

WEEDS OF MAIZE FIELDS AROUND KOTLI, AZAD JAMMU & KASHMIR

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ABSTRACT

Forty nine species belonging to 28 families were reported as Weeds of maize during Monsoon, 2000. Family Asteraceae and Convolvulaceae had 5 species each while polygonaceae, poaceae, Lamiaceae and Amaranthaceae each had 3 species. Two species were recorded for Euphorbiaceae, Balsaminaceae, Solanaceae and papilionaceae. The remaining 18 families had single species each. There were 63.63% therophytes, 21.21% hemicryptophytes, 2.42% chamaephytes and 12.12% geophytes. The Index of similarity shows close resemblance due to similar conditions, season & proximity of the localities within the investigated area.

Key Words: Index of similarity, importance value of weeds

INTRODUCTION

Weeds compete with crop plants for nutrients, soil moisture and sunlight. The intensity of weed competition depend on type of weed species, severity of weed infestation, duration of weed infestation, competing ability of crop plant and climatic conditions which affect weed and crop growth (Rao, 1983). There are few reports from Azad Jammu & Kashmir especially of Maize fields of Kotli & Muzaffarabad (Malik *et al.*, 1986, 1990, 1992).

Competition and allelopathy, facilitates alternate host for pathogens, seed contamination & many other charaters are undes-irable characters of weeds (Putnam 1978 Duke, 1978). There are some such types of reports from Azad Jammu & Kashmir, especially of maize field of Muzaffarabad & Kotli. The present report is a contribution to weeds of crops from Azad Jammu & Kashmir in general & maize field specially. Such types of ecological information are generally essential in formulating any organized effort for controlling weeds in a particular. area and crop.

MATERIALS AND METHODS

Kurti, Dhamol, Dhanna, Doongi, Bandli, Thalla, Nakyal and Tattapani, all within the radius of 30 Km from Kotli, were surveyed during monsoon, 2000. Weed plants within 1/2 m of the field borders were not conducted to avoid edge effect. Density, Frequency and Canopy Cover of each species were determined using 20, 1/2 m² quadrats laid randomly in each locality and importance values were recorded from the data for determining species dominance (Malik, 1986). Biological spectrum & index of similarity were calculated following Malik (1986). Nomenclature followed here is that of Stewart (1972).

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Table-1 Summary of Relative Phytosociological data of Maize Community During Monsoon 2000

S. No	Name of Species	No. Stand	Max I.V.I	Minimum I.V.I	No of Stands 1st Dominant	No.of Stands 2nd Dominant	No. of Stands 3rd Dominant
1	<i>Amaranthus viridis</i>	10	20.42	7.16	-	-	-
2	<i>Amaranthus spinosus</i>	2	9.56	2.29	-	-	-
3	<i>Aster Spp.</i>	2	4.75	4.52	-	-	-
4	<i>Ajuga bracteosa</i>	1	4.00	-	-	-	-
5	<i>Brachiaria ramosa</i>	10	77.02	19.14	2	3	-
6	<i>Commelina benghalensis</i>	10	76.6	28.14	6	1	-
7	<i>Cyperus rotundus</i>	10	58.86	12.68	1	-	1
8	<i>Cynodon dactylon</i>	8	39.39	7.42	-	-	-
9	<i>Celosia argentea</i>	7	28.29	6.19	-	-	-
10	<i>Calamintha umbrosa</i>	4	6.91	4.68	-	-	-
11	<i>Chenopodium album</i>	1	3.00	3.00	-	-	-
12	<i>Commelina paludosa</i>	1	4.00	4.00	-	-	-
13	<i>Conyza bonariensis</i>	1	2.00	2.00	-	-	-
14	<i>Coccinia grandis</i>	1	1.00	1.00	-	-	-
15	<i>Conchorus aestuans</i>	7	27.36	4.79	-	-	-
16	<i>Convolvulus arvensis</i>	1	2.00	2.00	-	-	-
17	<i>Convolvulus glomeratus</i>	1	2.00	2.00	-	-	-
18	<i>Boerhaavia diffusa</i>	1	2.00	2.00	-	-	-
19	<i>Brassica napus</i>	1	3.00	3.00	-	-	-
20	<i>Euphorbia hirta</i>	3	9.36	7.05	-	-	-
21	<i>Euphorbia prostrata</i>	3	15.48	6.41	-	-	-
22	<i>Equisetum debile</i>	1	2.00	2.00	-	-	-
23	<i>Fragaria nubicola</i>	1	3.00	3.00	-	-	-
24	<i>Galium aperine</i>	2	5.72	3.48	-	-	-
25	<i>Ipomoea pes-tigridis</i>	10	21.82	5.37	-	-	-
26	<i>Ipomoea eriocarpa</i>	3	10.67	3.48	-	-	-
27	<i>Ipomoea siudica</i>	1	2.00	2.00	-	-	-
28	<i>Impatiens edgworthii</i>	2	11.47	5.28	-	-	-
29	<i>Impatiens glandulifera</i>	1	2.00	3.00	-	-	-
30	<i>Justicia peploides</i>	2	33.23	10.62	-	-	-
31	<i>Lencas capitata</i>	6	15.99	4.22	-	-	-
32	<i>Malva sylvestris</i>	4	7.32	4.46	-	-	-
33	<i>Medicago laciniata</i>	2	8.05	6.31	-	-	-
34	<i>Oxalis corniculata</i>	7	7.25	2.25	-	-	-
35	<i>Oenothera rosea</i>	1	2.00	2.00	-	-	-
36	<i>Phyllanthus niruri</i>	10	25.18	8.84	-	-	-
37	<i>Physalis divaricata</i>	7	28.51	6.79	-	-	-
38	<i>Poa annua</i>	1	3.00	3.00	-	-	-
39	<i>Polygonum plebijum</i>	7	54.61	10.55	-	1	-
40	<i>Portulaca oleracea</i>	9	17.60	3.99	-	-	-
41	<i>Polygonum punctatum</i>	1	2.00	2.00	1	-	-
42	<i>Plantago lanceolata</i>	1	3.00	3.00	-	-	-
43	<i>Rumex dentatus</i>	1	3.00	3.00	-	-	-
44	<i>Solanum nigrum</i>	2	7.63	4.04	-	-	-
45	<i>Sonchus arvensis</i>	1	2.00	2.00	-	-	-
46	<i>Ranunculus muricatus</i>	1	2.00	2.00	-	-	-
47	<i>Taraxacum officinale</i>	1	3.00	3.00	-	-	-
48	<i>Vicia monantha</i>	3	8.68	4.63	-	-	-
49	<i>Xanthium strumarium</i>	1	2.00	2.00	-	-	-

RESULTS AND DISCUSSION

Forty nine species of 28 families were recorded as weeds of maize in Kotli (Table-1). The families are Asteraceae & Convolvulaceae each with 5 Spp. Poaceae, Lamiaceae, Amaranthaceae & Polygonaceae each with 3 spp. Euphorbiaceae, Balsaminaceae, Solanaceae & Papilionaceae with 2 Spp. each. The remaining 18 families had single Spp.

The highest maximum I.V.I was recorded for *Brachiaria ramosa*, (77.02) and *Commelina benghalensis* (76.60). It was followed by *Cyperus rotundus*, (58.86) *Polygonum Plebejum* (54.61) *Cynodon dactylon* (39.39) *Celosia argentea* (28.29) *Amaranthus viridis* (20.42) *Justicia Peploides* (33.23) *Corchorus* Spp.(27.36), *Physalis divaricata* (28.51) *Portulaca* (17.60) & *Leucas capitata* (15.99) *Commelina benghalensis* was first dominant in 6 stand. *Brachiaria ramosa* was dominant in second stand & *Cyperus rotundus* in one stand. In one stand *Polygonum* was dominant. *Cyperus* & *Commelina* are Geophytes.

Commelina benghalensis is a plant of moist and shaded places, used as a fodder & also vegetables. Medicinally it is used to cure skin inflammation and as laxative. It is dominant plant Spp. in the month of Monsoon.

Brachiaria ramosa is an annual grass and grow well in shady area. It is also used as a fodder grass.

Most of the weeds are annual which can be easily controlled while perennial weeds i.e. *polygonum*, *Cynodon* and *Amaranthus* creates problem.

The index of similarity indicates similar ecological habitat condition close proximity of the localities. Weeds tends to become similar due to similar geographical area.

REFERENCES CITED

- Hussain, F.Z.H. Malik 1986. The distribution of some weeds in maize (*Zea may L.*) Fields of Kotli (Azad Jammu and Kashmir). Sar.J.Agr. 2(3): 561-569.
- Malik, Z.H; F. Hussain 1990. Weeds in the Corn fields of Muzaffarabad, Azad Kashmir, Pak. J. Agr. Sci. 27(1): 49-55.
- Malik, Z.H. and N.A. Bhatti 1992. Weeds in the maize fields of Kotli (A.J.K.) W. Sci. Res. Islamabad.
- Putnam, A.R. & W.B. Duke. 1978. Allelopathy in agroecosystem. Anno. Rev. Phytopathol. 16: 431-451.
- Rao, V.S. 1983. Principles of Weed Science, offard & IBH Co. Pub. Co. Put. Ltd New Dehli. p:540.
- Styewart, R.R. 1972. An annotated catalogue to Vascular plants of Pakistan and Kashmir. Fakhri Printing Press, Karachi.