Pak. J. Agri. Sci.
27 (1) 49, 1990

WEEDS IN THE CORN FIELDS OF MUZAFFARABAD, AZAD KASHMIR

Zahid Hussain Malik & Farrukh Hussain
University of A. J. K. Muzaffarabad & University of Peshawar, Peshawar

Forty four plant species related to 14 families were identified as the weeds of maize fields from Muzafferabad during the month of September-October, 1985. The families in their decreasing orders of weed prevalence respectively were: Poaceae(8sp.) Asteraceae(6sp.) Amaranthaceae(5sp.) Lamiaceae, Euphorbiaceae, Papilionaceae (4 species each), Cyperaceae (3sp.) Convolvulaceae and Malvaceae(2sp. each). Solanaceae, Oxalidaceae, Tilliaceae, Commelinaceae, Onagraceae and Equisetaceae had one species each. Setaria pumila followed by Commelina benghalensis was the most frequent weed. The constancy classesII, IV and V were represented by 31,11 and 2 species respectively. The biological spectrum consisted of 68.18% therophytes, 15.90% hemicryptophytes, 4.54% Chamaephytes; 9.09% Geophytes and 2.27% Nanophanerophytes.

INTRODUCTION

Weeds are undesirable due to their negative influences including competition, allelopathy and parasitism upon the crop species. They also provide habitats for other organisms that might be harmful for the crops. Seed contamination and problems during harvest are some of the other disadvantages. The association of weeds with crop always causes reduction in productivity and yield. Maize is an important crop that requires tremendous efforts including weeding for better yield. One of the approaches involves the effective control of weeds.The kind and distribution of weeds vary with the crop, geographical location and other environmental factors. The identification, distribution and degree of infestation has, therefore, been always a pre-requisit for controlling the weeds. Weeds from tobacco fields (Hussain et al, 1985.1982), wheat fields (Hussain et al,1985) have been reported from other parts of Pakistan. Hussain and Malik (1986) reported the distribution of some weeds from maize fields of Kotli. However, no such effort has been made to record weeds from cultivated fields of Muzaffarabad. The present paper, therefore, reports some weeds and their distribution from corn fields of Muzaffarabad, Azad Kashmir with the hope that these information will help the future workers in their endeavours for controlling the weeds

MATERIALS AND METHODS

Three corn growing sites, Chila bandi, Chattar and Danna, all with in the radius of 2–25 Km from Muzaffarabad were surveyed during September, 1985. The presence of a living weed was recorded in 15 randomly selected maize fields at each of the sites. Each field was considered as a sampling unit for the determination of frequency and constancy following Cox(1967). The life form of each species was determined to construct biological spectrum.

RESULTLS AND DISCUSSIONS

There were 44 species including 9 grasses, 3 sedges and pteridophyte distributed among 15 families of weeds from corn fields in the area surveyed (Table 1). Chilla, Chattar and Danna fields respectively had 18, 18 and 23 weed species. The families in decreasing order of weed species are respectivly Poaceae (8Spp.), Asteraceae(6 Spp), Amaranthaceae(5 Spp), Lamiaceae, Euphorbiaceae, Papilionaceae(each with 4 sp). Each of the remaining 6 families had a solitary species. Setaria pumila and Commelina benghalensis exhibited over 50% frequency and 100% constancy in all the three sites (Table 1). Dactyloctenium aegyptium and Euphorbia hirta had 40-66% distri-

Frequency, Constancy and Life form of weeds in maize fields of Muzaffarabad during October, 1985.

S.No.	Family and name of the weed	Local name	Life form	Frequency% (Per cent Occurrence) Chilla	Chattar	Danna	Constancy Class
1.	Family Amaranthaceae						
1.	Achyranthes aspera Auctt.	Patkanda	Th	6.66	-------	------	II
2.	Amaranthus spinosus Linn.	Chitti Ganari	Th	------	16.6	------	II
3.	Amaranthus viridis Linn.	Ganari	Th	40.00	-------	------	II
4.	Celosia argentea Linn.	-----	Th	------	66.00	20.00	IV
5.	Disgera muricata (L) Mart	-----	Th	------	--------	46.66	II
2.	Family Asteraceae						
6.	Cichorium intybus Linn.	Kasni	Th	------	-------	20.00	II
7.	Erigeron canadensis Linn	-----	Th	------	16.00	-----	II
8.	Galinsoga parviflora Cav	-----	Th	------	-------	20.00	II
9.	Sonchus asper (L.) Hill	-----	Th	------	-------	40.00	II
10.	Taraxacum officinale Weber	-----	Th	------	-------	40.00	II
11.	Xanthium strumarium Linn.	Kanda	Th	------	16.6	------	II

3.	Family Commelinaceae						
	12. Commelina benghalenisis Linn.	Chura	G	26.66	50.00	60.00	V
	13. Ipomoea indica (Burm.f) Merrill	-------	Ch	------		66.00	II
	14. Ipomoea pes-tigridis Linn.	Bingri Bel	Th	6.66	-------	------	II
4.	Family Cyperaceae						
	15. Cyperus allulatus Kern	Moother	Th	------	-------	60.00	II
	16. Cyperus iria Linn.	-------	Th	20.00	16.00	------	IV
	17. Cyperus rotundus Linn.	-------	G	6.66	-------	------	II
5.	Family Euphorbiaceae						
	18. Euphorbia helioscopia Linn	Dudal	Th	------	-------	100	II
	19. Euphorbia hirta Linn	-------	H	40.00	66.00	------	IV
	20. Euphorbia prostrate Ait	-------	H	------	-------	13.33	II
	21. Phyllanthus niruri Linn	-------	Th	------	26.66	13.33	IV
6.	Family Equisetaceae						
	22. Equisetum remmsissimum	-------	G	------	-------	20.00	II
7.	Family Lamiaceae						
	23. Brunella vulgaris Linn	-------	Th	------	-------	13.33	II
	24. Leucas capitata R.Br.	-------	Th	33.33	16.6	------	IV
	25. Mentha longifolia (L..) Buds	Ratti Ganari	G	------	-------	53.33	II
	26. Nepeta podostachys Bth	Kala sigra	Th	------	16.00	------	II
8.	Family Malvaceae						

27. Hibiscus trionum Linn.	------	Th	-----	-----	33.33	II
28. Malvastrum coromandelianum Linn.	------	H	6.66	-----	-----	II
9. Family Onagraceae						
29. Oenothera rosea (L.) Her	------	Th	-----	-----	60.00	
10. Family Oxalidaceae						
30. Oxalis corniculat Linn	Khatti	Th	6.66	-----	-----	IV
11. Family Papilionaceae						
31. Alysicarpus vaginalis Baker	------	H	-----	16.6	-----	II
32. Indigofera heterantha	------	Cp	-----	-----	33.33	II
33. Lespedeza servicea (Thub.) Miq	------	Ch	-----	-----	26.66	II
34. Medicago lacinitata (L.) Mill	Saree	Th	-----	-----	80.00	II
12. Family Poaceae						
35. Cynodon dactylon (L.) Pers	Khabbal	H	26.66	26.66	-----	IV
36. Dactylocatanium aegyptium (L.) Willd	Tara kaa	Th	46.66	26.66	-----	IV
37. Digitaria sanguinalis (L.) Scop	------	Th	16.6	26.66	-----	IV
38. Eleusine indica (L.) Gaertn	samak	Th	-----	16.6	60.00	IV
39. Eragrostis tenella (L.) P.Beauv	Ronsa kaa	Th	13.33	50.00	-----	IV
40. Paspalidium flavidum (Retz) A, Camus	Dane dar Kaa	H	-----	-----	80.00	II
41. Setaria pumila (Poir) Roem	Malla Kaa	Th	66.66	66.00	53.03	V
42. Sorghum halepense (L.) Pers	Baroo kaa	H	-----	-----	66.6	II

13.	Family Solanaceae						
43.	Physalis divaricata D.Don	Pataka	Th	6.66	-----	-----	II
14.	Family Tiliaceae						
44.	Corchorus aestuan Linn.	-----	Th	20.00	-----	-----	II

key: Th = Therophyte; H = Hemicryptophyte; G = geophyte; Np = nanophanerophyte; Ch = Chamaephyte

bution in two of the sites. While Cyperus allulatus, Cynodon dactylon, Eragrostis tenella, Euphorbia helioscopia, Eleusine indica, Habiscus trionum, Ipomea indica. Celosia argentea. Mentha Longifolia, Medicago Laciniate, Oenothera rosea, Paspalidium flavidum and Sorghum helepense were more than 50% frequent in one of the sites only. The remaining species exhibited poor occurence in the area. There were 68.18% therophytes,15.90% hemicryptophytes, 4.54% Chamaephytes, 9.09% Geophytes and 2.27% nanophanerophytes. There were 31 species in constancy class II, 11 in class IV and 2 in class V (Table1) . Corn attains a height of more than 2 meter and with well developed root system. The tall strature helps in over competing the weeds for light. It is quite possible that weeds might exerts adverse effects on crop during the early stages.Weeding and hoeing is, therefore, essential to avoid competition. Some of the recorded weeds like Euphoria granulata (Hussain, 1986)Cynodon dactylon (Hussain and Khan, 1987), Eragrostis (Hussain et al, '1984),Taraxacum officinale (Zebinnisa, 1983), Setaria (Hussain et al,1981) are Allelopathic. Allelopathy is negative factor in agroecosystem (Hussain, 1983: Putnam and Duke, 1978). Perennial weeds like Cynodon, Mentha, Amaranthus, Sorghum and Commelina have strong competitive capacity owing to well developed underground parts. Moreover, grasses, sedges and other species produce enormous quantity of seeds that help in their persistence. The majority of weeds are therophytes which indicate highly disturbed habitat condition. It is generally difficult to eliminate the weeds as they have excellent capability of surviving and persistence. Annuals can be easily controlled by mechanical and chemicals methods. Depriving the plants to produce seeds would be more better to reduce the degree of infestation. Before developing any approach for controlling and eradicating weeds, their biology and ecology must first be worked out.The present report provides a preliminary information of weeds in corn fields but a periodic study is required to bring on record all the possible weeds appearing during the different seasons. Moreover, density, coverage and biomass of the weeds needs to be determined for the important weeds.

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