



Survey on Awareness of *Parthenium* Infestation and its Ill effects in Andhra Pradesh, India

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Abstract

A survey on awareness of *Parthenium* infestation and its ill effects was conducted in 8 districts of Andhra Pradesh state in India by selecting 3 mandals (block) in each district, 2 villages in each mandal and an average of 5 farmers in each village. The survey indicated that 94% of the respondents were aware of the ill effects of *Parthenium*. More than 76% informed that *Parthenium* has been invading the area for more than last 10 years. 55% knew about the problems caused to human beings like skin allergy, asthma and fever. 17% told that children above 12 years old were affected much, and 96% of the respondents knew about the spread of *Parthenium*. People accepted that it grows profusely in heavy soils (45%) followed by light soils (17%). All the respondents replied that it grows profusely in the monsoon season and in soils having moisture. Further, its maximum appearance occurs in June-July, flowering in August-September and drying in October.

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1. Introduction

Parthenium, popularly known as congress weed or carrot grass, is highly problematic, poisonous and aggressive weed posing serious threat to crops, human beings and livestock. It has become one of the seven most dreaded weeds of the world within the last decade (Singla, 1992). In India, it is noticed only from mid-fifties and is presumed to have been accidentally introduced by the import of wheat in Maharashtra state of India (Rao, 1956), but spread rapidly throughout the country with abnormal density. Creating public awareness is more important to avert the ill effects on human, livestock and crops. Hence a survey was conducted in different districts of Andhra Pradesh state in India to know the public awareness regarding *Parthenium* weed and its ill effects.

2. Materials and Methods

Survey was conducted in Rangareddy, Medak and Adilabad district of Telangana; Anantapur and Kurnool district of Rayal-seema; and Guntur, Prakasham and Krishna district of coastal region in Andhra Pradesh. Survey was conducted with the help of a questionnaire by selecting 3 mandals (block) in each district, 2 villages in each mandal, and an average of 5 farmers in each village. Thus survey was done covering a total of 3 regions, 8 districts, 24 mandals and 48 villages in the state with a total of 251 farmers surveyed. The rationale behind the selection of these 3 regions was purposeful owing to high concentration of *Parthenium* in these regions. Districts, mandals and villages were also selected for the same reason purposefully. Respondents were selected randomly.

3. Results and Discussion

The preliminary analysis of the survey indicated that there were

20, 43 and 11% of the respondents studied more than 10th class, between 6-10th class and up to 5th class, respectively. On the other hand, 26% of the respondents were illiterates (Table 1).

Table 1: Educational level of the respondents

Particulars	%
Illiterates	26
1-5 th class	11
6-10 th class	43
>10 th class	20
Total number of respondents is 251	

The age group of the maximum farmers interviewed was between 31-50 years (Figure 1). Literate young farmers (<40 years) were more (56%) in Telangana region whereas literate middle aged farmers (>40 years) were more (71%) in coastal region.

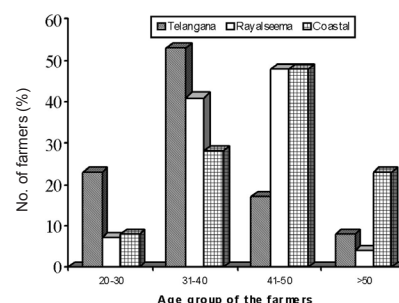


Figure 1: Region wise age group of the literate farmers

About 29% of the respondents were having 1-5 acres, 35% were having 10 acres and 28% were having 6-10 acres of land (Table 2). All the respondents knew about the *Parthenium* but only

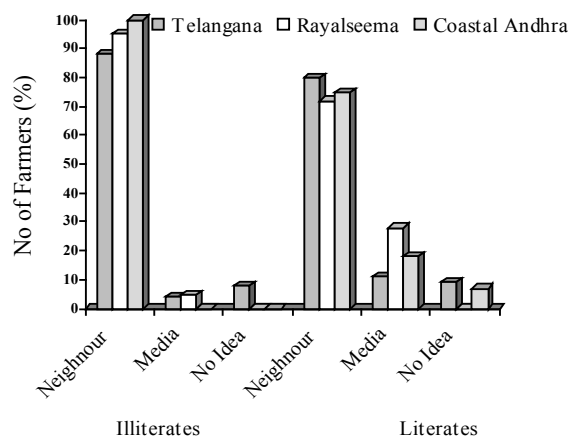


Table 2: Region wise size of the land holdings of the respondents

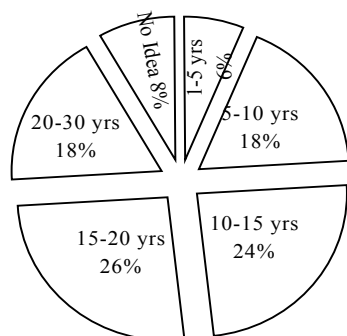
Land holding (acres)	Telangana		Rayalseema		Coastal Andhra		Total	
	N	%	N	%	N	%	N	%
1-5	7	8	29	32	36	40	72	29
6-10	34	37	12	13	24	26	70	28
>10	30	33	24	26	35	38	89	35
No land	20	22	-	0	-	0	20	8
Total	91	36	65	26	95	28	251	

N=Number of farmers interviewed

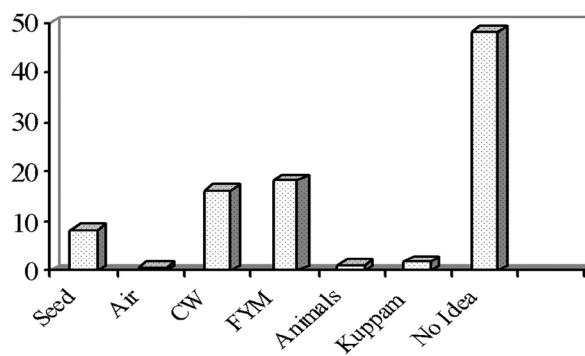
47% knew about its ill effects on health. It was observed that 78% of the respondents knew about *Parthenium* from neighbors and 17% through media. Literate farmers in Telangana (11%), Rayalseema (28%) and coastal region (18%) informed that they came to know about this weed from the media source like book, news paper and television (Figure 2).



About 26, 24 and 18% of the respondents informed that *Parthenium* has been invading the area for the last 15-20, 11-15 and 5-10 years, respectively. *Parthenium* weed is observed in Andhra Pradesh from the last 30 years and its rapid spread was noticed from 10-20 years as replied by 50% of the respondents (Figure 3).

Figure 3: Years of *Parthenium* weed's invasion in the area

Regarding *Parthenium* spread 18, 16 and 8% of the respondents reported that it has been introduced through compost/FYM (farm yard manure), canal water and seeds, respectively (Figure 4), and 48% of the respondents did not have any idea about its spread.

Figure 4: Mode of introduction and spread of *Parthenium* weed

All the farmers interviewed accepted that *Parthenium* invades all the area. Among the respondents 47% knew about the ill effects caused by the weed and 55% of them knew about the problems caused to human beings like skin allergy, asthma and fever, and 27% did not have any idea. About 54% did not have the idea about the effected age group and 17% told that children above 12 years old were affected much. From Table 3 it is clear that *Parthenium* is grazed by cattle (36%), goat (30%) and sheep (28%).

Table 3: Awareness of *Parthenium* infestation and its ill effects

Particulars	%
Number of respondents	251
Awareness about <i>Parthenium</i>	
Number of farmers aware	94
Number of farmers unaware	6
Awareness about ill effects	
Aware	47
Unaware	53
Illness caused to	
Human	55
Animals	-
Both	-
No idea	27
<i>Parthenium</i> is grazed by	
Cattle	36
Goat	30
Sheep	28
Age group affected (male/female)	
>12 years	17
<12 years	2
All	-
No idea	35



About the method of *Parthenium* control, 88 and 7% of the respondents adopted manual and chemical method, respectively. 5% people did not adopt any specific method. Manual method of control was mainly adopted by illiterate farmers in Telangana (88%), Rayalseema (100%) and coastal Andhra (94%) regions as shown in Figure 5. Chemical method for

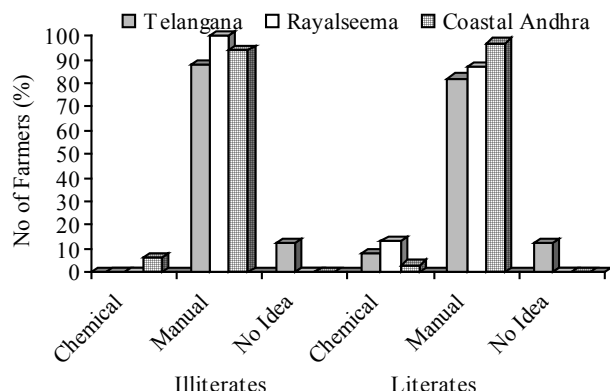


Figure 5: Measures adopted by the farmers to control *Parthenium*

controlling *Parthenium* weed was used by illiterate farmers in only coastal region (6%), and by literate farmers in Telangana (8%), Rayalseema (13%) and coastal Andhra (3%). Chemical methods involved spraying of salt and glyphosate. Respondents accepted that *Parthenium* growth was more profuse in heavy soils (45%) followed by light soils (17%). About 29% of them replied that *Parthenium* weed can grow in all the soil types. Everyone accepted that it grows profusely in monsoon season and in soils having medium to high moisture as shown in Figure 6. Further, its maximum appearance occurs in June-July,

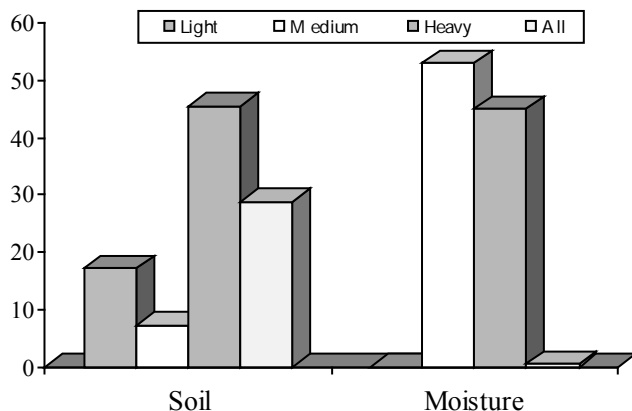


Figure 6: Soil and Climatic conditions favorable for *Parthenium* growth

flowering in August and drying in October. All the respondents informed that no effort was made to manage *Parthenium* by any agency. Also no one knows about the alternate uses of *Parthenium*.

4. Conclusion

The survey conducted to know the awareness level of people

regarding *Parthenium* infestation and ill effects revealed that 94% of the people are aware of its ill effects, 96% of the respondents know about the spread of *Parthenium*, and 47% of the respondents know about skin allergy, asthma and fever caused due to this weed. All the respondents replied that it grows profusely in the monsoon season and in soils having moisture.

5. Further Study

Though ICAR (Indian Council of Agricultural Research, New Delhi), Agricultural Universities and State Department of Agriculture are trying to improve the awareness level of the people in respect of *Parthenium*, people are not coming forward to root out the same. Hence, in order to eliminate and at least to suppress the weed, action plans have to be chalked out at village council (gram panchayat) level where mass participation needs to be encouraged as a part of Food for Work Programme (FWP) being implemented by the Government of India on a large scale.

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