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INVENTORY OF GRASS – WEEDS IN CROP FIELDS OF ANANTAPURAM DIST., A.P

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ABSTRACT

This article presents an overview of inventory of grass weeds in crop fields of Anantapuram district, Andhra Pradesh. The weed species of Poaceae family encountered in the cultivated crop fields of the study area. A total of 83 grass taxa identified as weeds in the both dry fields and irrigated crop fields. The weeds of Anantapuram district comprises 35% of the total weeds encountered in the state crop fields. Of the 284 total grasses recorded from the state 83 of them are recorded from the cultivated fields of Anantapuram district. It is observed that out of 83, 43 are common in all crop fields, 29 and 11 taxa are occasional and rare occurrence respectively. Aristida adscensionis and cynodon dactylon are gregarious in all crop fields. Echinochloa colona, E.crus-galli are causing heavy loss to the rice crop. The key objective of the study is provision of grass taxa as weeds in crop fields of Anantapuram district.

***Key words**: Agrestals, Gregarious weeds, crop productivity, weed – loss.*

INTRODUCTION:

The term 'Agrestal' was coined by Holzner (1982). From the point of the agro-ecological systems, the plants which are competing with agricultural crops and having short vegetative phase and high reproductive output are termed as weeds. While some of them are obligatory to cultivated crop fields, others are facultative also seen in other habitats. Weeds are abundant in dry lands due to drought tolerance, rapid growth through vegetative phase of flowering, self compatible and are having continuous seeds production(Murthy and

Prathibha, 1995).Weeds deplete large quantities of mineral nutrients and moisture more efficiently than the crop plants and thrive better over the crops in drought condition.

The cultivated fields of the study area are infested with a large number of weeds causing heavy losses to the crop yields. The presence of weeds in herbaceous crops especially of those like groundnut, rice, legume crops inflict major losses. The present article focused particularly an overview of grass taxa which acts as weeds in cultivated crop fields of Anantapuram district.

The study area i.e., Anantapuram district is the largest among the four districts of Rayalaseema region in Andhra Pradesh State. It is situated at the South – Western corner of the Andhra Pradesh, lies between $13^0$41' and $15^0$14' North latitudes and $76^0$47' and $78^0$26' East longitudes. In the study area mostly 80% is red soil and the remaining 20% is black cotton soil. This district is the second driest part of the country next to the Jaisalmer district of Rajastan. The study area comes under semi-arid area which records the average rainfall from 370 to 540 mm. The food crops occupy an important place, among them Paddy, Jowar, Pulses and other millets are important. Among commercial crops, groundnut is the most predominant crop followed by cotton.

The present compendium of crop fields of Anantapuram district is an outcome of the specific studies on the grass taxa of crop fields. The present study revealed the presence of 83 grass taxa as weeds in the crop fields of the study area.

MATERIALS AND METHODS:

The present study is aimed to provide an inventory of grass weeds of different cultivars in Anantapuram district. The area was explored extensively and focus was primarily on herbaceous annual crops and grass weeds that interfere with growth of crop plants. Plant specimens were collected in both vegetative and reproductive stages. Every plant was collected in quadruplicates and every attempt has been made to study the habit, habitat, flowering seasons and frequency of distribution of the species. The collected specimens were made into herbarium according to the methodology described by Santapau (1995) and Jain & Rao (1977). Every specimen was carefully studied regarding vegetative and reproductive features. Provisional identification was made following 'Flora of Presidency of Madras' (Gamble & Fischer, 1915-1935) and other regional floras. All the plant taxa are arranged in sequence following Bentham and Hooker's system (1862-83).

RESULTS & DISCUSSION:

In the present study a total of 83 grasses belonging to 45 genera identified as weeds in the crop fields of Anantapuram district. A critical study on the flora of Andhra Pradesh

(Pullaiah etal., 1997) has revealed the presence of 715 taxa as weeds in crop fields of the state. Lakshmaiah(2006) recorded a total of 509 weed species in the cultivated fields of Rayalaseema region. The weeds of Anantapuram district (247 taxa) comprises 35% of the total weeds encountered in the state crop fields. Of the 284 total grass species recorded from the state, 83 of them are recorded from the crop fields of Anantapuram district (Table 1)

Table 1: Analysis of Grass taxa, Longevity & Distributional pattern

S.No	Name of the Taxon	Longevity	Distribution
1	Alloteropsis cimicina	Perennial	Common in dry fields
2	Apluda mutica	Perennial	Common in dry fields
3	Aristida adscensionis	Annual	Common in dry fields
4	A. funiculata	A	Common in dry fields
5	A. hystrix	P	Common in dry fields
6	A. mutabilis	A	Rare in dry fields
7	A. setacea	P	Common in dry fields
8	Arundinella ciliata	A	Occassional in dry fields
9	A. setosa	P	Common in dry fields
10	Bothrichloa pertusa	A	Common in all fields
11	Brachiaria distachya	A	Occassional in ground fields
12	B. eruciformis	A	Common in groundnut fields
13	B. remota	A	Common in all fields
14	B. ramosa	A	Common in all fields
15	B. reptans	A	Occassional in all fields
16	Cenchrus biflorus	A	Occassional in dry fields
17	C. ciliaris	P	Common in dry fields
18	C. setigerus	P	Occassional in dry fields
19	Chloris inflata	A	Common in all fields
20	C. quinquesetica	P	Occassional in all fields
21	C. roxburghiana	P	Occassional in rice fields
22	Chrysopogon fulvus	P	Common in dry fields
23	Coelachyropsis lagopoides	P	Rare in groundnut fields
24	Cymbopogon coloratus	P	Occassional in groundnut fields
25	C. martini	P	Rare in groundnut fields
26	Cynodon dactylon	A	Common in all cultivated fields

27	Dactyloctenium aegyptium	A	Common in all cultivated fields
28	Desmostachya bipinnata	P	Rare in all cultivated fields
29	Dichanthium annulatum	P	Common in all rice fields
30	Diectomis fastigiata	P	Occassional in fields
31	Digitaria bicornis	A	Common in all fields
32	D. ciliaris	A	Common in all fields
33	D. tomentosa	A	Occasional in all fields
34	Dinebra retroflexa	A	Occassional in all fields except rice
35	Diplachne fusca	P	Rare in rice fields
36	Echinochloa colona	A	Common in rice fields
37	E.crus-galli	A	Common in rice fields
38	E.frumentacea	P	Occasional in rice fields
39	Eleusine indica	A	Common in all cultivated fields
40	Eragrostiella brachyphylla	P	Occassional in dry fields
41	E. walkeri	P	Common in dry fields
42	Eragrostis aspera	A	Occasional in dry fields
43	E. cilianensis	A	Occassional in dry fields
44	E.ciliaris	A	Occassional in dry fields
45	E.coarctata	P	Occassional in groundnut fields
46	E.diarrhena	P	Occassional in rice fields
47	E.minor	A	Rare in rice fields
48	E.nutans	P	Common in irrigated fields
49	E.riparia	P	Rare in rice fields
50	E.tenella	A	Common rice fields
51	E.tenuifolia	P	Rare in rice fields
52	E.viscosa	P	Common in cultivated fields
53	Eriochloa procera	P	Common in cultivated fields
54	Hackelochloa granularis	A	Common in groundnut fields
55	Heteropogon contortus	P	Common in dry fields
56	Imperata cylindrica	P	Occasional in cultivated

			fields
57	Ischaemum pilosum	P	Common in dry fields
58	I.rugosum	P	Occassional in rice fields
59	Iseilema anthephoroides	A	Common in irrigated fields
60	I. prostratum	A	Occassional in fields
61	Leptochloa chinensis	A	Occassional in fields
62	Melanocenchris jacquemontis	A	Common in dry fields
63	Ophiuros exaltatus	P	Rare in irrigated fields
64	Oropetium thomaeum	A	Common in dry fields
65	Panium repens	P	Common in cultivated fields
66	Paspalidium flavidum	A	Occassional in rice fields
67	P. geminatum	P	Common in rice fields
68	P. punctatum	P	Rare in rice fields
69	Paspalum paspaloides	P	Common in cultivated fields
70	P.scrobiculatum	A	Occassional in cultivated fields
71	Perotis indica	P	Common in cultivated fields
72	Schizachyrium exile	A	Rare in cultivated fields
73	Sehima nervosum	P	Occasional in cultivated fields
74	Setaria glauca	P	Occasional in cultivated fields
75	S. intermedia	P	Common in irrigated fields
76	S. pumila	P	Common in irrigated fields
77	S.verticillata	P	Common in cultivated fields
78	Sporoblus coromandelianus	A	Common in dry fields
79	S. virginicus	P	Occasional in dry fields
80	Tetrapogon tenellus	A	Occasional in rice fields
81	Trachys muricata	A	Common in dry fields
82	Tragus roxburghii	P	Occasional in cultivated fields
83	Urochloa panicoides	A	Common in all fields

Out of 83 grass taxa, 43 are common in almost all crop fields, 29 are occasional and 11 fall under rare category. The analysis on the occurrence of the grass weeds of cultivated fields in the district revealed that 51.81% (43 species) are common, 34.94%(29 species) are occasional and 13.25%(11 species) are rare occurrence. The analysis on the life span of the grass weeds of cultivated fields revealed that 45.78% (38 species) are annuals and 54.22% (45 species) are perennials. *Aristida adscensionis* and *cynodon dactylon* are gregarious in all crop fields. *Echinochloa colona* and *E.crus-galli* are causing heavy loss to rice crop.

The major rainfed crops in the study area are Groundnut, Sunflower, Bengalgram, Redgram and Jowar. *Brachiaria distachya, B.eruciformis, Eragrostis coarctata, Hackelochloa granularis, and Trachys muricata* inhabit in these crop fields.

The major irrigated crops in the study area are Rice and Sugarcane. *Chloris roxburghiana, Dichanthium annulatum, Echinochloa colona, E.crus-galli, Leptochloa chinensis, Paspalidium geminatum and Setaria intermedia* are commonly infested in these crops.

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