.)wt.	Poaceae
37	<i>Launaea Procumbens</i> Roxb.	Asteraceae
38	<i>Melilotus alba</i> Medik.	Fabaceae
39	<i>Melilotus indica</i> L.	Fabaceae
40	<i>Parthenum hysterophorus</i> L.	Asteraceae
41	<i>Peristrophe paniculata</i> (Forssk.) Burm.	Acanthaceae
42	<i>Phyllanthus amarus</i> Schumach&Thonh	Euphorbaceae
43	<i>Physalis angulata</i> L.	Solanaceae
44	<i>Portulaca oleraceae</i> L.	Portulacaceae

45	<i>Psoralea corylifolia</i> L.	Fabaceae
46	<i>Sida acuta</i> L.	Malvaceae
47	<i>Solanum americanum</i> Mill.Gard.	Solanaceae
48	<i>Solanum nigrum</i> L.	Solanaceae
49	<i>Tragia plukenetii</i> L.	Euphorbaceae
50	<i>Tribulus terrestris</i> L.	Zygophyllaceae
51	<i>Trichodesma indicum</i> (L.)Lehm	Boraginaceae
52	<i>Triumfetta rhomboidea</i> L.	Tiliaceae

4 Conclusion

This study is based on survey of weeds from agricultural and non agricultural land of sailu tehsil, which provides a preliminary data. Some weeds are abundant found and luxuriantly grow in this area. The agricultural weed are harmful to crop reduce the yield due to that reason weed control is very essential. Farmer should use biological method of weed control.

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6 References

1. V. S. Patil, P. S. Jadhav. *A Journal of Environmental Research and Technology* (2013), 3, 2, 233-240.
2. R. T. Kapoor, *Journal of agricultural Technology* (2012), 8, 3, 1129-1140.
3. A. K. Shinde, M. Y. Shukla; *International Journal of Advances in Engineering and Technology* (2014), 7, 3, 818-826.
4. S. S. Punia, V. S. Hooda, A. Duhan, D. Yadav; *Amarjeet Indian Journal of weed Science*, (2013), 45, 4, 247-249.
5. L. R. Dangwal, A. Sharma, A. Singh, C. S. Rana, T. Singh; *Pak. J. Wee. Sci. Res.* (2011), 17, 4, 387-396.
6. V. N. Naik; *Flora of Osmanabad*, Venus Publishers Aurangabad, (1979).
7. V. N. Naik and Associates; *Flora of Marathwada*, Amrut Prakashan, Aurangabad, Vol I & II, (1998).
8. S. R. Yadav and M. M. Sardesai; *Flora of Kolhapur District*, Publisher Shivaji University, Kolhapur, India, (2002).
9. N. Nagaraju, Bandaru V. Rao, M. Tarakeswara; *International Journal of Advanced Research Science and Technology*, (2014), 3, 1, 23-28.
10. J. A. Dhole, K. D. Lone, N. A. Dhole, S. S. Bodke; *International Journal of Pharmaceutical and Chemical Sciences*, (2013), 2, 3, 1396-1399.
11. R. P. Ganorkar, A. D. Kshirsagar; *Proceedings of the National Conference*. (2014), 260-263.
12. S. Patel, P. Desai, V. Pandey; *Journal of Medicinal Plants Studies* (2014), 2, 5, 8-11.
13. B. A. Wani, N. A. Wani; *Report and Opinion*, (2011), 3, 1, 61-64.
14. A. Masoodi, F. A. Khan; *Proceeding of the 17 th international conference on aquatic invasive species* (2012), 7, 1, 143-146.
15. K. R. Aneja, S. A. Khan, S. Kaushal; *Proceeding of the X International symposium on Biological Control of Weed*. (1999), 27-33.
16. B. A. Wani, N. A. Wani; *Report and Opinion* (2011), 3, 1, 61-64.
17. S. S. Punia, V. S. Hooda, A. Duhan, D. Yadav; *Amarjeet: Indian Journal of weed Science* (2013), 45, 4, 247-249.