

Predominant weed species of *Kharif* groundnut in Rayalaseema region of Andhra Pradesh

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In Andhra Pradesh, it is cultivated in an area of around 13.4 lakh hectares with a production of about 11.1 lakh tones and a productivity of 0.829 t/ha (2012-13) (ZREAC, 2014). In Rayalaseema region of Andhra Pradesh, groundnut is mainly cultivated during *Kharif* under rainfed conditions. The weed flora associated with groundnut is influenced by soil type, moisture availability and management of groundnut. Apart from uncertain rainfall during *Kharif*, weeds significantly reduce the yield due to increased competition for soil moisture between crop and weeds including increased diseases as the weeds of groundnut act as alternate hosts.

METHODOLOGY

As a part of “National Invasive Weed Surveillance Programme”, weed survey was carried out for three years during 2008-09 to 2010-11 during both *Kharif* and *Rabi* seasons in different crops of Rayalaseema districts, A.P., in which the predominant crop grown during *Kharif* is groundnut. In each village 10 spots were identified in groundnut cropped area, randomly. The weed species present in the sampled area were identified and recorded in prescribed data sheets. The relative density (RD), relative frequency (RF), relative dominance (RDO) and importance value index (IVI) were calculated for each of the species, using the standard formulae.

RESULTS AND DISCUSSION

The predominant broad leaved weed species were *Chloris barbata*, *Celosia argentia*, *Parthenium hysterophorus*, *Tridax procumbens*, *Digera arvensis*, *Amarnathus viridis* and *Argemone Mexicana*, among the grasses *Cynodon dactylon* and *Dactyloctenium aegyptium* were predominant. One sedge, *Cyperus rotundus* was associated with groundnut in Chittoor (45.03) followed by Kurnool district (38.37) while *Celosia argentia* (58.66) and *Chloris barbata* (31.94) were dominant broad leaved weeds in Kadapa district.

Among the broad leaved weeds in rainfed groundnut, the highest IVI was obtained with *Celosia argentia* (58.66), *Chloris barbata* (31.94), *Digera arvensis* (27.96), *Tridax procumbens* (20.27) and *Parthenium hysterophorus* (20.14) in Kadapa. The highest IVI were with *Celosia argentia* (28.48) followed by *Parthenium hysterophorus* (23.20) in Anantapur. *Parthenium hysterophorus* was the predominant weed species in Kurnool district with IVI value of 23.54 followed by *Argemone mexicana* (19.23) and *Amaranthus viridis* (18.01) probably due to black soils preference of these weeds. In Chittoor, *Celosia argentia* (16.11) was the predominant weed followed by *Digera arvensis* (15.34) associated with groundnut. *Celosia argentia* was the predominant weed in light soils (or) alfisols of Anantapur and Chittoor. The only sedge associated with *Kharif* groundnut was the *Cyperus rotundus* with IVI of 48.01, 47.35, 44.15 and 25.86 in Kadapa, Kurnool, Chittoor and Anantapur districts respectively.

Name of the weed and district	RD	RF	RDO	IVI
<i>Chloris barbata</i>				
Kurnool	5.80	5.59	1.75	13.14
Anantapur	4.76	4.80	1.16	10.72
Kadapa	12.45	12.39	7.10	31.94
Chittoor	4.08	4.33	2.99	11.40
<i>Cynodon dactylon</i>				
Kurnool	14.41	16.08	7.78	38.27
Anantapur	10.27	9.95	4.46	24.67
Kadapa	-	-	-	-
Chittoor	19.24	14.64	11.14	45.03
<i>Dactyloctenium aegyptium</i>				
Kurnool	5.29	5.64	10.47	21.39
Anantapur	2.89	3.40	4.60	10.88
Kadapa	1.73	1.99	4.40	8.16
Chittoor	9.27	9.45	7.28	26.00
<i>Celosia argentia</i>				
Kurnool	4.18	4.97	6.77	15.92
Anantapur	8.40	9.14	10.94	28.48
Kadapa	15.19	12.76	30.72	58.66
Chittoor	3.38	3.91	8.83	16.11
<i>Parthenium hysterophorus</i>				
Kurnool	7.25	6.64	9.65	23.54
Anantapur	7.38	7.91	7.91	23.20
Kadapa	4.50	5.44	10.20	20.14
Chittoor	3.07	4.06	6.68	13.81
<i>Tridax procumbens</i>				
Kurnool	2.13	2.49	2.10	6.72
Anantapur	4.17	4.53	3.31	12.01
Kadapa	6.40	6.50	7.38	20.27
Chittoor	3.12	3.31	3.45	9.87
<i>Digera arvensis</i>				
Kurnool	2.81	3.12	0.97	6.90
Anantapur	1.87	1.88	0.52	4.27
Kadapa	10.29	9.24	8.43	27.96
Chittoor	4.15	4.27	6.92	15.34
<i>Amaranthus viridis</i>				
Kurnool	6.22	2.83	8.96	18.01
Anantapur	0.64	1.10	0.74	2.48
Kadapa	3.76	5.23	4.85	13.84
Chittoor	1.21	1.96	2.01	5.18
<i>Argemone Mexicana</i>				
Kurnool	4.52	3.49	11.22	19.23
Anantapur	2.83	3.41	5.66	11.91
Kadapa	4.05	4.09	3.74	11.88
Chittoor	2.58	1.58	3.07	7.23
<i>Cyperus rotundus</i>				
Kurnool	18.07	18.22	11.06	47.35
Anantapur	10.48	10.22	5.16	25.86
Kadapa	16.94	14.89	16.18	48.01
Chittoor	15.35	14.74	14.06	44.15

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