

Table 5. Interaction effect of tillage treatments and intercropping patterns on water applied, yield and quality of maize intercropped with soybean in 2003 and 2004 seasons

Characters		2003 season										
		Plant height (cm)	H. of first ear (cm)	Ear Length (cm)	Ear diameter (cm)	No of rows per ear	No of kernels per row	Wt. of 100 grain (gm)	Yield (Kg per fad)	Water applied (m ³ per fad)	WUE (kg per m ³)	
Treatments												
Chisel plough 2 passes	2:2	10	287.67	75.50	14.93	4.30	11.50	37.27	27.10	2350.00	2401.60	0.98
		15	290.87	78.30	16.83	4.50	12.00	42.53	29.50	2420.00	2430.00	0.99
		20	296.23	80.10	13.37	4.00	11.00	35.43	25.00	2150.00	2453.33	0.88
	2:4	10	294.33	80.50	19.13	4.50	12.10	41.10	30.10	2150.0	2350.67	0.92
		15	298.67	86.60	22.03	4.90	12.60	47.10	32.50	2275.00	2386.33	0.96
		20	300.43	90.30	16.30	4.10	11.40	38.30	28.10	1975.00	2410.00	0.82
	Solid maize	10	298.67	85.10	21.40	3.65	12.50	44.50	33.60	2830.00	2270.00	1.25
		15	300.50	93.30	23.47	4.35	13.10	48.30	36.10	2880.00	2290.00	1.26
		20	307.33	96.10	20.50	4.91	12.10	40.10	32.50	2795.00	2330.10	1.20
Chisel plough 3 passes	2:2	10	291.70	85.10	19.00	4.15	12.50	39.13	30.30	2810.00	2453.33	1.15
		15	296.50	88.50	21.93	5.10	12.80	45.47	35.50	2975.00	2471.67	1.20
		20	308.20	83.30	15.00	3.61	12.00	37.50	28.10	2796.00	2486.67	1.12
	2:4	10	300.33	9.60	20.10	4.52	13.00	45.37	35.60	2380.00	2400.67	0.99
		15	305.53	94.70	22.10	5.29	13.60	48.63	38.2	2510.00	2410.00	1.04
		20	308.10	98.50	15.10	3.70	12.50	41.70	30.70	2275.00	2425.00	0.94
	Solid maize	10	306.33	98.30	22.10	5.10	13.50	50.47	40.30	3000.00	2295.30	1.25
		15	309.10	100.1	24.30	5.50	14.00	52.63	43.10	3150.00	2323.30	1.30
		20	312.93	110.20	20.00	4.90	13.00	45.00	35.80	2995.00	2623.33	1.14
LSD5%		N. S	N. S	N. S	0.775	N. S	N. S	N. S	N. S	7.516	N. S	

Table 5. Cont.

Treatments		Characters		2004 season								
		Plant height (cm)	H. of first ear (cm)	Ear Length (cm)	Ear diameter (cm)	No of rows per ear	No of kernels per row	Wt. of 100 grain (gm)	Yield (Kg per fad)	Water applied (m ³ per fad)	WUE (kg per m ³)	
Chisel plough 2 passes	2:2	10	280.50	73.10	18.43	4.23	10.70	34.53	24.50	2310.00	2366.67	0.98
		15	287.67	75.00	19.03	4.44	11.30	40.83	26.10	2385.00	2411.67	0.99
		20	290.50	77.90	14.20	3.61	10.10	30.50	22.80	2125.00	2433.33	0.87
	2:4	10	287.20	77.30	18.00	4.36	11.30	40.07	27.10	2035.00	2325.0	0.88
		15	290.13	8per4.10	20.17	4.83	11.80	43.30	30.50	2185.00	2363.33	0.92
		20	292.27	87.20	15.17	3.78	10.60	35.10	25.10	1955.00	2380.00	0.82
	Solid	10	287.95	83.00	20.30	4.99	11.90	43.70	30.70	2750.00	2293.33	1.20
	maize	15	291.50	90.10	22.60	5.13	12.60	45.10	33.50	2775.00	2275.00	1.22
	20	299.10	92.50	17.50	4.16	11.30	37.60	29.80	2600.00	2301.10	1.13	
Chisel plough 3 passes	2:2	10	285.23	80.10	18.90	4.30	11.30	40.10	28.50	2650.00	2483.33	1.07
		15	290.60	85.50	20.00	4.94	11.80	47.00	31.30	2953.00	2518.33	1.17
		20	296.60	79.90	15.00	3.96	10.60	35.00	25.00	2580.00	2526.67	1.02
	2:4	10	290.63	86.50	19.10	4.56	11.90	42.00	30.70	2135.00	2356.67	0.98
		15	300.60	90.10	21.00	5.13	12.60	45.50	35.10	2350.00	2397.00	0.98
		20	305.20	95.10	17.10	4.00	11.30	38.17	27.30	2025.00	2410.00	0.84
	Solid	10	295.75	93.60	21.00	4.78	12.30	47.00	35.50	2800.00	2301.00	1.22
	maize	15	303.13	96.50	22.50	5.75	13.00	50.30	40.10	3050.00	2415.00	1.26
	20	308.70	104.90	20.50	4.44	11.80	43.80	30.00	2775.00	2506.00	1.10	
LSD 0.05			N. S	N. S	0.624	0.083	N. S	N. S	N. S	N. S	12.92	N. S

Table 6. Effect of tillage treatments on water applied, WUE, yield and quality of soybean intercropped with maize in 2003 and 2004 seasons

characters	Treatments		2003 season				L.S.D
			Chisel plough 2 passes		Chisel plough 3 passes		
Ploughing depth (cm)	10	15	20	10	15	20	0.05
Plant height (cm)	63.63	66.41	70.07	65.28	69.47	72.89	N. S
No. of branches per plant	2.26	2.53	3.14	2.52	2.65	3.28	N. S
No. of pods per plant	44.81	47.40	52.04	48.52	51.61	52.18	0.323
Weight of pods per plant (gm)	89.30	93.07	89.60	96.10	102.80	94.43	N.S
Weight of 100 seeds (gm)	16.96	17.31	17.13	18.28	18.61	18.03	N. S
Yield (kg per feddan)	885.44	970.26	809.29	1043.87	1108.61	933.67	22.45
Water applied (m ³ per feddan)	2269.45	2312.78	2368.89	2286.67	2325.00	2366.67	9.142
WUE (kg per m ³)	0.390	0.420	0.340	0.461	0.480	0.400	0.006
2004 season							
Plant height (cm)	58.53	64.24	68.12	62.27	65.08	69.66	N. S
No. of branches per plant	2.21	2.43	2.74	2.31	2.54	2.95	N. S
No. of pods per plant	42.93	45.22	48.42	45.98	48.70	52.15	N. S
Weight of pods per plant (gm)	85.97	91.30	84.70	97.13	103.37	89.97	N.S
Weight of 100 seeds (gm)	16.51	16.98	16.43	17.96	18.30	17.71	0.108
Yield (kg per fed.)	824.21	915.45	773.62	1013.03	1070.43	917.97	90.36
Water applied (m ³ per fed.)	2237.22	2285.00	2325.00	2293.56	2328.00	2394.45	14.14
W.U.E (kg per m ³)	0.368	0.401	0.333	0.442	0.460	0.383	0.002

Table 7. Effect of intercropping patterns on yield and quality of soybean intercropped with maize in 2003 and 2004 seasons

Intercropping patterns Characters	2003 season				2004 season			
	2:2	2:4	solid	L.S.D.	2:2	2:4	solid	L.S.D.
Plant height (cm)	63.74	67.66	72.47	2.13	61.78	64.57	67.59	0.78
No. of branches per plant	2.53	2.71	2.96	N.S	2.37	2.44	2.79	N.S
No. of pods per plant	46.67	48.53	54.53	0.852	45.46	46.79	49.45	0.603
Weight of seeds per plant (gm)	82.32	95.70	104.63	11.0	78.50	92.45	105.32	9.03
Weight of 100 seeds (gm)	17.23	17.69	18.25	0.262	16.86	17.38	17.70	0.283
Yield (kg per feddan)	677.66	953.73	1244.18	250.49	626.93	924.67	1205.76	200.03
Water applied (m ³ per feddan)	2449.44	2385.28	2130.00	11.60	2456.67	2388.61	2086.34	17.32
W.U.E (kg per m ³)	0.277	0.399	0.584	0.004	0.255	0.387	0.578	0.002

Table 8. Interaction effect of intercropping patterns and tillage treatments on water applied, WUE yield and quality, of soybean intercropped with maize in 2003 and 2004 seasons

Treatments		Characters		2003 season						
		Plant height (cm)	No. of branches perplant	No. of pods perplant	Wt. of pods perplant (gm)	Wt. of 100-seeds (gm)	Yield (Kgperfeddan)	Water applied (m ³ perfeddan)	W.U.E (kg perm ³)	
Chisel plough 2 passes	2:2	10	59.23	2.17	42.80	81.10	16.13	603.70	2401.67	0.25
		15	62.37	2.43	44.73	87.70	16.67	750.27	2430.00	0.31
		20	63.90	2.63	48.77	76.10	17.13	550.47	2453.33	0.22
	2:4	10	63.63	2.10	43.97	92.10	17.07	825.50	2326.67	0.36
		15	66.47	2.27	46.13	94.0	17.30	885.50	2378.33	0.37
		20	70.03	3.40	49.53	88.70	16.90	750.27	2400.00	0.31
	Solid soybean	10	68.03	2.50	47.67	94.70	17.67	1227.13	2080.00	0.59
		15	70.40	2.90	51.33	97.50	17.97	1275.0	2130.00	0.60
	20	76.27	3.40	57.83	104.00	17.37	1127.13	2253.33	0.50	
Chisel plough 3 passes	2:2	10	61.87	2.53	45.37	82.00	17.77	730.50	2453.33	0.30
		15	65.97	2.63	47.17	90.00	18.07	830.67	2471.67	0.34
		20	69.10	2.77	51.17	77.00	17.63	600.33	2486.67	0.24
	2:4	10	64.70	2.47	48.50	99.50	18.27	1100.7	2356.67	0.47
		15	69.33	2.60	51.03	103.90	18.60	1185.17	2403.33	0.49
		20	71.80	3.43	52.03	96.00	17.97	975.25	2446.67	0.40
	Solid soybean	10	69.27	2.57	51.70	106.80	18.80	1300.40	2050.00	0.63
		15	73.10	2.73	56.33	114.50	19.17	1310.00	2100.00	0.62
	20	77.77	3.63	62.33	110.30	18.50	1225.43	2166.67	0.57	
LSD5%		N.S	N.S	N.S	N.S	N.S	N.S	75.16	0.002	

Table 8. Cont.

Treatments		Characters		2004 season						
		Plant height (cm)	No. of branches perplant	No. of pods perplant	Wt. of pods perplant (gm)	Wt. of 100-seeds (gm)	Yield (Kgperfeddan)	Water applied (m ³ perfeddan)	W.U.E (kg perm ³)	
Chisel plough 2 passes	2:2	10	55.47	2.03	42.27	77.30	16.10	550.25	2366.67	0.23
		15	60.83	2.20	43.43	81.50	16.53	635.70	2411.67	0.26
		20	63.20	2.53	46.70	70.30	16.00	500.10	2433.33	0.21
	2:4	10	58.50	2.07	42.83	90.10	16.43	785.50	2325.00	0.34
		15	63.70	2.37	44.93	92.60	16.90	875.50	2363.33	0.37
		20	68.53	2.67	47.57	85.50	16.50	700.50	2380.00	0.29
	Solid soybean	10	61.63	2.53	43.70	90.50	17.00	1136.87	2020.00	0.56
		15	68.20	2.73	47.30	99.80	17.50	1235.14	2080.00	0.59
		20	72.63	3.03	51.00	98.30	16.80	1120.26	2161.67	0.52
Chisel plough 3 passes	2:2	10	61.20	2.27	45.03	80.30	17.50	700.00	2483.33	0.28
		15	63.50	2.43	46.07	85.70	17.77	775.50	2518.33	0.31
		20	66.50	2.73	49.27	75.60	17.27	600.00	2526.67	0.24
	2:4	10	61.97	2.23	46.83	95.30	18.13	1085.50	2386.67	0.54
		15	65.23	2.47	48.70	98.70	18.47	1150.70	2415.00	0.48
		20	69.50	2.83	49.87	92.50	17.87	950.30	2461.67	0.39
	Solid soybean	10	63.63	2.43	46.08	115.80	18.25	1253.60	2010.67	0.62
		15	66.50	2.73	51.33	125.70	18.67	1285.10	2050.67	0.63
		20	72.97	3.30	57.30	101.80	18.00	1203.60	2195.00	0.55
LSD5%		0.758	N.S	N.S	N.S	N.S	15.60	129.20	0.005	