



Field demonstration of integrated weed management in sorghum

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Sorghum is an important cereal crop grown on 8.47 lakh ha area with 9.85 lakh tonnes production in Maharashtra. The average productivity of sorghum in state is 1.16 t/ha. The crop is a good source of fodder for animals. The sorghum is a sturdy crop grows well in semi arid climate and gives better yields even with frequent dry spells occurring in a growing season.

One of the most important constraints in low productivity of sorghum is the weed infestation. The sorghum yields reduced to the tune of 60-70% due to weed infestation (Shelke 1995). Manual weeding alone is expensive, tedious and time consuming (Rajput and Khushwah 2005). Therefore, recommended integrated weed management practice was demonstrated at farmers field to show the practicability with higher yields over farmers practice.

Demonstrations were conducted during *Kharif* season of 2010-2012 in sorghum with recommended IWM that is application of pre-emergence atrazine 1.0 kg/ha followed by one hand weeding and hoeing at 6 weeks after sowing (Jadhav 2010) at randomly selected fifteen villages of Parbhani, Nanded, Beed, Hingoli and Jalna districts. Total fifteen farmers were selected for conducting demonstrations on their fields. The data were recorded from each farmer's field. The IWM was advised to undertake and the yields under farmers practice was also recorded at the same time for comparison.

The performance of IWM was recorded at demonstration at farmers field to show its effectiveness against weed growth and yield of sorghum. The fields under demonstrations were infested with *Euphorbia geniculata*, *Digera arvensis*, *Cyperus rotundus*, *Cynodon dactylon* and *Parthenium hysterophorus*.

IWM under all demonstrations was effective in reducing weed growth at different locations (Table 1). Farmers practice gave higher weed count and dry matter as compared to IWM treated plots at all the locations. The IWM in all demonstrations resulted on an average 27.4% increase in yield over farmers practice. The lowest in-

Table 1. Performance of IWM in sorghum at farmers field

Treatment and location	S ₁	S ₂	S ₃	S ₄
<i>IWM</i>				
2010				
Parbhani	28	13	1.90	26.7
Nanded	19	10	2.10	31.1
Beed	32	19	2.00	33.3
Hingoli	18	16	1.80	50.0
Jalna	07	14	2.20	29.4
Mean			2.00	34.1
<i>FP</i>				
Parbhani	116	27	1.50	
Nanded	96	25	1.60	
Beed	187	35	1.50	
Hingoli	152	32	1.20	
Jalna	148	31	1.70	
Mean			1.50	
<i>IWM</i>				
2011				
Parbhani	32	12	1.80	28.6
Nanded	35	10	2.00	25.0
Beed	46	18	1.85	19.3
Hingoli	60	13	2.01	37.7
Jalna	52	14	1.95	18.2
Mean			1.92	25.4
<i>FP</i>				
Parbhani	86	20	1.40	
Nanded	106	18	1.60	
Beed	118	25	1.55	
Hingoli	110	23	1.46	
Jalna	157	19	1.65	
Mean				
<i>IWM</i>				
2012				
Parbhani	34	14	1.48	21.8
Nanded	25	12	1.58	18.1
Beed	62	22	1.28	21.9
Hingoli	44	16	1.31	21.3
Jalna	36	14	1.49	30.6
Mean			1.43	22.7
<i>FP</i>				
Parbhani	118	18	1.22	
Nanded	120	19	1.34	
Beed	122	26	1.05	
Hingoli	128	26	1.08	
Jalna	112	22	1.14	
Mean			1.16	

S₁ - Weed count (no./m²) at 30 DAS; S₂ - Weed dry matter (g/m²) at 30 DAS; S₃ - Grain yield (t/ha); S₄ - % increase over farmer's practice (FP)

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crease in sorghum yield was 18.1%, where as highest increase in yield was 50%. It clearly indicated that if IWM is followed yield can be increased significantly. The demonstrations at farmers' field played an important role to disseminate the recommended IWM.

SUMMARY

Fifteen demonstrations on integrated weed management technology were laid out during *Kharif* 2010 to 2012 in sorghum at randomly selected farmers field from various districts of Marathwada region of Maharashtra with an objective to show the performance of IWM in sorghum. The IWM was found effective in

increasing grain yield of sorghum from 18-50% over farmers practice depending upon weed intensity.

REFERENCES

- Jadhav AS. 2010 . Weed control - Research Achievements. *MKV SS Bulletin* **2**, 6 p.
- Rajput RL and Kushwaha SS. 2005. Integrated weed management in soybean on farmers' field. *Indian Journal of Weed Science* **36**(3&4): 210-212.
- Shelke DK. 1995. Managing weeds in Maharashtra . *Indian Farming* **45**(5): 27-29.