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Anthology : The Research

Productivity and Profitability of Cotton based System as Influenced by Intercropping, Weed Control and Fertility Management Practices

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Abstract

Two years field experiment was conducted at Agronomy Research Farm, Dr. PDKV, Akola (MS) during 2007-08 and 2008-09 to study the productivity and profitability of cotton based systems under rainfed condition. The results showed that the treatment of cotton + pigeonpea intercropping resulted in higher production of seed cotton yield. While, treatment of cotton + blackgram and cotton + cowpea stood second. In pooled analysis, treatment of cotton + marigold and cotton + clusterbean being par recorded significantly higher GMR (Rs.97380 and 95166 ha^{-1}), NMR (Rs. 68595 and 65779 ha^{-1}) and B: C ratio of (3.38 and 3.34) over other treatments. Among the weeding, normal weeding at 25 and 50 DAS registered significantly superior monetary returns of GMR Rs.84409 ha^{-1}, NMR Rs.54341 ha^{-1} and B: C ratio 2.90. While, treatment of 125 % and 100 % RDF to base crop of cotton recorded maximum monetary returns.

Keywords: Fertility, Intercropping, Productivity, Profitability, RDF and Weeding

Introduction

In Vidarbha, cotton is grown predominantly as a rainfed crop. Major causes of low productivity are erratic behavior of rainfall, growing of cotton on marginal and sub-marginal land and less adoption of improved technologies. October heat during flowering and fruiting stages adversely sheds the reproductive parts resulted in less crop yield. Intercropping is a risk covering factor, stabilize the yield of component crops with more returns per unit area even under adverse climatic condition and therefore intercropping is more prevalent practice in rainfed farming. Assumption from the study was that the growing of various intercrops having different diversification of short duration, non competitive growth habit, less use of inputs, able to suppress weeds, fulfill the nutritional requirement of base crop to some extent, gives the additional yields with more returns per unit area. Recent need is to search out the most profitable and resource efficient system that sustains in changing climatic situation. In addition, fertilizer application and weed control are also required for obtaining higher returns.

Aim of the Study

This experiment was conducted with an object to identify the most remunerative intercrop in cotton based system and to assess the optimum fertilizer requirement in cotton.

Material and Methods

Two years field experiment was conducted at Agronomy Research Farm, Dr. PDKV, Akola (MS) during 2007-08 and 2008-09. The experimental site was fairly levelled and uniform in topography. The soil was medium black cotton belonging to vertisols. It was clayey in texture and moderately alkaline in nature (pH 8.3)., As far as nutrient status is concern it was medium in organic carbon (0.51 %) and available potassium (239.41 kg ha-1), low in available nitrogen (169.76 kg ha-1) and phosphorous (28.68 kg ha-1) and slightly calcareous (7.78 %).

The total rainfall received during 2007-2008 in 23rd - 52 nd MW at Akola centre was 771.0 mm in 43 rainy days, it was said to be normal year. Whereas, during 2008-2009 the total rainfall recorded was 528.2 mm in 42 rainy days and it was stated to be abnormal year. It was deficit by 30.70 %

as against normal rainfall of 762.8 mm. Soon after sowing to flowering and boll development stage weather had adversely affected the cotton yields. An American hirsutum variety AKH-8828 and intercrops with their popular varieties were used in replacement series of experiment Treatment combinations were 36 with 12 Main plots (A) Intercropping (6) viz., I_1- Cotton + blackgram (1:1), I_2- Cotton + soybean (1:1), I_3- Cotton + pigeonpea (6: 2), I_4- Cotton + clusterbean (1:1),I_5-Cotton + cowpea (1:1), I_6- Cotton + marigold (1:1) and (B) Weed management (2) W_1- No weeding and W_2- Normal weeding at 25 and 50 days after sowing and three Sub plots (C) Fertilizer management (3) F_1- 75 % Recommended dose of fertilizer (37.5, 18.75, 18.75 kg NPK ha-1) to base crop of cotton, F_2- 100 % Recommended dose of fertilizer (50, 25 , 25 kg NPK ha^{-1}) to base crop of cotton and F_3-125 % Recommended dose of fertilizer (62.5, 31.25, 31.25 kg NPK ha^{-1}) to base crop of cotton. The experiment was laid out in split plot design with three replications and crop was sown at the spacing of 45 × 30 cm distance. The gross plot size was 6.30 m × 3.60 m, net 5.40 m × 3.00 m and recommended dose of fertilizers of cotton was 50, 25, 25 kg NPK ha^{-1} with no fertilizers to the intercrops (Anonymous, 2007).

Results and Discussion

Seed Cotton Yield

The seed cotton yield ha^{-1} (Table 1) during 2007-08 was higher (12.59 q ha^{-1}) as compared to 2008-09 (10.63 q ha^{-1}). The average pooled seed cotton yield was (11.61 q ha^{-1}).

Effect of Intercropping

Yield reduction in other cotton based systems During 2007-08, treatments of cotton + pigeonpea and cotton + blackgram being par recorded significantly highest seed cotton yield over other treatments. Treatment of cotton + cowpea was significantly superior over cotton + clusterbean, cotton + soybean and cotton + marigold. During 2008-09, cotton + pigeonpea recorded significantly highest seed cotton yield over other treatments of intercropping. Treatment of cotton + blackgram recorded second best position. Treatments of cotton + cowpea and cotton + soybean being par produced significantly more seed cotton yield ha^{-1} over the rest of treatments.

In pooled analysis, cotton + pigeonpea resulted in greater production of seed cotton yield over other treatments. Treatment of cotton + blackgram stood at second position followed by the treatment of cotton + cowpea. Treatments of cotton + clusterbean and cotton + soybean being par recorded higher seed cotton yield than the treatment of cotton + marigold. Cotton + redgram intercropping was multitier crop combination harvest solar energy efficiently beside the deeper root system explored the moisture and nutrient from deeper section of soil. Similar results were reported by Pothiraj and Srinivasan (1993). Seed cotton yield recorded significantly more in cotton + pigeonpea system because of more number of cotton plants in the plot. Cotton intercropped with blackgram significantly increased seed cotton yield in individual year and in pooled also. It might be due to the least depressing effect of blackgram in cotton because of its short duration (Balsubramaniyan et al., 1994), no competition for natural resources (Tomar et al., 1994), complementary effect (Harisudan et al., 2009) and more availability of nitrogen through decay of root nodules (Umarani et al., 1984 and Chellamuthu and Ramaswami, 2000). Reduction in other cotton based intercropping might be due to medium to long duration of intercrops, their spreading habit coupled with smothering effect on cotton in early stages (Tomar et al. 1997). But yield reduction was well compensated by intercrop yields. Similar results were reported by Patel et al. (2006).

Effect of Weed Management

During both the years of study and in pooled analysis, normal weeding treatment gave significantly higher seed cotton yield than the treatment of no weeding. Weeding increased seed cotton yield, it might be due to the effective control of weeds and elimination of competition for light, nutrients, moisture etc. Similar results were reported by Agrawal et al. (2007).

Effect of Fertility Management

During both the years of study, treatments of 125 % RDF and 100 % RDF being par recorded significantly higher seed cotton yield than 75 % RDF to base crop of cotton.

In pooled analysis every additional dose of RDF to cotton was found significantly superior to its lower dose of RDF in recording higher seed cotton yield in 2007-08, 2008-09 and in pooled analysis. Similar results were reported by Kubsad et al. (2004) and Kote et al. (2005).

Intercrop Yield

Result of intercrop yield should be included in text after seed cotton yield parameters and before start of sub head economics (Copy enclosed).

Effect of Interaction

Interaction effects of intercropping × weed management × fertility management (I×W×F) were found significantly superior in recording higher seed cotton yield ha-1 in pooled analysis. Treatment combination of intercropping of cotton + pigeonpea with normal weeding under 100 % RDF and 125 % RDF (I3W2F2 and I3W2F3) being par recorded significantly greater seed cotton yield ha-1 over other treatment combinations (Table 2). Increase in yield under efficient weed control with increasing level of fertilizers was owing to reduced depletion of nutrients by weeds and concomitant increase in nutrient uptake by crop ultimately resulted in marked improvement in yield (Rathi and Tiwari, 1981).

Economics

Data on gross monetary returns, net monetary returns and benefit : cost ratio as influenced by various treatments are presented in Table 3.

Gross Monetary Returns

The gross monetary returns (Table 4) were greater during 2008-09 (Rs. 85450 ha-1) than 2007-08 (Rs. 69904 ha-1). An average gross monetary return in pooled analysis was (Rs. 77677 ha-1).

Effect of Intercropping

During the year 2007-08, treatments of cotton + cowpea and cotton + clusterbean being par recorded significantly more gross monetary returns over other treatments of cotton + pigeonpea, cotton + marigold, cotton + soybean and cotton + blackgram. Treatment of cotton + pigeonpea being par with treatment of cotton + marigold registered significantly greater gross monetary returns over the treatments of cotton + soybean and cotton + blackgram. During 2008-09, treatments cotton + marigold and cotton + clusterbean being par recorded significantly more gross monetary returns over other treatments of cotton + cowpea, cotton + pigeonpea, cotton + blackgram and cotton + soybean. Treatment of cotton + cowpea registered second best position followed by treatments of cotton + pigeonpea, cotton + blackgram and cotton + soybean. Treatment of cotton + pigeonpea recorded significantly more gross monetary returns over the treatment of cotton + blackgram and cotton + soybean. Cotton + soybean recorded lowest gross monetary returns.

Similar trend of the result was recorded in pooled analysis also. Higher returns under intercropping were mainly due to additional yields of component crops like cowpea and clusterbean. These results are in confirmation of Natrajan and Naik (1992), Manchanda et al. (2006), Anonymous (2009) and Sankarnarayan et al. (2010). An additional yield of trap crop of marigold was responsible for higher gross income of intercropping system. Similar results were reported by Hallikeri et al. (2005). Cotton + pigeonpea (6:2) intercropping produced higher gross monetary returns because of more plant population of cotton per plot which recorded higher economic yield (Patil et al., 2008). Deep rooted cotton and pigeonpea crops were more efficient and stable under varied condition of climate as compared to other intercropping. Similar results were coroborated by Dhoble et al. (1990) in sorghum + pigeonpea system in Marathwada condition.

Effect of Weed Management

Treatment of normal weeding registered significantly higher gross monetary returns than the treatment of no weeding in both the years of experimentation and in pooled analysis also. Weeding might have improved reproductive growth of crops which produced more economic yield and thus increased returns.

Effect of Fertility Management

Treatment of 125 % RDF and 100% RDF to base crop of cotton being par recorded maximum gross monetary returns than the treatment of 75 % RDF to the base crop of cotton during both the years and in pooled analysis as well. Similar results were reported by Kubsad et al. (2004), Kote et al. (2005) and Madhavi Latha and Prasad (2008).

Effect of Interaction

Interaction effects of intercropping × weed management × fertility management (I×W×F) were found significantly superior in recording higher gross monetary returns. Treatment combination of cotton + clusterbean with normal weeding treatment under 100 % and 125 % RDF to cotton (I4W2F2 and I4W2F3) recorded significantly greater monetary returns over other treatments combinations. However, treatment combination of I4W2F2 and I4W2F3 were found not significant (Table 3).

Net Monetary Returns

Net monetary returns ha^{-1} (Table 3) was greater during 2008-09 (Rs. 58081 ha^{-1}) than 2007-08 (Rs. 42536 ha^{-1}). Average net monetary returns in pooled analysis was (Rs. 50310 ha^{-1}).

Effect of Intercropping

During 2007-08, treatment of cotton + cowpea recorded significantly higher net monetary returns over the other treatments of intercropping. Treatments of cotton + clusterbean and cotton + pigeonpea being par registered greater net monetary returns over the treatments of cotton + marigold, cotton + soybean and cotton + blackgram. Treatment of cotton + marigold recorded significantly higher net monetary returns over the treatments of cotton + soybean and cotton + blackgram. However, treatment of cotton + soybean and cotton + blackgram were not significant. During 2008-09, treatment of cotton + marigold recorded significantly higher net monetary returns over other treatments of intercropping. Treatment of cotton + clusterbean recorded significantly higher net monetary returns over the treatments of cotton + cowpea, cotton + pigeonpea, cotton + blackgram and cotton + soybean. Cotton + cowpea recorded third position and found significantly superior over cotton + pigeonpea, cotton + blackgram and cotton + soybean. Cotton + pigeonpea was found to be significantly superior over cotton + soybean and cotton + blackgram. Treatment of cotton + blackgram was found superior than cotton + soybean.

In pooled analysis, treatment of cotton + marigold, cotton + clusterbean and cotton + cowpea being par registered significantly greater net monetary returns over cotton + pigeonpea, cotton + blackgram and cotton + soybean. Treatment of cotton + pigeonpea was found significantly superior over cotton + blackgram and cotton + soybean. Treatment of cotton + blackgram was found superior than cotton + soybean. Higher net monetary returns in cotton based system were obtained mainly due to additional yield of intercrops. Similar results were reported by Manchanda et al. (2006) and Anonymous (2009).

Effect of Weed Management

Treatment of normal weeding resulted in recording higher net monetary returns over no weeding in both the seasons as well as in pooled analysis. Similar results were reported by Pandey et al. (2000).

Effect of Fertility Management

Treatment of 125 % RDF and 100 % RDF to cotton being par recorded significantly higher net monetary returns than 75% RDF to cotton during both the yeas of experimentation and in pooled analysis. Higher net monetary returns resulted from higher fertility levels. Similar results were in conformity with Guggari and Kalaghatgi (2005), Kote et al. (2005) and Kubsad et al. (2005).

Effect of Interaction

Interaction effects of intercropping × weed management × fertility management (I×W×F) were

found significant. Treatment combination of cotton + clusterbean with normal weeding under 100 % and 125 % RDF (I4W2F2 and I4W2F3) and treatment of cotton + pigeonpea with normal weeding under 100 % RDF (I3W2F2) to cotton being par recorded significantly higher net monetary returns over other treatment combinations (Table 5).

Benefit Cost Ratio

Benefit cost ratio (Table 3) was greater during 2008-09 (3.12) than 2007-08 (2.55). The average benefit cost ratio in pooled analysis was (2.83).

Effect of Intercropping

During 2007-08, treatment of cotton + cowpea recorded greater benefit : cost ratio over other treatments of intercropping. Treatment of cotton + clusterbean and cotton + pigeonpea recorded higher values of benefit : cost ratio over the treatments of cotton + marigold, cotton + soybean and cotton + blackgram. Treatment of cotton + marigold recorded greater benefit: cost ratio over cotton + soybean and cotton + blackgram. During 2008-09, treatment of cotton + marigold recorded higher value of benefit : cost ratio over other treatments. Treatments of cotton + clusterbean stood second by recording superior B:C ratio over cotton + cowpea, cotton + pigeonpea, cotton + blackgram and cotton + soybean. Treatment of cotton + cowpea stood third after cotton + clusterbean and found significantly superior over cotton + pigeonpea, cotton + blackgram and cotton + soybean. Treatment of cotton + pigeonpea was found superior over cotton + blackgram and cotton + soybean. While, cotton + blackgram was found superior over cotton + soybean.

In pooled mean, treatment of cotton + marigold recorded higher values of benefit : cost ratio over other treatments. Treatment of cotton + clusterbean recorded second position and found superior over rest of treatments of intercropping. Treatment of cotton + cowpea recorded third position and found superior over other treatments namely, cotton + pigeonpea, cotton + blackgram and cotton + soybean. Similar results were reported by Manchanda et al. (2006), Sharma et al. (2008) and Sankarnarayan et al. (2010).

Effect of Weed Management

No weeding treatment recorded higher values of benefit cost ratio during both the years and in pooled mean. Weedy check recorded high values of B: C ratio of cotton based systems as the cost on weeding management was nil.

Effect of Fertility Management

Application of 125 % RDF and 100 % RDF resulted in higher values of benefit : cost ratio over 75 % RDF during 2008-09 and in pooled mean. While, during 2007-08, 100 % RDF recorded more benefit: cost ratio over its lower dose of 75 % RDF and more or less equal to 125 % RDF. Increased fertilizer levels increased B:C ratio of cotton based systems as it was realized from gross monetary returns.

Effect of Interaction

Effects of intercropping × weed management × fertility management (I×W×F) were found significant. Treatment combination of cotton + soybean with normal weeding under 75 % RDF to cotton (I2W1F1) recorded significantly higher values of benefit cost ratio over other treatment combinations (Table 6).

Conclusion

Based on 2 years study the conclusion/ inferences are drawn and given below. For perfect recommendation it needs more study for about 3-5 years.

1. **On basis of Yield and Productivity**
   It is concluded that among the various cotton based intercropping systems, cotton + pigeonpea was found to be most suitable and productive which was nearly followed by cotton + blackgram and cotton + cowpea (vegetables) cropping systems under rainfed conditions.
2. On monetary return basis.
3. It is concluded that among the various cotton based inter cropping systems, intercropping of cotton + Marigold (Flowers) was found to be most suitable and profitable which was nearly followed by cotton + Cluster bean and cotton + cowpea cropping systems under rainfed conditions.

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Table 1. Seed cotton yield and yield of intercrops as influenced by different treatments during 2007-08 and 2008-09

Treatments		Seed cotton yield (q ha^{-1})			Yield of intercrops (q ha^{-1})		
I) Main plot		**2007-08**	**2008-09**	**pooled**	**2007-08**	**2008-09**	**Mean**
A) Intercropping (6)							
I_1	Cotton + blackgram (1:1)	14.30	12.04	13.17	4.6	11.45	8.03
I_2	Cotton + soybean (1:1)	11.13	9.93	10.53	10.46	10.80	10.63
I_3	Cotton + pigeonpea (6:2)	14.42	13.40	13.92	11.18	9.32	10.25
I_4	Cotton + clusterbean (1:1)	12.35	9.79	11.07	59.47	103.24	81.36
I_5	Cotton + cowpea (1:1)	13.39	10.77	12.08	65.24	81.79	73.52
I_6	Cotton + marigold (1:1)	9.98	7.86	8.92	122.17	289.07	205.62
S. E. (m) ±		0.31	0.32	0.23			
C. D. at 5%		0.92	0.94	0.66			
B) Weed management (2)							
W_1	No weeding	11.83	9.32	10.58	39.43	81.30	60.37
W_2	Normal weeding (2 hoeings + 2 weedings at 25 and 50 DAS)	13.36	11.94	12.65	51.61	87.25	69.43
S. E. (m) ±		0.18	0.18	0.13			
C. D. at 5%		0.53	0.54	0.38			
II) Sub plot							
C) Fertility management (3)							
F_1	75 % RDF of base crop of cotton	11.38	9.32	10.35	44.32	80.04	62.18
F_2	100 % RDF of base crop of cotton	12.90	10.92	11.91	47.43	84.45	65.94
F_3	125 % RDF of base crop of cotton	13.51	11.66	12.58	45.67	88.46	67.07
S. E. (m) ±		0.23	0.22	0.14			
C. D. at 5%		0.67	0.64	0.39			
D) Interaction effects							
Intercropping x weed management (I x W)							
S. E. (m) ±		0.31	0.24	0.21			
C. D. at 5%		-	-	-			
Intercropping x fertility management (I x F)							
S. E. (m) ±		0.24	0.22	0.17			
C. D. at 5%		-	-	-			
Weed management x fertility management (W x F)							
S. E. (m) ±		0.37	0.35	0.18			
C. D. at 5%		-	-	0.33			
Intercropping x Weed management x fertility management (I x W x F)							
S. E. (m) ±		1.09	1.02	0.47			
C. D. at 5%		-	-	1.34			
GM		**12.59**	**10.63**	**11.61**	**45.52**	**84.28**	**64.90**

Table 3. GMR, NMR and B: C ratio of cotton based systems as influenced by different treatments during 2007-08 and 2008-09 and in pooled analysis

Treatments		GMR (Rs/ha)		pooled	NMR (Rs/ha)		pooled	B :C ratio		Mean
I) Main plot		2007-08	2008-09		2007-08	2008-09		2007-08	2008-09	
A) Intercropping (6)										
I_1	Cotton + blackgram (1:1)	50441	62612	56527	24714	36885	30800	1.96	2.43	2.20
I_2	Cotton + soybean (1:1)	53768	51675	52721	26879	24786	25833	2.00	1.92	1.96
I_3	Cotton + pigeonpea (6:2)	75319	70199	72759	49457	44337	46897	2.91	2.71	2.81
I_4	Cotton + clusterbean (1:1)	81100	109231	95166	51713	79844	65779	2.85	3.83	3.34
I_5	Cotton + cowpea (1:1)	88185	94838	91511	60625	67278	63952	3.20	3.44	3.32
I_6	Cotton + marigold (1:1)	70614	124146	97380	41829	95361	68595	2.45	4.31	3.38
S. E. (m) ±		1833	1609	1106	1622	1094	996			
C. D. at 5%		5376	4720	3243	4757	3209	2920			
B) Weed management (2)										
W_1	No weeding	63128	78763	70945	38460	54095	46278	2.58	3.21	2.90
W_2	Normal weeding (2 hoeings + 2 weedings at 25 and 50 DAS)	76681	92137	84409	46613	62069	54341	2.56	3.08	2.82
S. E. (m) ±		1058	929	638	936	848	575			
C. D. at 5%		3104	2725	1872	2747	2487	1686			
II) Sub plot										
C) Fertility management (3)										
F_1	75 % RDF of base crop of cotton	63782	78775	71279	36908	51901	44405	2.39	2.95	2.67
F_2	100 % RDF of base crop of cotton	72843	87127	79985	45475	59759	52617	2.68	3.20	2.94
F_3	125 % RDF of base crop of cotton	73089	90448	81768	45225	62584	53905	2.63	3.26	2.95
S. E. (m) ±		1073	1371	801	949	1252	722			
C. D. at 5%		3051	3900	2278	2700	3561	2053			
D) Interaction effects										
Intercropping x weed management (I x W)										
S. E. (m) ±		2592	2276	1564	2592	2276	1563			
C. D. at 5%		-	6675	4587	7603	6675	4586			
Intercropping x fertility management (I x F)										
S. E. (m) ±		2628	3359	1962	2628	3359	1963			
C. D. at 5%		7474	9552	5581	7474	9552	5581			
Weed management x fertility management (W x F)										
S. E. (m) ±		1518	1940	1133	1518	1940	1133			
C. D. at 5%		-	-	3222	-	-	3222			
Intercropping x Weed management x fertility management (I x W x F)										
S. E. (m) ±		3717	4751	2775	3717	4751	2772			
C. D. at 5%		-	-	7893	-	-	7893			
GM		**69904**	**85450**	**77677**	**42536**	**58081**	**50310**	**2.55**	**3.12**	**2.83**

Table 2. Seed cotton yield (q ha^{-1}) as influenced by intercropping × weed management × fertility management interactions (Pooled)

Treatments	Intercropping × weed management × fertility management		
IxWxF	F_1	F_2	F_3
I_1W_1	10.73	11.78	13.34
I_1W_2	12.90	15.34	14.94
I_2W_1	8.39	9.27	10.17
I_2W_2	11.15	12.30	11.89
I_3W_1	12.28	13.16	14.28
I_3W_2	12.73	15.30	15.76
I_4W_1	8.39	9.80	11.94
I_4W_2	10.73	13.09	12.49
I_5W_1	8.97	11.29	12.32
I_5W_2	12.30	14.27	13.35
I_6W_1	7.34	8.20	8.75
I_6W_2	8.26	9.13	11.82
S. E. (m) ±	0.47		
C. D. at 5%	1.34		

Table 4. GMR (Rs Ha^{-1}) As Influenced By Intercropping X Weed Management X Fertility Management Interactions (Pooled)

Treatments	Intercropping x weed management x fertility management		
IxWxF	F_1	F_2	F_3
I_1W_1	43659	53116	55681
I_1W_2	54245	69887	62573
I_2W_1	36879	47664	51977
I_2W_2	52443	61745	65621
I_3W_1	58973	70426	77105
I_3W_2	65702	77905	86446
I_4W_1	73463	80490	96642
I_4W_2	102203	111007	107188
I_5W_1	79163	88314	87054
I_5W_2	92863	107196	94480
I_6W_1	93661	92068	90686
I_6W_2	102093	100005	105769
S. E. (m) ±	2775		
C. D. at 5%	7893		

Table 5. NMR (Rs ha^{-1}) as influenced by intercropping x weed Management x fertility management interactions (pooled)

Treatments	Intercropping x weed management x fertility management		
IxWxF	F_1	F_2	F_3
I_1W_1	26632	35756	38018
I_1W_2	32767	47861	40253
I_2W_1	17647	28271	32509
I_2W_2	27877	36945	40484
I_3W_1	60414	69231	67657
I_3W_2	69476	83495	70465
I_4W_1	53239	59952	75790
I_4W_2	77361	85851	81718
I_5W_1	72041	70284	68588
I_5W_2	76005	73603	79053
I_6W_1	40703	51842	58208
I_6W_2	42814	54703	62931
S. E. (m) ±	2772		
C. D. at 5%	7893		

Table 6. B:C ratio as influenced by intercropping x weed management x fertility management interactions (pooled)

Treatments	Intercropping x weed management x fertility management		
IxWxF	F_1	F_2	F_3
I_1W_1	2.65	2.51	2.48
I_1W_2	2.72	2.48	2.58
I_2W_1	2.18	2.71	2.61
I_2W_2	2.89	2.68	2.63
I_3W_1	2.46	2.36	2.33
I_3W_2	2.54	2.43	2.38
I_4W_1	2.40	2.36	2.30
I_4W_2	2.34	2.30	2.32
I_5W_1	2.31	2.28	2.29
I_5W_2	2.34	2.29	2.35
I_6W_1	2.38	2.38	2.38
I_6W_2	2.43	2.41	2.37
S. E. (m) ±	0.08		
C. D. at 5%	0.21		