A project Report in partial fulfilment of the requirement for the Award of the degree of

Student Study Project on

AGRESTALS OF VALLURU VILLAGE, JADHCHERLA MANDAL, MAHABUBNAGAR DISTRICT, TELANGANA.

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DECLARATION

We hereby declare that the project work entitled **"ARESTALS OF VALLURU VILLAGE, JADCHERLA MANDAL, MAHABUBNAGAR DISTRICT, TELANGANA"** is a genuine work done by us under the supervision of **Dr. B. Sadasivaiah**, Department of Botany, Dr. BRR Government College, Jadcherla and that the project work has not been previously formed the basis for the award of any degree or diploma of this college or any other institute for the award of any degree.

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CERTIFICATE

This is to certify that the project work entitled **"AGRESTALS OF VALLURU VILLAGE,Dr. BRR Government College , Jadcherla Mandal, Mahabubnagar District, Telangana."**is a bonafide work done by the students of III BZC (EM) **Miss. NAZREEN BEGUM, Miss. BUSHRA BEGUM, Mrs. M.BHAGYAMMA and Mrs. B. BHARGAVI** under my supervision for the award of Project Work in Botany, Department of Botany, Dr. BRR Government College. Jadcherla and the work hasn't been submitted to any other College/University either in part nor in full, for the award of any degree.

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CONTENT

CHAPTER 1

INTRODUCTION

Agrestals, weeds of agricultural fields are unwanted plants that compete with crops for space, water, light and mineral nutrients affecting the crop productivity. The term agrestal was coined by Holzner (1982). Enormous seed production and power of vegetative propagation make them immortal in agro- ecosystems. Agrestals remove plant nutrients more efficiently than the crop plants and thrive better than the crops in drought conditions. While some of them are obligatory to 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 to flowering, self compatible and a continuous seed production (Murthy and Prathibha, 1995). The higher rate of photosynthesis, transpiration rate, stomata conductance, water use efficiency and leaf temperature deficiency indicates that weeds are more efficient than crop plants which lead to higher crop-weed competition and reduction in crops yield (Patel et al., 2005). One of the factors that contribute the spread of weeds in cultivated soil is the close resemblance of their seeds in size and shape with crop seeds (Sudhir Kumar and Singh, 1994).

The successfulness of the weeds is attributed for its biodiversity. Diversity in weed populations results from taxonomic diversity, as well as the diversity in those traits that affect the survival, mortality and reproduction of individual weeds. Recent changes in the cropping pattern and agro-technology of High

Yielding Varieties (HYV) have brought about not only changes in weed flora but also the luxuriant growth attained by weeds (Sharma, 1978). In order to control, eradicate and prevent the weeds, phenology, dispersal modes, distribution, growth habits information is most desirable and a correct identity of the plant forms the perfect base for these studies (Sharma, 1981).

Crop-weed competition is a significant barrier to successful crop production (Afifi and Swanton, 2012). Of the total annual loss of agricultural produce from various pests, weeds have a prominent share and depending on the degree of competition, they may reduce crop yields by 10-25%. The total annual loss in agriculture due to different pests is about 6,000 crore in India. More than one third of the total loss (33%) is caused by weeds alone (Mukherjee, 2006). Reduction in crop yield has a direct correlation with weed competition. The degree of competition between the crop and weeds mainly depends on crop factors such as cultivars, crop density, crop age, plant spacing, etc. Successful weed management requires a thorough knowledge of weed biodiversity and their phytosociological attributes. In the context of climate change, adaptability of the weed species in arid climatic agro-ecosystems has a pronounced impact on the crop productivity.

CHAPTER 2

REVIEW AND LITERATURE

GENERAL

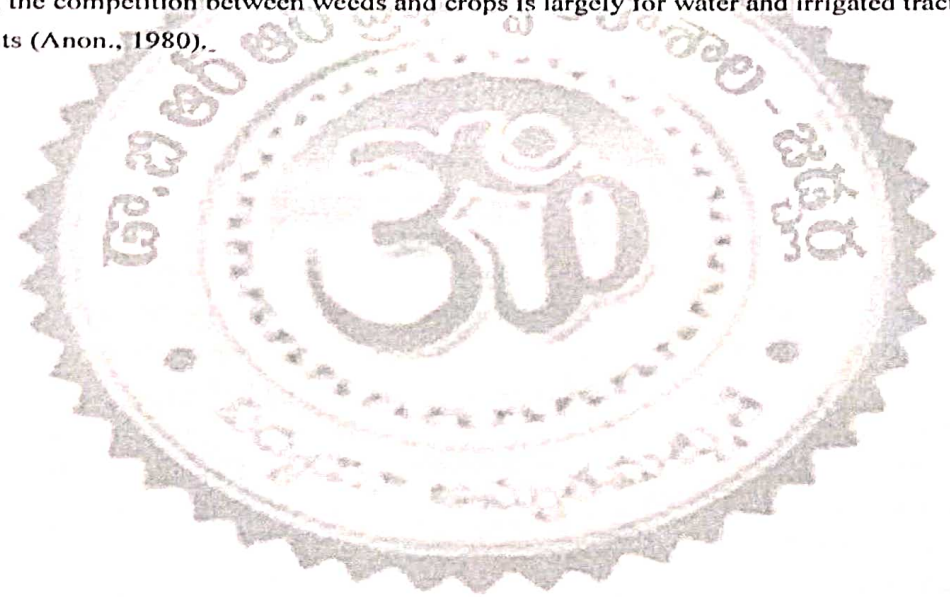
The term agrestal was coined by Holzner (1982). These weeds of arable lands differ from weeds found on wastelands, disturbed lands which are generally referred as ruderals. Weeds in general can be called as plants out of place and they compete with crops for space, water, light and mineral nutrients resulting into low quality grain production (King, 1966; Sen, 1990). Weeds have short vegetative phase and high reproductive output and typically defined as plants which are a nuisance (Harper, 1996) or a plant where we do not want it (Salisbury, 1961). Barbour et al. (1999) defined weed as a non-native invasive plant. Crawley (1997) suggested that a plant is only a weed if it is present above a specific abundance. Enormous seed production, variation in seed dormancy and power of vegetative propagation make them almost immortal in any agro-ecosystem (Tadulingam and Narayana, 1932).

Invasive alien species are a major threat to biological diversity on a global scale, necessitating cooperation to address the problem. Biological invasions by alien species are considered to be the leading factor in biodiversity loss and species endangerment (Clout and Poorter, 2005). Tropical spiderwort (Commelina benghalensis) is listed among the worlds worst weeds, affecting 25 crops in 29 countries (Holm et. al., 1977). Thatch grass, Imperata cylindrica quickly infests wastelands and becomes noxious weed in upland areas (Holm et al., 1979). Ageratum conyzoides is a major weed in many annual(Rafey and Prasad, 1995; Singh and Saha, 2001; Wezel, 2000) and perennial (Devi et. al., 1993) crops.

Field-grown tropical spiderwort plants are capable of producing between 8,000 and 12,000 seeds per plant in the absence of crop competition (Walker and Evenson, 1985). Ghorai et al. (2005) observed that Cyperus rotundus affects almost all the crops from temperate to tropical region and

it is difficult to control.

Because weeds are so common and so widespread, people do not fully appreciate their significance in terms of losses and control costs (Ashton and Monaco, 1991). Weeds can cause 5% loss in agricultural production in most developed countries; 10% in less developed; 25% in least developing countries (Bhanet al., 1999). The seed production of weeds is higher in annual species compared to perennials but the latter are more successful and have great adaptability due to additional advantage of vegetative propagation (Datta and Banerji, 1976). The chief factors for which crops and weeds compete are light, water and nutrients (Numata, 1982). In non-irrigated areas, the competition between weeds and crops is largely for water and irrigated tracts; it is for nutrients (Anon., 1980).



AgrestalsGeneral

Singh et al. (1993) reviewed the losses caused by weeds in vegetable crops to be 6-82%. In India, overall losses in crop yields up to 30% or above have been reported by Mani et al. (1968). Losses in crop yield due to weeds are difficult to estimate because, it is almost impossible, without creating an artificial environment to separate their effects from those caused by insects, disease, soil and atmospheric conditions. Nevertheless, it appears to be accepted that would wide some 10% loss of agricultural production can be attributed to the competition effect of these plants (Mortimer, 1983). Weeds cause drastic reduction in seed yield of sunflower which goes up to 83.0% if weeds are left uncontrolled throughout the season (Khan et al., 1988; Legha et al., 1992). Uncontrolled weeds cause grain yield reduction up to 76% under transplanted conditions (Singh et al., 2004).

WEED INVENTORIES

World (other than India)

At global level, a study on weed biology by Harper (1960) was a pioneer work. Other significant works include that of Salisbury (1961) on weeds and aliens; King (1974) biology and control of the weeds of theworld; Fryer and Makepeace (1977) methods of weed control; Holm et al. (1977) distribution and biology of the worlds worst weeds. A geographic atlas of the world weeds by Holm et al. (1979) and common weeds of the world (Anon., 1984) are also holds good information on weeds. It has been pointed out that Anthropophytes (Man-encouraged plants) and apophytes (native species venturing intolargely man-created habitats) are the two grade groups from which the majority of weeds have been derived (King, 1966). Approximately 6700 species of the flowering plants are recorded as weeds in different agro-ecosystems of the world of which 76 are categorized as the worlds worst weeds Holm et al. (1977); ten species which cause the majority of crop losses include Cyperus rotundus a sedge that is prominent in the study area also.

Barret et al. (1980) reported 62 weed species from the rice fields at California of which Bacopa rotundifolia and Echinochloa crus-galli are most dominant. Moody (1981) reported 1800 species of weeds from rice fields in south and south-east Asia. Soufi and Daget (1986) reported 610 weed species belonging to 251 genera and 48 families from Syria. The weeds of rice fields of Indonesia were describedby Soerjani et al. (1987). Dale and Gordon (1987) provided the data on 40 crop weeds of Sakatchewa in Canada, which were categorized into three groups based on their relation with soil and climate of the region.

A record of 941 weed species was reported by Pujadas and Bermejo (1988) from the agricultural fieldsof the province of Cordoba area of Spain. Michael (1989) described the composition of the crop field weed flora of Ethiopia and found that 45% of the cropped area is infested with weeds. Weed

populations in the intercropped fields of maize, sorghum and cowpea of Kenya were surveyed by Dissemond and Hindrof (1990) and found that Commelina benghalensis is a great menace. Shaltout andEl-Fahar (1991) evaluated the species diversity and phenological behaviour of weed communities of common crops of Nile delta region of Saudi Arabia.

Abdullah et al. (1991) discovered wild weedy rice populations in Malaysia that had very similar genetic structure to the cultivated rice. Witch weed, Striga asiatica is the commonest parasitic plant of cereal crops and has been reported in all the eight provinces of Zimbabwe (Mabasa, 1991). Weber et al. (1995)made a detailed analysis of the dynamics of the weed populations in cereal crops of Northern Guiny Savanna in Nigeria and reported four common weed associations from the area.

Shieh and Tsai (1986) conducted a survey on the winter annual weed communities in the paddy fields ofCentral Taiwan and identified seven types of weed communities. Akobundu and Agyakwa (1998) reported that tropic ageratum (Ageratum conyzoides) is an annual weed that occurs in many countries of the world, especially in tropical and subtropical regions. Johnson and Kent (2002) recorded 107 weedspecies composition in rice on a 5-year experiment, across a hydrological gradient in West Africa and found that 70 species with over 1%. Idu (2003) worked out the rice field weeds around Lake Gariyo and found the presence of 99 weed species, of which 22 are grasses.

Turland et al. (2004) in their study on weeds of south Aegean island of Crete, Greece have reported theoccurrence of 20 weed taxa as indicators of traditional agriculture. Tropical spiderwort (Commelina benghalensis) poses a serious threat to crop production in the Southern United States (Webster et. al., 2005). Fathi (2006) in his survey on common bean crop identified that Echinochloa crus-galli, Cressa cretica and Convolvulus arvensis are the predominant weeds in Iran. Manandhar et al. (2007) studied the weeds of rice fields of Kirtipur, Nepal and recorded 52 weed species; observed maximum density ofweeds in September. Cavers et al. (2013) presented the history of the series on the biology of Canadianweeds and listed with reference to their publications in Canadian Journal of Plant Sciences.

INDIA

In India, classical treatises on weeds were of: Tadulingam and Narayana (1932) on South Indian weeds and Asana (1951) on common Indian weeds. A comprehensive study on weeds in agricultural fields of India was studied by Thakur (1954). Weed flora have been investigated by different authors in differentcrop fields from India (Chakravarty, 1957; Paul and Bhattacharya, 1959; Datta and Maiti, 1962; Mukherjee and De, 1962; Shankar, 1971). Ecological approach to Indian weeds by Sen (1981); principlesand practices of weed control by Mandal (1990); aquatic weed ecology (Raju, 1997) and Rao (1999) publication on principles of weed science are other important works on weeds of India. Maheswari (1962) opined that 40% of the Indian flora is introduced and naturalized and many of the herbaceous plants are weeds in cultivated fields.

In India, Northern parts of the country have received much attention regarding the inventories of theweed flora of cultivated fields, compared with other parts. Much work has been done in Punjab and Rajasthan areas.

SOUTH INDIA

Maharashtra and Karnataka

Latchanna (1983) studied major weed flora of winter crops of Parbhani area of Maharashtra. Patil (1995)reported 155 weed species in the crop fields of Dhule district of Maharashtra and found that 23 of themare exotic. Diwakar and Ansari (1996) reported 102 species of weeds in Buldana district of Maharashtra. Vijaya and Razi (1979) reported 130 weeds of Mulberry Gardens of Mysore. Krishna Sastry et al. (1980) described the weeds encountered in the state of Karnataka. Murthy and Prathibha (1995) studied the weed flora in dry land conditions at Bijapur and identified 65 weed species belonging to 24 families and observed more number of species are grasses.

Tamil Nadu and Kerala

Venkata Krishnan and Bala Subramanyam (1994) made a survey for weed species in irrigated groundnut fields of South Arcot district of Tamil Nadu and 20 species were identified. Raju (1998) analysed the prevalent weeds of Peninsular India. Jeyalakshmi et al., (2005) conducted a survey in 28 districts of Tamilnadu and find out the occurrence of various diseases under cropped areas and stated that Parthenium hysterophorus L. is a poisonous and problematic weed, posing a serious threat to crop cultivation. Abraham and Abraham (2005) reported that Mikania micrantha, a fast spreading herbaceousalien weed, is a serious menace in agricultural and non-agricultural areas of Kerala.

Andhra Pradesh

Chandrasingh and Rao (1973) have listed 144 weed species belonging to 92 genera and 34 families from the State of Andhra Pradesh. Rao et al. (1982) reported common weeds of Sugarcane fields in Nizamambad district. Kondap et al. (1987) studied the weed flora of Telangana region of Andhra Pradesh and reported weed infestation problem more in sorghum, maize and groundnuts than in rice. Rao and Rao (1993) listed 171 weeds species of cultivated fields from Andhra Pradesh. Pullaiah and Rao(1995) recorded over 120 weed species of cultivated fields of Nizamabad District. Raju and Pullaiah recorded over 1000 species for Kurnool district, of which about 300 from cultivated fields. Prakasa Rao and Kumari (1996) recorded 55 species of weeds in groundnut fields in Anantapur district of Andhra Pradesh. Rao et al. (1987) studied the groundnut crop weed associations in Chittoor district of Andhra Pradesh and found that 43 species of weeds are growing in non irrigated fields and analysed C3 and C4 species.

Rajeswaramma (2001) recorded 306 weeds taxa in dry and irrigated fields of Nellore district and foundthat 54% of the weeds are common to all fields and 187 species of the total are found in Groundnut

fields. Ravi Prasad Rao et al. (2003) reported 96 plant taxa additions to the flora of Anantapur district after Pullaiah and Yesoda (1989) comprising some weed taxa like Alysicarpus monilifer, Aristida funiculata, Dichanthium caricosum and Pseudanthria viscida. The comprehensive inventory data on agrestals of Rayalaseema region by Lakshmaiah (2006); a total of 509 weed species were enumerated in the cultivated fields of herbaceous crops.

Rao et al., (2008) enumerated a total of 538 weed species and 3 infra-specific taxa representing 283 genera and 61 families in the crop fields of herbaceous crops of Southern Andhra Pradesh. Reddy et al.,(2009) in their observations identified the new invasive weeds Aeschynomene americana and Mikania micrantha in Andhra Pradesh. Tejovathy (2010) recorded 74 weed species in rice fields and 101 weed species in groundnut fields in Bukkarayasamudram Mandal, Anantapuram district. Lakshmaiah et al. (2012) conducted intensive and extensive explorations in Rayalaseema region and reported the presence of 419 weed taxa in the irrigated fields; of which 126 are exclusive to irrigated fields, 57 exclusive to rice fields.

Venkateswarlu (2010) recorded 246 weed species belonging to 43 families from the crop fields of Ieejamandal of Mahaboobnagar district, of which grasses, sedges and legumes alone 98 species. Narayanaswamy (2011) recorded1053 plant taxa in his floristic studies on Anantapur district, of which about 390 are collected from cultivated fields. Veeranjeneyulu (2010 and 2012) recorded 60 sedge species encountered in cultivated fields of Rayalaseema districts. Bheemalingaiah (2010) worked out theweeds of crop fields of Guntakal mandal and recorded 160 taxa, of which five families, viz., Poaceae, Fabaceae, Amaranthaceae, Asteraceae and Euphorbiaceae represent 50% of them.

CHAPTER 3

STUDY AREA

About Vallur

According to Census 2011 information the location code or village code of Vallur village is 575356. Vallurvillage is located in Jadcherla mandal of Mahbubnagar district in Telangana, India. It is situated 10km away from sub-district headquarter Jadcherla (tehsildar office) and 27km away from district headquarter Mahbubnagar. As per 2009 stats, Vallur village is also a gram panchayat.

The total geographical area of village is 1084 hectares. Vallur has a total population of 2,153 peoples. out of which male population is 1,094 while female population is 1,059. Literacy rate of vallur village is41.94% out of which 51.19% males and 32.39% females are literate. There are about 474 houses in vallur village.

Mahbubnagar is nearest town to vallur for all major economic activities, which is approximately 27kmaway.

Google Map of Vallur

The Map data on this website is provided by Google Maps, a free online map service one can access andview in a web browser.

Population of
VallurParticulars
Total
Male
Female

Total Population
2,153
1,094

1,059
Literate Population903
560

343
Illiterate Population1,250
534

716

Connectivity of VallurType Status

Public Bus Service Available within villagePrivate Bus Service Available within 5 - 10 km distanceRailway Station Available within 5 - 10 km distance

Nearby Villages of

VallurKishtaram

Ambatapu

r

Gollapalle

Earlapalle

Kodgal

Pedda Adiryal

Top of Form

Bottom of Form

Vallur - Village Overview

Gram Panchayat

:Vallur

Block /

Mandal :

Jadcherla

District :

Mahbubnagar

State :

Telangana

Pincode :

N/A

Area :

1084 hectares

Population :

2,153

Households :

474

Nearest Town :

Mahbubnagar

(27km)

Related Pages

List of Villages in Jadcherla

List of Mandals in Mahbubnagar

List of Districts in Telangana

CHAPTER 4

METHODOLOGY

MATERIAL AND METHODS

The present study is aimed to provide an inventory of agrestals,the arable land weeds of different cultivars in Mahabubnagar region and to analyze the phytosociological aspects of weeds of selected crops and the study of C4 syndrome in weed taxa.The methodology adopted for these three parameters is as follows.

FLORISTICS STUDIES-INVENTORY OF WEED FLORA

Field Work

Field studies were conducted for more than four years during June 2002 to September 2006.In the present investigation ,the region was explored extensively and weeds plants from the cultivated fields ofover 400 villages spread over 175 mandals in four districts, Anantapur, Chitoor, Kadapa and mahabubnagar.The focus was primarily on herbaceous annual crops and herbaceous weeds that interfere with growth of crop plants.Hence tree crops like citrus,coconut, and mango were not on priority list. Plants specimens were collected in both vegetative and reproductive stages and to record the distribution pattern of weeds. The details of field visits are provided in **Appendix-I.**

Every plant was collected in quadruplicates and every attempt has been made to study the habit, habitat, colour of the flower, flowering and fruiting seasons and frequency of distribution of the species.Repeated collection were avoided of plants once collected and recorded.If the collected weed in one field appear in other field except in case of measurable variations is just recorded. Field number were given for every specimen after noting the characters of the collected specimens in the field notebook.

Identification of specimens

Every specimen was carefully studied regarding vegetative and reproductive features.Provisional identification was made following 'Flora of Presidency of Madras' (Gamble & Fischer,1915-1935) andother state ,regional and local floras.The identifications were further confirmed after matching the specimens with the authenticated specimens housed in Sri Krishnadevaraya University herbarium
,(SKU),Anantapur and Madras herbarium (MH),Coimbatore and Central National Herbarium(CAL),Howrah (for some grasses).All the specimens were deposited in SKU.

Plan of systematic enumeration of taxa

All the plant families are arranged in sequence following Bentham and Hooker'sdlassitication (1862-83)with certain exceptions to accommodate recent modifications adopted after Cronquist (1968) All the

genera in a family and all the species under apenus are given in aiphabetical order. The nomenclature citation with the correct name of the taxon is given Artificial dichotomous indented keys covering mostlymacroscopic caracters are provided for families and genera Keys are provided to species of those erera, represented by more than one species Basionyms and synonyms are given mosty to connect Hockers Flora of British India' and the Gamble's Flora of the residency of Madras' and Bor for grasses Uniformity is followed in abbreviating authorotation.

The taxon description is presented in three paragraphs The first is being the correct and other names with the author citation. The second paragraph pertains to plant proper descripton. A brief descniptionof the taxon, covering the habit, leaf nature, foral characters, infiorescence type, and fruit nature is provided. The terminology is based on Lawrence (1951) . The whole plant is treated as singular and themost of the plants parts are treated in plural.

The usual sequence followed is (a) habit followed by its maximum measurement of its tallness,stem character , if any (b) leaf/leaflet shape ,its range of length x breadth, seed number.The third paragraph covers the distribution patern of the taxon in the region, followed by flowereing and fruiting season, vernaculars names, voucher specimens with abbreviated name of the investigator and the field number.A detailed taxonomic analysis of the weeds is presented.

CHAPTER 5

RESULTS AND DISCUSSION INVENTORY

A total of 538 weed species and three infra-specific taxa, representing 283 genera and 61 families are enumerated in the cultivated fields of herbaceous crops (Appendix 1). Among them 351 species are dicots, 189 are monocots and one is Pteridophyte (Table 1). In the enumerated 61 families, 20 families (32.8%) are represented by a single species; 15 of them are dicots, Hydrophyllaceae, Orobanchaceae, Chenopodiaceae and Aristolochiaceae are the monocot families and Marsileaceae is the only pteridophyte. Further, 12 families are represented by at least 10 weed species and they constitute 74%of the total species. Among them Poaceae ranked the most diverse family comprising of 122 species followed by Fabaceae and Cyperaceae with 55 and 44 species respectively (Table 2). The generic diversity revealed that Poaceae is the most diverse family with 58 genera (20.3%). Eragrostis is the largest genus with 19 species followed by Cyperus (15), Crotalaria (12), and Indigofera with 10 species. Grasses, sedges and legumes are the dominant weeds constituting nearly 41% of total weeds and on longevity basis annuals formed the most dominant weeds (63.5%) than perennials in this region. The life-form analysis revealed that majority of species (85%) are herbs followed by shrubs (10%) and climbers (5%). The inventory has yielded a range of 307-441 weeds in the six districts. In Rayalaseema region Anantapur district has recorded highest number of 441 weeds followed by Kurnool with 404, Chittoor 374 and Kadapa harboring 339 species. In the coastal districts Nellore and Prakasam have yielded 306 and 308 weed species respectively. A comparison to 715 plants that are recorded as plants

that encountered in the crop fields of Andhra Pradesh by Pullaiah et al. (1997) yielded a high percentage (75 %) of occurrence of weeds in the study area. Of the total inventory, Tridax procumbens, 6 Euphorbia hirta, Euphorbia heterophylla, Aristida adscensionis and Cynodon dactylon are gregarious in all crop

fields. Weeds such as Parthenium hysterophorus, Coldenia procumbens are predominantly observed in post-harvest conditions. Cyperus rotundus, Echinochloa crus-galli and Imperata cylindrica are the three weeds that occur conspicuously in crop fields of this region and also listed in the worlds worst weeds category that cause major crop loss (Holm et al., 1977). CROP-WEEDS ASSOCIATION For a better understanding, the weeds observed in different crop fields are categorized into irrigated and rain fed crop weeds and the weeds in different crops of the same group were clubbed together. Further, based on the significant acreage and productivity the weeds that occur in rice and groundnut crops are presented in detail. A total of 340 species are found to be common between the two groups. Rice and sugarcane are the most important irrigated crops and they include a total of 108 exclusive weed species.Major number of weeds in rice are enumerated in Nellore district and weeds such as Bergia ammannioides, Nymphaea nouchali, Echinochloa stagnina, Vetiveria zizanioides, Ischaemum indicum, Oryza rufipogon, Mariscus squarrosus and Schoenoplectus senegalensis are exclusive to this district . In rice crop, which provide a special habitat like marshy, swampy and dry conditions between watering, predominantly grasses and sedges and few aquatic plants are enumerated; as also suggested by Sharma(1981) that sedges and grasses are the real competitors to rice crop. Of the total of 63 aquatic plant species enumerated, 57 are emergent, four are free floating and the rest two are free floating and rooted type. Free floating plants such as Pistia stratiotes, Lemna perpusilla, Neptunia oleracea and Eichhornia crassipes are most common when standing water is present. Grasses such as Echinochloa crus-galli, Echinochloa colona, Dichanthium annulatum, Paspalidium 7 flavidum, Paspalidium germinatum, Eragrostis diarrhena, Eragrostis atrovirens and sedges such as Cyperus iria, Kyllinga brevifolia, Cyperus rotundus, and Chloris inflata are observed during the early stage of crop phase.

Weeds like Bergia ammannioides, Ammannia baccifera and Ludwigia perennis are observed commonly at the commencement of harvesting period when dry conditions prevail. It is observed that maximum number of individuals of Echinochloa crus-galli are observed through out the crop phase and thus categorized as prominent weed of rice crop in this region . In sugarcane crop, it is notable that climbers such as Cocculus hirsutus, Passiflora foetida, Rivea hypocrateriformis, Stachytarpheta jamaicensis, Centella asiatica, Ipomoea cairica, Emilia sonchifolia and Cardiospermum halicacabum are seem to be associated. Groundnut, jowar, korra and maize are the important dry crops and they constitute a total of82 exclusive weeds ; of them groundnut is the most important crop covering more than half of the weeds present in dry crops.

It is observed in groundnut that both the broad leaves and monocot weeds seem to sprout through out the crop season. They include Tridax procumbens, Physalis minima, Croton bonplandianum, Phyllanthus maderaspatensis, Mollugo cerviana, Hedyotis aspera, Sida acuta, Commelina benghalensis, Celosia argentea and monocots such as Cyperus rotundus and Brachiaria reptans as also observed by Prakasa Rao and Arunee Kumar (1996) in Anantapur district of this region. Cyperus rotundus is observed predominantly right from the pre-plough stage to harvest period and thuscan be considered as a serious competitor may be because of its perennial growing habit sustained by the extreme underground vegetative system. The most common weeds that are encountered in other crops such as Bengal gram, brinjal, cotton, jowar, Italian millet, maize, piper betel, sun flower, tobacco and turmeric are - Achyranthes aspera, Corchorus fascicularis, Striga asiatica, Corchorus 8 trilocularis, Merremia gangetica, Boerhavia erecta, Portulaca oleracea var. oleracea, Hibiscus lobatus, Sida acuta, Sida cordifolia and grasses such as Brachiaria reptans, Cynodon dactylon and Dactyloctenium aegyptium.New distributional records The enumeration of weeds in southern Andhra Pradesh region revealed five species, Hedyotis biflora, Cyperus compressus var. micranthus, Kyllinga hyalina, Cenchrus setigerus and Tripogon purpurascens as new distributional records to Andhra Pradesh state. In addition, another species, Artemesia nilagirica, Spilanthus paniculata, Lepidagathis incurva, Plectranthus japonicus, Acalypha paniculata, Cynodon arcuatus, Eragrostiella walkeri, Eragrostis cilianensis, Eragrostis minor andSporobolus virginicus are recorded as new distributional records to the study are

s.no	Name of the weeds	Family	Habit	tomato	Brinjal	Red chilli	lady finger	Remark
1	Alysicarpus vaginalis	Fabaceae	H	A	P	P	P	fo
2	Anisochilus carnosus	Lamiaceae	H	P	A	P	P	m
3	Achyranthus aspera	Amaranthaceae	H	P	A	A	A	FO
4	Amaranthus refroflexus	Amaranthaceae	H	P	A	P	A	FO
5	Brachiaria refroflexus	poaceae	H	P	P	P	P	M
6	Boerhavia geeta	nyetaginaceae	H	A	P	P	A	FO
7	Centella asiatica	apiaceae	H	A	P	P	A	FO
8	Capsella bursa pasoris	brassicaeae	H	P	A	P	P	FO
9	Cardamine hirsuter	brassicaeae	H	P	A	P	P	M
10	Cleome viscosa	cleomaceae	H	P	A	P	P	FO
11	Cacumis	cucurbitaceae	H	P	A	P	P	M
12	Coceulus hirsatus	menispermaceae	H	P	A	P	P	FO
13	Corotan bonplandianus	euphorbiaceae	H	P	A	P	P	FO
14	Celosia argentea	amaranthaceae	H	P	P	P	P	FO
15	Chamaenerion angustifolium	onagraceae	H	A	P	P	P	FO
16	Cockleburs	asteraceae	H	P	A	A	P	FO
17	Commelina benghaliensis	commelinaceae	H	P	P	A	P	M
18	Cyperus ratundus	cyperaceae	H	A	A	A	P	M
19	Dartyloctenium aegyptium	poaceae	H	P	A	A	P	FO
20	Digiteria tomentosa	poaceae	H	P	P	A	A	M
21	Digitaria cillares	poaceae	H	P	P	P	P	FO
22	Digitaria marginata	poaceae	H	P	P	P	P	FO
23	Eleusine indica	poaceae	H	P	A	P	P	FO
24	Euphorbia maculata	euphorbiaceae	H	P	P	P	P	FO
25	Erigeron canadensis	asteraceae	H	P	A	P	P	FO
26	Enigostis viscosa	poaceae	H	P	P	P	P	FO
27	Euphorbia hirta	euphorbiaceae	H	P	A	A	P	M
28	Echinochloa colona	poaceae	H	P	A	P	A	FO
29	Glechoma hederacea	Lamiaceae	H	P	A	P	P	FO
30	Levcas	camiaceae	H	P	A	P	P	FO
31	Lantana camara	verbenaceae	H	P	P	P	P	FO
32	Mullogo nudicaulis	molluginaceae	H	P	A	P	P	FO
33	Oxalis acetosella	oxalidaceae	H	P	A	P	P	FO
34	Parthenium hysterophorus	asteraceae	H	P	A	P	P	FO
35	Phyllanthus amarus	phyllanthaceae	H	P	P	P	P	FO
36	Ipomoea sp	convolvulaceae	H	P	P	P	P	FO
37	Panicum sp	poaceae	H	P	A	P	A	FO
38	Portulaca oliracea	portulaca oleraceae	H	P	P	P	P	FO
39	Phyllanthus emblica	euphorbiaceae	H	P	P	P	P	FO
40	Rumex crispus	polygonaceae	H	P	P	P	P	FO
41	Rumex obtusifolius	polygonaceae	H	P	A	P	P	FO
42	Setaria pumila	poaceae	H	P	A	P	A	FO
43	Solanum night shade	solanaceae	H	P	A	P	A	FO
44	Senna occidentialis	Fabaceae	H	A	P	P	P	FO
45	Sida acuta	molvacea	H	P	P	P	P	FO
46	Solanum virginianum	solanaceae	H	P	A	P	P	FO
47	Solanum nigrum	solanaceae	H	P	P	A	P	FO
48	Seena foa	Fabaceae	H	P	A	P	P	FO
49	Tephrosia purpurea	Fabaceae	H	P	A	P	A	FO
50	Urochloa ramosa	poaceae	H	P	A	P	P	FO
51	Urochloa brizantha	poaceae	H	P	A	P	P	FO

CONCLUSION

The presence of 541 weeds, with a range of 306 - 441species, in individual districts reveals that weed diversity is high in this region. A comparison to plants that occur in association with crops of Andhra Pradesh yielded 75% of them in this region itself. In this study a likely association between crops and weeds is observed in the fields and further studies should be drawn along the lines of this association and also with habitat and edaphic factors. Echinochloa crus-galli is considered as the most dominant in rice fields and Cyperus rotundus is the most competitive weed in groundnut crop. A systematic control and eradication programs with a scientific knowledge on life cycle, mode of propagation and longevity of these weeds especially those belonging to Poaceae, Fabaceae and Cyperaceae is utmost necessary toreduce the heavy crop losses due to weeds.

The documentation of agrestals encountered in mahabubnagar region in the present study has broughtout the valuable information to light.Since,the information on the distribution and quantitative characters of weed species in different cropping systems of the district is a pre-requisite for effective weed management,the present study hold immense significance.

A record of 60 taxa comprising 51 species and 3 intra-specific taxa were reported in the present study.Such a great diversity of agrestals in the region perhaps may be attributed to the availability of wide range ecological conditions.Of the 60 species,331 are dicots 176 monocots and one pteridophyte.The members of Poaceae,Fabaceae,Asteraceae,Cyperaceae and Euphorbiaceaedominatesthe weed flora of the region.The former two groups are predominant in he crop field and had a contribution to the weed biomass in all the crop fields under study.

Of 59 weed families recorded in the presented study. 21 are monotypic. Poaceap is the largest presenting 113 species. Fabaceae occupies the second position with 52 species. Grasses and sedges represent 30% of the total weed flora of mahabubnagar. Eight weed families are represented with morethan 10 genera. Poaceae is the largest with 55 genera followed by Astheraceae (34) and Fabaceae (19). The largest genus is Eragrostis with 17 species.

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