

**ANNEX E. EXPERIMENTAL DATA AND  
INFORMATION**

Table E-1 Summary of Experimental Cultivation

Variety	Treatment Code	Treatment						Planting method	Weeding	Seeding Day	Transplanting Day	Sampling Day	
		Fertilizer (kg/ha)			Organic	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>						
		Basal-N	Top-N	0									
IR64	F1 (Control)	0	0	0	0	0	0	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	F2	0	0	30	0	30	0	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	F3	0	30	0	0	0	0	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	F4	30	0	0	0	0	0	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	F5	20	10	0	0	0	0	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	F6	30	15	0	0	0	0	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	F7	40	20	0	0	0	0	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	F8	0	0	0	0	0	300	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	W1	0	0	0	0	0	0	Transplanting in a row	Once	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	W2	0	0	0	0	0	0	Transplanting in a row	No	17/Feb/2003	7/Mar/2003	4/Jun/2003	
	P1	0	0	0	0	0	0	Random transplanting	No	17/Feb/2003	6/Mar/2003	5/Jun/2003	
	P2	0	0	0	0	0	0	Transplanting in a row	No	17/Feb/2003	6/Mar/2003	5/Jun/2003	
	P3	0	0	0	0	0	0	Direct seeding	No	27/Feb/2003	-	5/Jun/2003	
	IKAN	F1 (Control)	0	0	0	0	0	0	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003
		F2	0	0	30	0	30	0	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003
F3		0	30	0	0	0	0	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003	
F4		30	0	0	0	0	0	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003	
F5		20	10	0	0	0	0	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003	
F6		30	15	0	0	0	0	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003	
F7		40	20	0	0	0	0	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003	
F8		0	0	0	0	0	300	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003	
W1		0	0	0	0	0	0	Transplanting in a row	Once	3/Feb/2003	27/Feb/2003	17/Jun/2003	
W2	0	0	0	0	0	0	Transplanting in a row	No	3/Feb/2003	25/Feb/2003	16/Jun/2003		
P1	0	0	0	0	0	0	Random transplanting	No	3/Feb/2003	26/Feb/2003	16/Jun/2003		
P2	0	0	0	0	0	0	Transplanting in a row	No	3/Feb/2003	26/Feb/2003	16/Jun/2003		
P3	0	0	0	0	0	0	Direct seeding	No	14/Feb/2003	-	16/Jun/2003		

Note: Yield component survey and yield survey by unit area sampling were done. Each treatment had three replications. For P3 treatment, yield component survey data were not available. N was applied with urea, P<sub>2</sub>O<sub>5</sub> was applied with SP36 and K<sub>2</sub>O was applied with KCl. Irrigation water was available over the growth period.

Table E-2 Yield Component Survey - Summary of the Results

Variety	Treatment Code	Yield (14% moisture) (ton/ha)	Number of hills per square meter (/m <sup>2</sup> )	Number of panicles per hill	Number of grains per panicle	Number of grains per hill	Adjusted (14% moisture) 1000-grain weight (g)	Ripeness grains (%)	Number of panicles per square meter (/m <sup>2</sup> )	Plant height (cm)	
IR64	F1	1.74	16.0	10.3	42.3	435.7	25.2	90.0	164.6	78.1	
	F2	2.82	16.0	12.2	55.6	678.3	25.2	90.6	195.5	86.1	
	F3	3.10	16.0	14.1	54.9	774.1	24.9	90.0	226.1	83.7	
	F4	2.22	16.0	10.8	48.0	518.4	26.0	89.5	172.8	81.9	
	F5	2.89	16.0	12.3	55.3	680.2	25.8	92.2	196.6	84.8	
	F6	2.66	16.0	11.7	55.1	644.7	25.6	91.9	186.3	83.6	
	F7	2.63	16.0	11.6	54.9	636.8	25.8	89.5	184.9	82.8	
	F8	1.85	16.0	10.1	44.4	448.4	25.0	88.7	161.4	77.8	
	W1	3.31	16.0	13.0	60.4	785.2	26.0	92.5	208.4	79.5	
	W2	1.80	16.0	9.5	45.2	429.4	25.9	90.2	152.2	71.7	
	P1	3.13	25.4	9.8	49.4	484.1	25.3	88.5	249.5	81.7	
	P2	2.53	16.0	11.3	55.0	621.5	25.7	87.0	180.6	85.4	
	P3	-	-	-	-	-	-	-	-	142.8	69.6
	IKAN	F1	2.49	16.0	8.0	73.9	591.2	25.4	75.7	128.7	149.5
F2		2.81	16.0	9.7	71.6	694.5	25.1	75.4	155.4	146.7	
F3		2.67	16.0	8.8	74.1	652.1	25.6	71.6	140.8	164.0	
F4		2.99	16.0	9.6	77.8	746.9	25.3	78.1	153.2	164.1	
F5		2.71	16.0	8.9	73.1	650.6	25.1	67.5	142.6	146.9	
F6		2.78	16.0	8.3	81.0	672.3	25.3	75.3	132.6	144.4	
F7		3.09	16.0	10.2	73.9	753.8	25.4	72.2	164.2	161.7	
F8		2.24	16.0	8.7	64.1	557.7	25.5	75.6	138.3	147.1	
W1		2.89	16.0	9.9	71.7	709.8	24.8	75.5	158.9	156.8	
W2		2.86	16.0	9.8	72.1	706.6	24.8	70.9	157.5	151.9	
P1		2.52	20.9	7.0	67.3	471.1	25.1	74.5	146.8	158.7	
P2		2.13	16.0	8.2	64.1	525.6	25.3	76.5	131.6	160.7	
P3		-	-	-	-	-	-	-	-	162.7	139.7

Table E-3 Yield Component Survey - Data (1)

Variety	Treatment Code	Data Item																				
		Number of hills per square meter			Number of total panicles of 15 hills			Total number of empty grains of 15 hills			Weight of all ripened grains of 15 hills (g)			Moisture content (%)								
		Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3		
IR64	F1	16.0	168	179	116	154.3	884	616	613	704.3	216	148	120	161.3	13.6	12.6	12.6	12.9				
	F2	16.0	216	173	161	183.3	1,221	599	1,108	976.0	408	227	156	263.7	14.6	12.8	12.3	13.2				
	F3	16.0	211	222	203	212.0	1,755	1,224	880	1,286.3	265	313	287	288.3	13.7	12.9	13.6	13.4				
	F4	16.0	213	161	112	162.0	1,407	686	671	921.3	315	176	124	205.0	13.1	12.6	12.4	12.7				
	F5	16.0	229	154	170	184.3	1,364	555	750	889.7	405	205	199	269.7	13.9	13.1	13.3	13.4				
	F6	16.0	256	130	138	174.7	1,485	592	600	892.3	376	171	193	246.7	13.2	12.8	13.4	13.1				
	F7	16.0	202	142	176	173.3	1,204	1,072	1,002	1,092.7	293	185	256	244.7	13.9	12.9	13.3	13.4				
	F8	16.0	163	131	160	151.3	780	600	1,173	851.0	197	96	220	171.0	13.2	12.6	13.3	13.0				
	W1	16.0	189	243	154	195.3	1,133	1,438	473	1,014.7	347	379	201	309.0	13.9	13.8	13.8	13.8				
	W2	16.0	115	175	138	142.7	642	989	502	711.0	148	227	125	166.7	13.4	13.5	13.2	13.4				
IKAN	P1	25.4	159	132	151	147.3	1,203	649	965	939.0	231	171	146	182.7	13.3	12.8	12.7	12.9				
	P2	16.0	176	183	149	169.3	1,653	1,408	1,113	1,391.3	274	218	216	236.0	13.2	13.4	13.5	13.4				
	P3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	F1	16.0	138	114	110	120.7	2,764	2,356	2,815	2,645.0	368	171	151	230.0	12.6	12.1	11.9	12.2				
	F2	16.0	178	118	141	145.7	5,475	2,468	2,735	3,559.3	329	206	236	257.0	12.0	12.8	11.6	12.1				
	F3	16.0	127	118	151	132.0	1,157	8,066	3,659	4,294.0	259	209	266	244.7	12.3	12.3	12.4	12.3				
	F4	16.0	120	134	177	143.7	1,559	2,571	5,984	3,371.3	275	219	329	274.3	12.2	12.8	12.0	12.3				
F5	16.0	157	104	140	133.7	6,182	2,997	5,041	4,740.0	335	137	276	249.3	12.4	12.7	12.1	12.4					
F6	16.0	148	130	95	124.3	2,806	3,940	2,548	3,098.0	388	186	193	255.7	12.4	12.1	13.3	12.6					
F7	16.0	155	131	176	154.0	3,741	3,940	5,419	4,366.7	309	208	338	285.0	12.6	11.7	12.3	12.2					
F8	16.0	124	111	154	129.7	2,452	2,440	3,106	2,666.0	193	201	225	206.3	12.8	12.3	12.5	12.5					
W1	16.0	183	107	157	149.0	4,312	1,710	4,857	3,626.3	372	164	259	265.0	11.8	11.9	12.2	12.0					
W2	16.0	173	128	142	147.7	4,488	8,314	1,636	4,812.7	371	227	188	262.0	12.1	12.0	11.6	11.9					
P1	20.9	118	93	105	105.3	3,081	2,430	1,777	2,429.3	236	132	159	175.7	11.9	11.8	11.5	11.7					
P2	16.0	120	123	127	123.3	2,644	2,443	2,191	2,426.0	216	178	190	194.7	11.6	11.8	11.9	11.8					
P3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

Note: Italicized data items were actual measurements.

Table E-4 Yield Component Survey Data (2)

Variety	Treatment Code	Data Item																													
		Number of all ripenend grains of 15 hills						Ripenend grains (%)						Number of grains per panicle						1000-grain weight (g)						Adjusted (14% moisture) 1000-grain weight (g)					
		Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean						
IR64	F1	8,899	5,831	4,800	6,510.0	91.0	90.4	88.7	90.0	53.0	32.6	41.4	42.3	24.3	25.4	25.0	24.9	24.4	25.8	25.4	24.4	25.8	25.4	25.2							
	F2	16,157	9,262	6,178	10,532.3	93.0	93.9	84.8	90.6	74.8	53.5	38.4	55.6	25.3	24.5	25.2	25.0	25.1	24.8	25.7	25.1	24.8	25.7	25.2							
	F3	10,600	12,833	11,537	11,656.7	85.8	91.3	92.9	90.0	50.2	57.8	56.8	54.9	25.0	24.4	24.9	24.8	25.1	24.7	25.0	25.1	24.7	25.0	24.9							
	F4	12,411	6,741	4,898	8,016.7	89.8	90.8	88.0	89.5	58.3	41.9	43.7	48.0	25.4	26.1	25.3	25.6	25.7	26.5	25.8	25.7	26.5	25.8	26.0							
	F5	15,066	8,221	7,920	10,402.3	91.7	93.7	91.3	92.2	65.8	53.4	46.6	55.3	26.9	24.9	25.1	25.6	26.9	25.2	25.3	25.1	26.3	25.4	25.8							
	F6	15,115	6,601	7,662	9,792.7	91.1	91.8	92.7	91.9	59.0	50.8	55.5	55.1	24.9	25.9	25.2	25.3	25.3	25.1	26.3	25.1	26.3	25.4	25.6							
	F7	11,368	7,030	10,368	9,588.7	90.4	86.8	91.2	89.5	56.3	49.5	58.9	54.9	25.8	26.3	24.7	25.6	25.8	26.6	26.6	25.8	26.6	24.9	25.8							
	F8	7,821	4,003	8,756	6,860.0	90.9	87.0	88.2	88.7	48.0	30.6	54.7	44.4	25.2	24.0	25.1	24.8	25.4	24.4	24.4	25.4	24.4	25.3	25.0							
	W1	13,360	14,402	7,879	11,880.3	92.2	90.9	94.3	92.5	70.7	59.3	51.2	60.4	26.0	26.3	25.5	25.9	26.0	26.0	26.4	26.0	26.0	26.4	25.6	26.0						
	W2	5,609	8,649	5,150	6,469.3	89.7	89.7	91.1	90.2	48.8	49.4	37.3	45.2	26.4	26.3	24.3	25.7	26.6	26.6	26.5	24.5	26.6	26.5	24.5	25.9						
P1	8,709	7,097	5,971	7,259.0	87.9	91.6	86.1	88.5	54.8	53.8	39.5	49.4	26.5	24.1	24.5	25.0	26.7	24.4	24.4	26.7	24.4	24.9	25.3								
P2	10,905	8,415	8,489	9,269.7	86.8	85.7	88.4	87.0	62.0	46.0	57.0	55.0	25.1	25.9	25.5	25.5	25.5	25.3	26.1	25.3	26.1	25.6	25.7								
P3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
IKAN	F1	14,536	7,062	5,995	9,197.7	84.0	75.0	68.0	75.7	105.3	61.9	54.5	73.9	25.3	24.2	25.2	24.9	25.7	24.7	24.7	25.7	24.7	25.8	25.4							
	F2	13,555	8,508	9,369	10,477.3	71.2	77.5	77.4	75.4	76.2	72.1	66.4	71.6	24.3	24.2	25.2	24.6	24.9	24.5	24.5	24.9	24.5	25.9	25.1							
	F3	10,567	8,465	10,161	9,731.0	90.1	51.2	73.5	71.6	83.2	71.7	67.3	74.1	24.5	24.7	26.2	25.1	25.0	25.2	26.7	25.0	25.2	26.7	25.6							
	F4	10,918	8,694	13,719	11,110.3	87.5	77.2	69.6	78.1	91.0	64.9	77.5	77.8	25.2	25.2	24.0	24.8	25.7	25.6	24.6	25.7	25.6	24.6	25.3							
	F5	13,099	5,644	11,426	10,056.3	67.9	65.3	69.4	67.5	83.4	54.3	81.6	73.1	25.6	24.3	24.1	24.7	26.1	24.7	24.6	26.1	24.7	24.6	25.1							
	F6	15,171	7,700	7,720	10,197.0	84.4	66.2	75.2	75.3	102.5	59.2	81.3	81.0	25.6	24.1	25.0	24.9	26.1	24.6	25.2	26.1	24.6	25.2	25.3							
	F7	12,267	8,362	13,858	11,495.7	76.6	68.0	71.9	72.2	79.1	63.8	78.7	73.9	25.2	24.9	24.4	24.8	25.6	25.6	25.6	25.6	25.6	24.9	25.4							
	F8	7,662	8,000	9,000	8,220.7	75.8	76.6	74.3	75.6	61.8	72.1	58.4	64.1	25.2	25.1	25.0	25.1	25.6	25.6	25.6	25.6	25.6	25.4	25.5							
	W1	15,624	6,691	10,567	10,960.7	78.4	79.6	68.5	75.5	85.4	62.5	67.3	71.7	23.8	24.5	24.5	24.3	24.4	25.1	25.0	24.4	25.1	25.0	24.8							
	W2	15,322	9,307	7,821	10,816.7	77.3	52.8	82.7	70.9	88.6	72.7	55.1	72.1	24.2	24.4	24.1	24.2	24.7	25.0	24.8	24.7	25.0	24.8	24.8							
P1	9,700	5,504	6,360	7,188.0	75.9	69.4	78.2	74.5	82.2	59.2	60.6	67.3	24.3	24.0	25.0	24.4	24.9	24.6	24.6	24.9	24.6	25.7	25.1								
P2	8,705	7,423	7,543	7,890.3	76.7	75.2	77.5	76.5	72.5	60.3	59.4	64.1	24.8	24.0	25.2	24.7	25.5	24.6	24.6	25.5	24.6	25.8	25.3								
P3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								

Table E-5 Yield Component Survey Data (3)

Variety	Treatment Code	Data Item																							
		Number of panicles per hill						Number of panicles per square meter (m <sup>2</sup> )						Yield (14% moisture) (ton/ha)						Plant height (cm)					
		Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean				
IR64	F1	11.2	11.9	7.7	10.3	179.2	190.9	123.7	164.6	2.32	1.60	1.30	1.74	80.2	73.6	80.4	78.1	1.74	80.2	73.6	80.4	78.1			
	F2	14.4	11.5	10.7	12.2	230.4	184.5	171.7	195.5	4.33	2.44	1.69	2.82	93.8	82.2	82.2	86.1	2.82	93.8	82.2	82.2	86.1			
	F3	14.1	14.8	13.5	14.1	225.1	236.8	216.5	226.1	2.84	3.38	3.07	3.10	90.2	80.8	80.2	83.7	3.10	90.2	80.8	80.2	83.7			
	F4	14.2	10.7	7.5	10.8	227.2	171.7	119.5	172.8	3.40	1.90	1.35	2.22	91.6	74.4	79.6	81.9	2.22	91.6	74.4	79.6	81.9			
	F5	15.3	10.3	11.3	12.3	244.3	164.3	181.3	196.6	4.33	2.22	2.13	2.89	92.8	72.2	89.4	84.8	2.89	92.8	72.2	89.4	84.8			
	F6	17.1	8.7	9.2	11.7	273.1	138.7	147.2	186.3	4.05	1.86	2.08	2.66	93.8	78.6	78.4	83.6	2.66	93.8	78.6	78.4	83.6			
	F7	13.5	9.5	11.7	11.6	215.5	151.5	187.7	184.9	3.14	2.00	2.75	2.63	88.2	79.2	81.0	82.8	2.63	88.2	79.2	81.0	82.8			
	F8	10.9	8.7	10.7	10.1	173.9	139.7	170.7	161.4	2.13	1.04	2.37	1.85	82.0	75.6	75.8	77.8	1.85	82.0	75.6	75.8	77.8			
	W1	12.6	16.2	10.3	13.0	201.6	259.2	164.3	208.4	3.71	4.06	2.16	3.31	80.0	84.0	74.4	79.5	3.31	80.0	84.0	74.4	79.5			
	W2	7.7	11.7	9.2	9.5	122.7	186.7	147.2	152.2	1.60	2.45	1.35	1.80	73.6	72.2	69.2	71.7	1.80	73.6	72.2	69.2	71.7			
	P1	10.6	8.8	10.1	9.8	269.2	223.5	255.7	249.5	3.94	2.93	2.52	3.13	82.6	84.8	77.6	81.7	3.13	82.6	84.8	77.6	81.7			
	P2	11.7	12.2	9.9	11.3	187.7	195.2	158.9	180.6	2.94	2.34	2.31	2.53	85.8	88.2	82.2	85.4	2.53	85.8	88.2	82.2	85.4			
	P3	-	-	-	-	229.0	123.4	76.1	142.8	-	-	-	-	70.2	71.6	67.0	69.6	-	70.2	71.6	67.0	69.6			
	IKAN	F1	9.2	7.6	7.3	8.0	147.2	121.6	117.3	128.7	3.98	1.86	1.64	2.49	147.4	139.0	162.2	149.5	2.49	147.4	139.0	162.2	149.5		
		F2	11.9	7.9	9.4	9.7	189.9	125.9	150.4	155.4	3.61	2.23	2.59	2.81	134.6	139.4	166.2	146.7	2.81	134.6	139.4	166.2	146.7		
		F3	8.5	7.9	10.1	8.8	135.5	125.9	161.1	140.8	2.83	2.28	2.90	2.67	155.0	154.6	182.4	164.0	2.67	155.0	154.6	182.4	164.0		
		F4	8.0	8.9	11.8	9.6	128.0	142.9	188.8	153.2	2.99	2.37	3.60	2.99	150.6	149.2	192.4	164.1	2.99	150.6	149.2	192.4	164.1		
		F5	10.5	6.9	9.3	8.9	167.5	110.9	149.3	142.6	3.66	1.48	2.99	2.71	135.8	133.0	172.0	146.9	2.71	135.8	133.0	172.0	146.9		
F6		9.9	8.7	6.3	8.3	157.9	138.7	101.3	132.6	4.24	2.03	2.07	2.78	147.6	145.4	140.2	144.4	2.78	147.6	145.4	140.2	144.4			
F7		10.3	8.7	11.7	10.2	165.3	139.7	187.7	164.2	3.34	2.27	3.67	3.09	152.2	144.0	189.0	161.7	3.09	152.2	144.0	189.0	161.7			
F8		8.3	7.4	10.3	8.7	132.3	118.4	164.3	138.3	2.10	2.19	2.44	2.24	146.6	142.0	152.8	147.1	2.24	146.6	142.0	152.8	147.1			
W1		12.2	7.1	10.5	9.9	195.2	114.1	167.5	158.9	4.07	1.78	2.83	2.89	172.8	164.4	133.2	156.8	2.89	172.8	164.4	133.2	156.8			
W2		11.5	8.5	9.5	9.8	184.5	136.5	151.5	157.5	4.03	2.47	2.08	2.86	170.8	158.0	127.0	151.9	2.86	170.8	158.0	127.0	151.9			
P1		7.9	6.2	7.0	7.0	164.4	129.6	146.3	146.8	3.38	1.89	2.28	2.52	165.2	150.2	160.8	158.7	2.52	165.2	150.2	160.8	158.7			
P2		8.0	8.2	8.5	8.2	128.0	131.2	135.5	131.6	2.37	1.95	2.08	2.13	165.8	149.8	166.4	160.7	2.13	165.8	149.8	166.4	160.7			
P3		-	-	-	-	116.3	185.4	186.3	162.7	-	-	-	-	156.2	133.4	129.6	139.7	-	156.2	133.4	129.6	139.7			

Note: Italicized data items were actual measurements.

Table E-6 Yield Survey by Unit Area Sampling Data

Variety	Treatment Code	Data Item																															
		Weight measurement (kg/4m <sup>2</sup> )						Yield (ton/ha)						Moisture content (%)						Yield (14% moisture) (ton/ha)													
		Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean	Rep1	Rep2	Rep3	Mean												
IR64	F1	1.00	0.69	0.42	0.70	2.50	1.73	1.05	1.76	13.4	13.1	13.2	13.2	2.52	1.75	1.06	1.78	1.55	1.15	0.90	1.20	3.88	2.88	2.25	3.00	13.4	13.2	12.3	13.0	3.91	2.91	2.29	3.04
	F2	1.20	1.30	1.15	1.22	3.00	3.25	2.88	3.04	13.4	14.0	14.1	13.8	3.02	3.25	2.88	3.05	1.45	0.90	1.00	1.12	3.63	2.25	2.50	2.79	13.2	13.1	13.1	13.1	3.66	2.27	2.53	2.82
	F3	1.50	1.10	0.60	1.07	3.75	2.75	1.50	2.67	13.4	13.8	13.2	13.5	3.78	2.76	1.51	2.68	1.70	1.10	0.90	1.23	4.25	2.75	2.25	3.08	13.8	12.9	13.5	13.4	4.26	2.79	2.26	3.10
	F4	1.55	1.00	1.05	1.20	3.88	2.50	2.63	3.00	13.8	13.5	13.4	13.6	3.89	2.51	2.65	3.02	1.20	0.55	1.09	0.95	3.00	1.38	2.73	2.37	12.9	13.4	12.8	13.0	3.04	1.39	2.77	2.40
	F5	1.28	1.63	0.85	1.25	3.19	4.07	2.13	3.13	13.7	13.8	14.0	13.8	3.21	4.08	2.13	3.14	1.02	1.08	0.63	0.91	2.56	2.69	1.57	2.27	13.3	13.4	13.7	13.5	2.58	2.71	1.57	2.29
	F6	1.68	1.13	0.85	1.22	4.20	2.83	2.13	3.05	13.5	13.4	13.3	13.4	4.22	2.86	2.15	3.07	1.53	1.13	0.94	1.20	3.82	2.82	2.34	2.99	13.3	13.1	13.4	13.3	3.85	2.85	2.36	3.02
	F7	1.28	0.43	0.28	0.66	3.19	1.07	0.69	1.65	13.6	13.9	13.8	13.7	3.21	1.07	0.69	1.65	1.02	1.08	0.63	0.91	2.56	2.69	1.57	2.27	13.3	13.4	13.7	13.5	2.58	2.71	1.57	2.29
	F8	1.10	1.00	1.00	1.03	2.75	2.50	2.50	2.58	13.6	13.8	14.6	14.0	2.76	2.51	2.48	2.58	1.30	0.85	1.20	1.12	3.25	2.13	3.00	2.79	14.1	14.2	13.5	13.9	3.25	2.13	3.02	2.80
IKAN	F1	1.20	0.85	1.10	1.05	3.00	2.13	2.75	2.63	13.6	14.5	13.6	13.9	3.01	2.12	2.76	2.63	1.40	1.05	1.05	1.17	3.50	2.63	2.63	2.92	13.3	13.8	13.5	13.5	3.53	2.64	2.65	2.94
	F2	1.95	0.75	1.05	1.25	4.88	1.88	2.63	3.13	12.8	13.6	14.9	13.8	4.95	1.89	2.60	3.15	1.70	0.85	1.10	1.22	4.25	2.13	2.75	3.04	13.2	13.5	14.1	13.6	4.29	2.14	2.75	3.06
	F3	1.30	1.25	1.30	1.28	3.25	3.13	3.25	3.21	14.0	13.5	13.8	13.8	3.25	3.15	3.26	3.22	1.30	1.25	1.30	1.28	3.25	3.13	3.25	3.21	14.0	13.5	13.8	13.8	3.25	3.15	3.26	3.22
	F4	1.12	0.90	1.00	1.01	2.80	2.25	2.50	2.52	14.1	13.4	13.6	13.7	2.80	2.27	2.51	2.53	1.43	1.18	0.95	1.18	3.57	2.94	2.38	2.96	12.5	12.5	12.1	12.4	3.63	2.99	2.43	3.02
	F5	0.98	1.20	0.77	0.98	2.44	3.00	1.93	2.46	12.3	12.6	12.1	12.3	2.49	3.05	1.97	2.50	0.98	1.20	0.77	0.98	2.44	3.00	1.93	2.46	12.3	12.6	12.1	12.3	2.49	3.05	1.97	2.50
	F6	1.50	1.13	1.35	1.33	3.75	2.82	3.38	3.31	13.6	13.2	13.2	13.3	3.77	2.84	3.41	3.34	1.50	1.13	1.35	1.33	3.75	2.82	3.38	3.31	13.6	13.2	13.2	13.3	3.77	2.84	3.41	3.34
	F7	1.08	0.83	1.15	1.02	2.69	2.07	2.88	2.55	14.0	13.2	13.2	13.5	2.69	2.09	2.91	2.56	1.08	0.83	1.15	1.02	2.69	2.07	2.88	2.55	14.0	13.2	13.2	13.5	2.69	2.09	2.91	2.56
	F8	0.75	0.68	0.85	0.76	1.88	1.69	2.13	1.90	12.2	12.2	12.5	12.3	1.92	1.73	2.17	1.94	0.75	0.68	0.85	0.76	1.88	1.69	2.13	1.90	12.2	12.2	12.5	12.3	1.92	1.73	2.17	1.94

Note: Italicized data items were actual measurements.

**Table E-7 Statistical Analysis of Unit Area Sampling**

**Yield Survey by Unit Area Sampling - Unit Yield (ton/ha)**

Type of Fertilizer		IR64		
Fertilizer	I	II	III	
F1	2.52	1.75	1.06	Control
F2	3.91	2.91	2.29	P-30, K-30 (kg/ha)
F7	3.89	2.51	2.65	N-60 (kg/ha)
F8	3.04	1.39	2.77	Organic Manure

Type of Fertilizer		IKAN		
Fertilizer	I	II	III	
F1	2.76	2.51	2.48	Control
F2	3.25	2.13	3.02	P-30, K-30 (kg/ha)
F7	3.25	3.15	3.26	N-60 (kg/ha)
F8	2.80	2.27	2.51	Organic Manure

Source	No. of Date	Total	Mean	Variance
F1	3	5.33	1.776667	0.533433333
F2	3	9.11	3.036667	0.668133333
F7	3	9.05	3.016667	0.576933333
F8	3	7.2	2.4	0.7833
I	4	13.36	3.34	0.463266667
II	4	8.56	2.14	0.481466667
III	4	8.77	2.1925	0.611625

Source	No. of Date	Total	Mean	Variance
F1	3	7.75	2.583333	0.023633333
F2	3	8.4	2.8	0.3499
F7	3	9.66	3.22	0.0037
F8	3	7.58	2.526667	0.070433333
I	4	12.06	3.015	0.0739
II	4	10.06	2.515	0.203833333
III	4	11.27	2.8175	0.148425

Analysis of Variance						
Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	3.224825	3	1.074942	4.465743465	0.056695	4.757055
Block	3.67935	2	1.839675	7.642755756	0.022398	5.143249
Residual	1.44425	6	0.240708			
Total	8.348425	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

19.2 (%)

Analysis of Variance						
Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.890492	3	0.296831	4.590360411	0.053694	4.757055
Block	0.50735	2	0.253675	3.922977791	0.081374	5.143249
Residual	0.387983	6	0.064664			
Total	1.785825	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

9.1 (%)



Table E-7 Statistical Analysis of Unit Area Sampling (continued)

Yield Survey by Unit Area Sampling - Unit Yield (ton/ha)

Nitrogen Level

IR64	Fertilizer	I	II	III
F1	Control	2.52	1.75	1.06
F5	Basal- 20, Top -10 (kg/ha)	3.78	2.76	1.51
F6	Basal- 30, Top -15 (kg/ha)	4.26	2.79	2.26
F7	Basal- 40, Top -20 (kg/ha)	3.89	2.51	2.65

IKAN	Fertilizer	I	II	III
F1	Control	2.76	2.51	2.48
F5	Basal- 20, Top -10 (kg/ha)	4.95	1.89	2.60
F6	Basal- 30, Top -15 (kg/ha)	4.29	2.14	2.75
F7	Basal- 40, Top -20 (kg/ha)	3.25	3.15	3.26

Source	No. of Date	Total	Mean	Variance
F1	3	5.33	1.776667	0.533433333
F5	3	8.05	2.683333	1.292633333
F6	3	9.31	3.103333	1.073633333
F7	3	9.05	3.016667	0.576933333
I	4	14.45	3.6125	0.572625
II	4	9.81	2.4525	0.235091667
III	4	7.48	1.87	0.5154

Source	No. of Date	Total	Mean	Variance
F1	3	7.75	2.583333	0.023633333
F5	3	9.44	3.146667	2.565033333
F6	3	9.18	3.06	1.2277
F7	3	9.66	3.22	0.0037
I	4	15.25	3.8125	0.982025
II	4	9.69	2.4225	0.300091667
III	4	11.09	2.7725	0.117825

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	3.311033	3	1.103678	10.0590901	0.009336	4.757055
Block	6.29495	2	3.147475	28.68657434	0.000849	5.143249
Residual	0.658317	6	0.109719			
Total	10.2643	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

12.5 (%)

LSD (5%)

df=6

0.66

LSD (1%)

df=6

1.00

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.741292	3	0.247097	0.428674004	0.739958	4.757055
Block	4.1816	2	2.0908	3.627202282	0.092763	5.143249
Residual	3.458533	6	0.576422			
Total	8.381425	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

25.3 (%)

Table E-7 Statistical Analysis of Unit Area Sampling (continued)

Yield Survey by Unit Area Sampling - Unit Yield (ton/ha)

Nitrogen Application Method

IR64		IKAN		
Fertilizer	I	II	III	
F3	3.02	3.25	2.88	Basal-0, Top -30 (kg/ha)
F4	3.66	2.27	2.53	Basal-30, Top -0 (kg/ha)
F5	3.78	2.76	1.51	Basal-20, Top -10 (kg/ha)

Fertilizer	I	II	III	
F3	3.01	2.12	2.76	Basal-0, Top -30 (kg/ha)
F4	3.53	2.64	2.65	Basal-30, Top -0 (kg/ha)
F5	4.95	1.89	2.60	Basal-20, Top -10 (kg/ha)

Source	No. of Date	Total	Mean	Variance
F3	3	9.15	3.05	0.0349
F4	3	8.46	2.82	0.5461
F5	3	8.05	2.683333	1.292633333
I	3	10.46	3.486667	0.166933333
II	3	8.28	2.76	0.2401
III	3	6.92	2.306667	0.506633333

Source	No. of Date	Total	Mean	Variance
F3	3	7.89	2.63	0.2107
F4	3	8.82	2.94	0.2611
F5	3	9.44	3.146667	2.565033333
I	3	11.49	3.83	1.0084
II	3	6.65	2.216667	0.147633333
III	3	8.01	2.67	0.0067

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.206022	2	0.103011	0.254142738	0.787222	6.944276
Block	2.125956	2	1.062978	2.622514015	0.187199	6.944276
Residual	1.621311	4	0.405328			
Total	3.953289	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

22.3 (%)

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.405756	2	0.202878	0.422725642	0.681477	6.944276
Block	4.153956	2	2.076978	4.327688194	0.099901	6.944276
Residual	1.919711	4	0.479928			
Total	6.479422	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

23.8 (%)

Table E-7 Statistical Analysis of Unit Area Sampling (continued)

Yield Survey by Unit Area Sampling - Unit Yield (ton/ha)

Planting Method

Method	I	II	III	Total
P1	4.27	2.80	2.02	Random T.P.
	4.17	2.91	2.27	
P2	3.78	2.91	2.76	T.P. in a row
	3.92	2.78	1.95	
P3	2.88	1.25	0.50	Direct Seeding
	3.53	0.88	0.88	

Source I II III Total

No. of Data	2	2	2	6
Total	8.44	5.71	4.29	18.44
Mean	4.22	2.855	2.145	3.073333333
Variance	0.005	0.00605	0.03125	0.898186667

P2

No. of Data	2	2	2	6
Total	7.7	5.69	4.71	18.1
Mean	3.85	2.845	2.355	3.016666667
Variance	0.0098	0.00845	0.32805	0.533946667

P3

No. of Data	2	2	2	6
Total	6.41	2.13	1.38	9.92
Mean	3.205	1.065	0.69	1.653333333
Variance	0.21125	0.06845	0.0722	1.543106667

Total

No. of Data	6	6	6	6
Total	22.55	13.53	10.38	
Mean	3.758333	2.255	1.73	
Variance	0.256297	0.86627	0.74408	

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	7.756578	2	3.878289	47.13652937	1.7E-05	4.256492
Block	13.29954	2	6.649772	80.82099932	1.78E-06	4.256492
Interaction	0.836156	4	0.209039	2.540648211	0.112927	3.63309
Residual	0.7405	9	0.082278			

Total 22.63278 17

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

11.1 (%)

LSD (5%)

df=9

0.37

LSD (1%)

df=9

0.54

IKAN

Method	I	II	III	Total
P1	4.04	2.77	3.52	Random T.P.
	3.50	2.91	3.29	
P2	2.99	1.89	2.91	T.P. in a row
	2.39	2.28	2.91	
P3	1.92	1.27	2.44	Direct Seeding
	1.92	2.18	1.90	

Source I II III Total

No. of Data	2	2	2	6
Total	7.54	5.68	6.81	20.03
Mean	3.77	2.84	3.405	3.338333333
Variance	0.1458	0.0098	0.02645	0.212056667

P2

No. of Data	2	2	2	6
Total	5.38	4.17	5.82	15.37
Mean	2.69	2.085	2.91	2.561666667
Variance	0.18	0.07605	0	0.197216667

P3

No. of Data	2	2	2	6
Total	3.84	3.45	4.34	11.63
Mean	1.92	1.725	2.17	1.938333333
Variance	0	0.41405	0.1458	0.151776667

Total

No. of Data	6	6	6	6
Total	16.76	13.3	16.97	
Mean	2.793333	2.216667	2.828333	
Variance	0.756067	0.359027	0.343497	

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	5.903511	2	2.951756	26.62037176	0.000166	4.256492
Block	1.415811	2	0.707906	6.384237687	0.018787	4.256492
Interaction	0.391489	4	0.097872	0.882659452	0.511493	3.63309
Residual	0.99795	9	0.110883			

Total 8.708761 17

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

12.7 (%)

LSD (5%)

df=9

0.43

LSD (1%)

df=9

0.62

Table E-7 Statistical Analysis of Unit Area Sampling (continued)

Yield Survey by Unit Area Sampling - Unit Yield (ton/ha)

Weeding		IR64		
Method	I	II	III	Total
W1	3.13	3.88	2.63	18.82
	3.28	4.27	1.63	
W2	2.25	2.27	1.51	0.876866667
	2.91	3.14	1.63	

Source	I	II	III	Total
No. of Data	2	2	2	6
Total	6.41	8.15	4.26	18.82
Mean	3.205	4.075	2.13	3.136666667
Variance	0.01125	0.07605	0.5	0.876866667

W2	
No. of Data	2
Total	5.16
Mean	2.58
Variance	0.2178

Total	
No. of Data	4
Total	11.57
Mean	2.8925
Variance	0.206558

Analysis of Variance						
Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	2.176008	1	2.176008	10.96456015	0.016179	5.987374
Block	4.941217	2	2.470608	12.44900273	0.007323	5.143249
Interaction	0.405117	2	0.202558	1.020659248	0.415405	5.143249
Residual	1.19075	6	0.198458			
Total	8.713092	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation 16.4 (%)

LSD (5%) df=6 0.63  
LSD (1%) df=6 0.95

IKAN		Unit Yield (ton/ha)		
Method	I	II	III	Total
W1	3.97	2.68	2.56	18.1
	3.29	3.30	2.30	
W2	2.80	2.29	2.18	0.379866667
	2.18	3.80	1.76	

Source	I	II	III	Total
No. of Data	2	2	2	6
Total	7.26	5.98	4.86	18.1
Mean	3.63	2.99	2.43	3.016666667
Variance	0.2312	0.1922	0.0338	0.379866667

W2	
No. of Data	2
Total	4.98
Mean	2.49
Variance	0.1922

Total	
No. of Data	4
Total	12.24
Mean	3.06
Variance	0.574333

Analysis of Variance						
Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.795675	1	0.795675	2.542566506	0.161925	5.987374
Block	1.879617	2	0.939808	3.003142226	0.124804	5.143249
Interaction	0.71855	2	0.359275	1.148057412	0.378294	5.143249
Residual	1.87765	6	0.312942			
Total	5.271492	11				

Coefficient of variation 20.3 (%)

**Table E-8 Statistical Analysis of Yield Component Survey**

**Yield Component Survey - Unit Yield (ton/ha)**

**Type of Fertilizer**

Fertilizer	I	II	III
F1	2.32	1.60	1.30
F2	4.33	2.44	1.69
F7	3.14	2.00	2.75
F8	2.13	1.04	2.37

Control  
P-30, K-30 (kg/ha)  
N-60 (kg/ha)  
Organic Manure

IKAN

Fertilizer	I	II	III
F1	3.98	1.86	1.64
F2	3.61	2.23	2.59
F7	3.34	2.27	3.67
F8	2.10	2.19	2.44

Control  
P-30, K-30 (kg/ha)  
N-60 (kg/ha)  
Organic Manure

Source	No. of Date	Total	Mean	Variance
F1	3	5.22	1.74	0.2748
F2	3	8.46	2.82	1.8507
F7	3	7.89	2.63	0.3357
F8	3	5.54	1.846667	0.502433333
I	4	11.92	2.98	1.002066667
II	4	7.08	1.77	0.354533333
III	4	8.11	2.0275	0.427491667

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	2.675225	3	0.891742	1.998636559	0.215751	4.757055
Block	3.250217	2	1.625108	3.6423115	0.092131	5.143249
Residual	2.67705	6	0.446175			
Total	8.602492	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation 29.6 (%)

Source	No. of Date	Total	Mean	Variance
F1	3	7.48	2.493333	1.669733333
F2	3	8.43	2.81	0.5124
F7	3	9.28	3.093333	0.535633333
F8	3	6.73	2.243333	0.031033333
I	4	13.03	3.2575	0.664291667
II	4	8.55	2.1375	0.035291667
III	4	10.34	2.585	0.6971

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	1.235	3	0.411667	0.835857261	0.521467	4.757055
Block	2.54255	2	1.271275	2.58122536	0.155301	5.143249
Residual	2.95505	6	0.492508			
Total	6.7326	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation 26.4 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Unit Yield (ton/ha)

Nitrogen Level

Fertilizer	I	II	III
F1	2.32	1.60	1.30
F5	4.33	2.22	2.13
F6	4.05	1.86	2.08
F7	3.14	2.00	2.75
			Control
			Basal- 20, Top -10 (kg/ha)
			Basal- 30, Top -15 (kg/ha)
			Basal- 40, Top -20 (kg/ha)

Fertilizer	I	II	III
F1	3.98	1.86	1.64
F5	3.66	1.48	2.99
F6	4.24	2.03	2.07
F7	3.34	2.27	3.67
			Control
			Basal- 20, Top -10 (kg/ha)
			Basal- 30, Top -15 (kg/ha)
			Basal- 40, Top -20 (kg/ha)

Source	No. of Data	Total	Mean	Variance
F1	3	5.22	1.74	0.2748
F5	3	8.68	2.893333	1.550033333
F6	3	7.99	2.663333	1.454233333
F7	3	7.89	2.63	0.3357
I	4	13.84	3.46	0.835666667
II	4	7.68	1.92	0.067466667
III	4	8.26	2.065	0.352966667

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	2.323633	3	0.774544	3.216843563	0.103903	4.757055
Block	5.784867	2	2.892433	12.01287494	0.007979	5.143249
Residual	1.444667	6	0.240778			
Total	9.553167	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

19.8 (%)

Source	No. of Data	Total	Mean	Variance
F1	3	7.48	2.493333	1.669733333
F5	3	8.13	2.71	1.2469
F6	3	8.34	2.78	1.5991
F7	3	9.28	3.093333	0.535633333
I	4	15.22	3.805	0.152366667
II	4	7.64	1.91	0.110466667
III	4	10.37	2.5925	0.833091667

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.554358	3	0.184786	0.405615682	0.75469	4.757055
Block	7.369317	2	3.684658	8.088027804	0.019806	5.143249
Residual	2.733417	6	0.455569			
Total	10.65709	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

24.4 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Unit Yield (ton/ha)**

**Nitrogen Application Method**

IR64

Fertilizer	I	II	III
F3	2.84	3.38	3.07
F4	3.40	1.90	1.35
F5	4.33	2.22	2.13

Basal-0, Top -30 (kg/ha)  
Basal-30, Top -0 (kg/ha)  
Basal-20, Top -10 (kg/ha)

IKAN

Fertilizer	I	II	III
F3	2.83	2.28	2.90
F4	2.99	2.37	3.60
F5	3.66	1.48	2.99

Basal-0, Top -30 (kg/ha)  
Basal-30, Top -0 (kg/ha)  
Basal-20, Top -10 (kg/ha)

Source	No. of Data	Total	Mean	Variance
F3	3	9.29	3.096667	0.073433333
F4	3	6.65	2.216667	1.125833333
F5	3	8.68	2.893333	1.550033333
I	3	10.57	3.523333	0.566433333
II	3	7.5	2.5	0.6064
III	3	6.55	2.183333	0.741733333

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	1.273622	2	0.636811	0.996765161	0.445404	6.944276
Block	2.943089	2	1.471544	2.303227014	0.215999	6.944276
Residual	2.555511	4	0.638878			
Total	6.772222	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

29.2 (%)

Source	No. of Data	Total	Mean	Variance
F3	3	8.01	2.67	0.1153
F4	3	8.96	2.986667	0.378233333
F5	3	8.13	2.71	1.2469
I	3	9.48	3.16	0.1939
II	3	6.13	2.043333	0.240033333
III	3	9.49	3.163333	0.145033333

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.178422	2	0.089211	0.364308725	0.715569	6.944276
Block	2.501356	2	1.250678	5.107355143	0.079185	6.944276
Residual	0.979511	4	0.244878			
Total	3.659289	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

17.7 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Number of grains per panicle**

**Type of Fertilizer**

Fertilizer	I	II	III
F1	53.0	32.6	41.4
F2	74.8	53.5	38.4
F7	56.3	49.5	58.9
F8	48.0	30.6	54.7

**IKAN**

Fertilizer	I	II	III
F1	105.3	61.9	54.5
F2	76.2	72.1	66.4
F7	79.1	63.8	78.7
F8	61.8	72.1	58.4

Source	No. of Data	Total	Mean	Variance
F1	3	127	42.3333	104.6933333
F2	3	166.7	55.56667	334.4433333
F7	3	164.7	54.9	23.56
F8	3	133.3	44.43333	154.7433333
I	4	232.1	58.025	136.7091667
II	4	166.2	41.55	135.3366667
III	4	193.4	48.35	99.64333333

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	428.5492	3	142.8497	1.24847115	0.372369	4.757055
Block	548.3617	2	274.1808	2.396272496	0.171823	5.143249
Residual	686.5183	6	114.4197			
<b>Total</b>	<b>1663.429</b>	<b>11</b>				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

21.7 (%)

Source	No. of Data	Total	Mean	Variance
F1	3	221.7	73.9	753.16
F2	3	214.7	71.56667	24.22333333
F7	3	221.6	73.86667	76.04333333
F8	3	192.3	64.1	50.89
I	4	322.4	80.6	328.38
II	4	269.9	67.475	29.1225
III	4	258	64.5	114.1533333

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	193.4358	3	64.47861	0.316710305	0.813368	4.757055
Block	587.1017	2	293.5508	1.441882391	0.308079	5.143249
Residual	1221.532	6	203.5886			
<b>Total</b>	<b>2002.069</b>	<b>11</b>				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

20.1 (%)



Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Number of grains per panicle**

**Nitrogen Level**

Fertilizer	I	II	III
F1	53.0	32.6	41.4
F5	65.8	53.4	46.6
F6	59.0	50.8	55.5
F7	56.3	49.5	58.9
			Control
			Basal- 20, Top -10 (kg/ha)
			Basal- 30, Top -15 (kg/ha)
			Basal- 40, Top -20 (kg/ha)

Fertilizer	I	II	III
F1	105.3	61.9	54.5
F5	83.4	54.3	81.6
F6	102.5	59.2	81.3
F7	79.1	63.8	78.7
			Control
			Basal- 20, Top -10 (kg/ha)
			Basal- 30, Top -15 (kg/ha)
			Basal- 40, Top -20 (kg/ha)

Source	No. of Data	Total	Mean	Variance
F1	3	127	42.3333	104.6933333
F5	3	165.8	55.26667	94.77333333
F6	3	165.3	55.1	16.93
F7	3	164.7	54.9	23.56
I	4	234.1	58.525	29.5425
II	4	186.3	46.575	89.42916667
III	4	202.4	50.6	64.51333333

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	366.2867	3	122.0956	3.977737758	0.070843	4.757055
Block	295.745	2	147.8725	4.817522013	0.056514	5.143249
Residual	184.1683	6	30.69472			
Total	846.2	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

10.7 (%)

Source	No. of Data	Total	Mean	Variance
F1	3	221.7	73.9	753.16
F5	3	219.3	73.1	265.89
F6	3	243	81	468.79
F7	3	221.6	73.86667	76.04333333
I	4	370.3	92.575	175.3958333
II	4	239.2	59.8	17.00666667
III	4	296.1	74.025	171.1291667

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	123.7	3	41.23333	0.255870596	0.854702	4.757055
Block	2160.872	2	1080.436	6.704569783	0.029542	5.143249
Residual	966.895	6	161.1492			
Total	3251.467	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

16.8 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Number of grains per panicle**

**Nitrogen Application Method**

IR64

Fertilizer	I	II	III
F3	50.2	57.8	56.8
F4	58.3	41.9	43.7
F5	65.8	53.4	46.6

Basal-0, Top -30 (kg/ha)  
Basal-30, Top -0 (kg/ha)  
Basal-20, Top -10 (kg/ha)

IKAN

Fertilizer	I	II	III
F3	83.2	71.7	67.3
F4	91.0	64.9	77.5
F5	83.4	54.3	81.6

Basal-0, Top -30 (kg/ha)  
Basal-30, Top -0 (kg/ha)  
Basal-20, Top -10 (kg/ha)

Source	No. of Date	Total	Mean	Variance
F3	3	164.8	54.93333	17.05333333
F4	3	143.9	47.96667	80.89333333
F5	3	165.8	55.26667	94.77333333
I	3	174.3	58.1	60.87
II	3	153.1	51.03333	67.40333333
III	3	147.1	49.03333	47.34333333

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	101.9356	2	50.96778	0.817781502	0.503785	6.944276
Block	136.1422	2	68.07111	1.092205662	0.418334	6.944276
Residual	249.2978	4	62.32444			
<b>Total</b>	<b>487.3756</b>	<b>8</b>				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

15.0 (%)

Source	No. of Date	Total	Mean	Variance
F3	3	222.2	74.06667	67.40333333
F4	3	233.4	77.8	170.37
F5	3	219.3	73.1	265.89
I	3	257.6	85.86667	19.77333333
II	3	190.9	63.63333	76.89333333
III	3	226.4	75.46667	54.22333333

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	36.96222	2	18.48111	0.279152121	0.77004	6.944276
Block	742.5089	2	371.2544	5.607696697	0.069112	6.944276
Residual	264.8178	4	66.20444			
<b>Total</b>	<b>1044.289</b>	<b>8</b>				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

10.9 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Number of panicles per hill

Type of Fertilizer

Fertilizer	I	II	III
F1	11.2	11.9	7.7
F2	14.4	11.5	10.7
F7	13.5	9.5	11.7
F8	10.9	8.7	10.7

IR64

Control  
P-30, K-30 (kg/ha)  
N-60 (kg/ha)  
Organic Manure

Fertilizer	I	II	III
F1	9.2	7.6	7.3
F2	11.9	7.9	9.4
F7	10.3	8.7	11.7
F8	8.3	7.4	10.3

IKAN

Control  
P-30, K-30 (kg/ha)  
N-60 (kg/ha)  
Organic Manure

Source	No. of Data	Total	Mean	Variance
F1	3	30.8	10.26667	5.063333333
F2	3	36.6	12.2	3.79
F7	3	34.7	11.56667	4.013333333
F8	3	30.3	10.1	1.48
I	4	50	12.5	2.953333333
II	4	41.6	10.4	2.386666667
III	4	40.8	10.2	3

Analysis of Variance						
Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	9.313333	3	3.104444	1.185908319	0.391231	4.757055
Block	12.98667	2	6.493333	2.480475382	0.164025	5.143249
Residual	15.70667	6	2.617778			
Total	38.00667	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

14.7 (%)

Source	No. of Data	Total	Mean	Variance
F1	3	24.1	8.033333	1.043333333
F2	3	29.2	9.733333	4.083333333
F7	3	30.7	10.23333	2.253333333
F8	3	26	8.666667	2.203333333
I	4	39.7	9.925	2.4025
II	4	31.6	7.9	0.326666667
III	4	38.7	9.675	3.4025

Analysis of Variance						
Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	8.98	3	2.993333	1.907594264	0.229513	4.757055
Block	9.751667	2	4.875833	3.107275624	0.118528	5.143249
Residual	9.415	6	1.569167			
Total	28.14667	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

13.7 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Number of panicles per hill**

**Nitrogen Level**

Fertilizer	I	II	III
F1	11.2	11.9	7.7
F5	15.3	10.3	11.3
F6	17.1	8.7	9.2
F7	13.5	9.5	11.7

Control  
Basal- 20, Top -10 (kg/ha)  
Basal- 30, Top -15 (kg/ha)  
Basal- 40, Top -20 (kg/ha)

IKAN

Fertilizer	I	II	III
F1	9.2	7.6	7.3
F5	10.5	6.9	9.3
F6	9.9	8.7	6.3
F7	10.3	8.7	11.7

Control  
Basal- 20, Top -10 (kg/ha)  
Basal- 30, Top -15 (kg/ha)  
Basal- 40, Top -20 (kg/ha)

Source	No. of Data	Total	Mean	Variance
F1	3	30.8	10.26667	5.063333333
F5	3	36.9	12.3	7
F6	3	35	11.66667	22.20333333
F7	3	34.7	11.56667	4.013333333
I	4	57.1	14.275	6.3625
II	4	40.4	10.1	1.866666667
III	4	39.9	9.975	3.5025

Source	No. of Data	Total	Mean	Variance
F1	3	24.1	8.033333	1.043333333
F5	3	26.7	8.9	3.36
F6	3	24.9	8.3	3.36
F7	3	30.7	10.23333	2.253333333
I	4	39.9	9.975	0.329166667
II	4	31.9	7.975	0.7825
III	4	34.6	8.65	5.69

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	6.55	3	2.183333	0.457322395	0.721978	4.757055
Block	47.915	2	23.9575	5.018153255	0.052377	5.143249
Residual	28.645	6	4.774167			
<b>Total</b>	<b>83.11</b>	<b>11</b>				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

19.1 (%)

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	8.653333	3	2.884444	1.472698908	0.313509	4.757055
Block	8.281667	2	4.140833	2.114168203	0.201855	5.143249
Residual	11.75167	6	1.958611			
<b>Total</b>	<b>28.68667</b>	<b>11</b>				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

15.8 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Number of panicles per hill**

**Nitrogen Application Method**

Fertilizer	I	II	III
F3	14.1	14.8	13.5
F4	14.2	10.7	7.5
F5	15.3	10.3	11.3

Fertilizer	I	II	III
F3	8.5	7.9	10.1
F4	8.0	8.9	11.8
F5	10.5	6.9	9.3

Source	No. of Data	Total	Mean	Variance
F3	3	42.4	14.13333	0.423333333
F4	3	32.4	10.8	11.23
F5	3	36.9	12.3	7
I	3	43.6	14.53333	0.443333333
II	3	35.8	11.93333	6.203333333
III	3	32.3	10.76667	9.213333333

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	16.72222	2	8.361111	2.229959994	0.223557	6.944276
Block	22.30889	2	11.15444	2.974959253	0.161615	6.944276
Residual	14.99778	4	3.749444			
Total	54.02889	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

15.6 (%)

Source	No. of Data	Total	Mean	Variance
F3	3	26.5	8.833333	1.293333333
F4	3	28.7	9.566667	3.943333333
F5	3	26.7	8.9	3.36
I	3	27	9	1.75
II	3	23.7	7.9	1
III	3	31.2	10.4	1.63

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.986667	2	0.493333	0.253859348	0.78742	6.944276
Block	9.42	2	4.71	2.423670669	0.204406	6.944276
Residual	7.773333	4	1.943333			
Total	18.18	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

15.3 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - 1000-grain weight (g)**

**Type of Fertilizer**

Fertilizer	I	II	III
F1	24.4	25.8	25.4
F2	25.1	24.8	25.7
F7	25.8	26.6	24.9
F8	25.4	24.4	25.3

Control  
P-30, K-30 (kg/ha)  
N-60 (kg/ha)  
Organic Manure

IKAN

Fertilizer	I	II	III
F1	25.7	24.7	25.8
F2	24.9	24.5	25.9
F7	25.6	25.6	24.9
F8	25.6	25.6	25.4

Control  
P-30, K-30 (kg/ha)  
N-60 (kg/ha)  
Organic Manure

Source	No. of Data	Total	Mean	Variance
F1	3	75.6	25.2	0.52
F2	3	75.6	25.2	0.21
F7	3	77.3	25.76667	0.723333333
F8	3	75.1	25.03333	0.303333333
I	4	100.7	25.175	0.349166667
II	4	101.6	25.4	0.986666667
III	4	101.3	25.325	0.109166667

Source	No. of Data	Total	Mean	Variance
F1	3	76.2	25.4	0.37
F2	3	75.3	25.1	0.52
F7	3	76.1	25.36667	0.163333333
F8	3	76.6	25.53333	0.013333333
I	4	101.8	25.45	0.136666667
II	4	100.4	25.1	0.34
III	4	102	25.5	0.206666667

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.926667	3	0.308889	0.543765281	0.670054	4.757055
Block	0.105	2	0.0525	0.092420538	0.912994	5.143249
Residual	3.408333	6	0.568056			
Total	4.44	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation 3.0 (%)

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.296667	3	0.098889	0.338403042	0.798812	4.757055
Block	0.38	2	0.19	0.650190114	0.555159	5.143249
Residual	1.753333	6	0.292222			
Total	2.43	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation 2.1 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - 1000-grain weight (g)**

**Nitrogen Level**

Fertilizer	I	II	III	
F1	24.4	25.8	25.4	Control
F5	26.9	25.2	25.3	Basal- 20, Top -10 (kg/ha)
F6	25.1	26.3	25.4	Basal- 30, Top -15 (kg/ha)
F7	25.8	26.6	24.9	Basal- 40, Top -20 (kg/ha)

Fertilizer	I	II	III	
F1	25.7	24.7	25.8	Control
F5	26.1	24.7	24.6	Basal- 20, Top -10 (kg/ha)
F6	26.1	24.6	25.2	Basal- 30, Top -15 (kg/ha)
F7	25.6	25.6	24.9	Basal- 40, Top -20 (kg/ha)

Source	No. of Date	Total	Mean	Variance
F1	3	75.6	25.2	0.52
F5	3	77.4	25.8	0.91
F6	3	76.8	25.6	0.39
F7	3	77.3	25.76667	0.723333333
I	4	102.2	25.55	1.136666667
II	4	103.9	25.975	0.375833333
III	4	101	25.25	0.056666667

Source	No. of Date	Total	Mean	Variance
F1	3	76.2	25.4	0.37
F5	3	75.4	25.13333	0.703333333
F6	3	75.9	25.3	0.57
F7	3	76.1	25.36667	0.163333333
I	4	103.5	25.875	0.069166667
II	4	99.6	24.9	0.22
III	4	100.5	25.125	0.2625

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.6825	3	0.2275	0.339130435	0.798326	4.757055
Block	1.061667	2	0.530833	0.791304348	0.495448	5.143249
Residual	4.025	6	0.670833			
Total	5.769167	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

3.2 (%)

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.126667	3	0.042222	0.165757906	0.91564	4.757055
Block	2.085	2	1.0425	4.092693566	0.075671	5.143249
Residual	1.528333	6	0.254722			
Total	3.74	11				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

2.0 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - 1000-grain weight (g)**

**Nitrogen Application Method**

Fertilizer	I	II	III
F3	25.1	24.7	25.0
F4	25.7	26.5	25.8
F5	26.9	25.2	25.3

Fertilizer	I	II	III
F3	25.0	25.2	26.7
F4	25.7	25.6	24.6
F5	26.1	24.7	24.6

Source	No. of Data	Total	Mean	Variance
F3	3	74.8	24.93333	0.043333333
F4	3	78	26	0.19
F5	3	77.4	25.8	0.91
I	3	77.7	25.9	0.84
II	3	76.4	25.46667	0.863333333
III	3	76.1	25.36667	0.163333333

Source	No. of Data	Total	Mean	Variance
F3	3	76.9	25.63333	0.863333333
F4	3	75.9	25.3	0.37
F5	3	75.4	25.13333	0.703333333
I	3	76.8	25.6	0.31
II	3	75.5	25.16667	0.203333333
III	3	75.9	25.3	1.47

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	1.928889	2	0.964444	2.137931034	0.233611	6.944276
Block	0.482222	2	0.241111	0.534482759	0.622704	6.944276
Residual	1.804444	4	0.451111			
Total	4.215556	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

2.6 (%)

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	0.388889	2	0.194444	0.217391304	0.813533	6.944276
Block	0.295556	2	0.147778	0.165217391	0.853212	6.944276
Residual	3.577778	4	0.894444			
Total	4.262222	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

3.7 (%)



Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Ripened grain ratio (%)**

**Type of Fertilizer**

Fertilizer	I	II	III
F1	91.0	90.4	88.7
F2	93.0	93.9	84.8
F7	90.4	86.8	91.2
F8	90.9	87.0	88.2

Control  
P-30, K-30 (kg/ha)  
N-60 (kg/ha)  
Organic Manure

**IKAN**

Fertilizer	I	II	III
F1	84.0	75.0	68.0
F2	71.2	77.5	77.4
F7	76.6	68.0	71.9
F8	75.8	76.6	74.3

Control  
P-30, K-30 (kg/ha)  
N-60 (kg/ha)  
Organic Manure

Source	No. of Data	Total	Mean	Variance
F1	3	270.1	90.03333	1.423333333
F2	3	271.7	90.56667	25.14333333
F7	3	268.4	89.46667	5.493333333
F8	3	266.1	88.7	3.99
I	4	365.3	91.325	1.315833333
II	4	358.1	89.525	11.23583333
III	4	352.9	88.225	6.935833333

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	5.749167	3	1.916389	0.218129506	0.880444	4.757055
Block	19.38667	2	9.693333	1.103326167	0.390801	5.143249
Residual	52.71333	6	8.785556			
<b>Total</b>	<b>77.84917</b>	<b>11</b>				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation 3.3 (%)

Source	No. of Data	Total	Mean	Variance
F1	3	227	75.66667	64.33333333
F2	3	226.1	75.36667	13.02333333
F7	3	216.5	72.16667	18.54333333
F8	3	226.7	75.56667	1.363333333
I	4	307.6	76.9	28.06666667
II	4	297.1	74.275	18.56916667
III	4	291.6	72.9	15.74

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	25.6425	3	8.5475	0.317583677	0.81278	4.757055
Block	33.04167	2	16.52083	0.613834102	0.572083	5.143249
Residual	161.485	6	26.91417			
<b>Total</b>	<b>220.1692</b>	<b>11</b>				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation 6.9 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Ripened grain ratio (%)**

**Nitrogen Level**

Fertilizer	I	II	III
F1	91.0	90.4	88.7
F5	91.7	93.7	91.3
F6	91.1	91.8	92.7
F7	90.4	86.8	91.2

Control  
Basal- 20, Top -10 (kg/ha)  
Basal- 30, Top -15 (kg/ha)  
Basal- 40, Top -20 (kg/ha)

**IKAN**

Fertilizer	I	II	III
F1	84.0	75.0	68.0
F5	67.9	65.3	69.4
F6	84.4	66.2	75.2
F7	76.6	68.0	71.9

Control  
Basal- 20, Top -10 (kg/ha)  
Basal- 30, Top -15 (kg/ha)  
Basal- 40, Top -20 (kg/ha)

Source	No. of Data	Total	Mean	Variance
F1	3	270.1	90.0333	1.423333333
F5	3	276.7	92.2333	1.653333333
F6	3	275.6	91.8667	0.643333333
F7	3	268.4	89.4667	5.493333333
I	4	364.2	91.05	0.283333333
II	4	362.7	90.675	8.5025
III	4	363.9	90.975	2.769166667

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	16.55333	3	5.51778	1.827919389	0.242505	4.757055
Block	0.315	2	0.1575	0.052176314	0.949587	5.143249
Residual	18.11167	6	3.018611			

Total 34.98 11

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

1.9 (%)

Source	No. of Data	Total	Mean	Variance
F1	3	227	75.6667	64.33333333
F5	3	202.6	67.53333	4.303333333
F6	3	225.8	75.26667	82.81333333
F7	3	216.5	72.16667	18.54333333
I	4	312.9	78.225	60.2425
II	4	274.5	68.625	19.3225
III	4	284.5	71.125	9.9825

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	127.0825	3	42.36083	1.795457756	0.248072	4.757055
Block	198.4267	2	99.21333	4.205142696	0.072183	5.143249
Residual	141.56	6	23.59333			

Total 467.0692 11

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

6.7 (%)

**Table E-8 Statistical Analysis of Yield Component Survey (continued)**

**Yield Component Survey - Ripened grain ratio (%)**

**Nitrogen Application Method**

Fertilizer	I	II	III
F3	85.8	91.3	92.9
F4	89.8	90.8	88.0
F5	91.7	93.7	91.3

Basal-0, Top -30 (kg/ha)  
Basal-30, Top -0 (kg/ha)  
Basal-20, Top -10 (kg/ha)

IKAN

Fertilizer	I	II	III
F3	90.1	51.2	73.5
F4	87.5	77.2	69.6
F5	67.9	65.3	69.4

Basal-0, Top -30 (kg/ha)  
Basal-30, Top -0 (kg/ha)  
Basal-20, Top -10 (kg/ha)

Source	No. of Date	Total	Mean	Variance
F3	3	270	90	13.87
F4	3	268.6	89.53333	2.013333333
F5	3	276.7	92.23333	1.653333333
I	3	267.3	89.1	9.07
II	3	275.8	91.93333	2.403333333
III	3	272.2	90.73333	6.243333333

Source	No. of Date	Total	Mean	Variance
F3	3	214.8	71.6	381.01
F4	3	234.3	78.1	80.71
F5	3	202.6	67.53333	4.303333333
I	3	245.5	81.83333	147.29333333
II	3	193.7	64.56667	169.40333333
III	3	212.5	70.83333	5.343333333

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	12.49556	2	6.247778	1.089517535	0.419062	6.944276
Block	12.13556	2	6.067778	1.05812827	0.427709	6.944276
Residual	22.93778	4	5.734444			
Total	47.56889	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

2.6 (%)

**Analysis of Variance**

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	170.4422	2	85.22111	0.719715488	0.540771	6.944276
Block	458.4089	2	229.2044	1.935693943	0.258236	6.944276
Residual	473.6378	4	118.4094			
Total	1102.489	8				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

15.0 (%)

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Plant height (cm)

Type of Fertilizer

Fertilizer	I	II	III	Total
F1	84	76	86	Control
	84	70	88	
	76	76	70	
	76	74	73	
	81	72	85	
F2	94	82	79	P-30, K-30 (kg/ha)
	97	81	85	
	87	84	82	
	99	81	79	
	92	83	86	
F7	83	78	83	N-60 (kg/ha)
	88	83	86	
	85	80	77	
	88	76	79	
	97	79	80	
F8	80	75	76	Organic Manure
	82	78	80	
	83	78	72	
	80	77	71	
	85	70	80	

Source	I	II	III	Total
No. of Data	5	5	5	15
Total	401	368	402	1171
Mean	80.2	73.6	80.4	78.06666667
Variance	16.2	6.8	68.3	36.78095238

Fertilizer	I	II	III	Total
F1	160	138	162	Control
	140	137	169	
	151	137	164	
	147	143	150	
	139	140	166	
F2	128	140	169	P-30, K-30 (kg/ha)
	127	127	159	
	137	144	171	
	145	146	174	
	136	140	158	
F7	144	146	202	N-60 (kg/ha)
	158	140	179	
	155	139	186	
	150	150	190	
	154	145	188	
F8	151	146	160	Organic Manure
	138	139	158	
	161	142	142	
	143	140	148	
	140	143	156	

Source	I	II	III	Total
No. of Data	5	5	5	15
Total	737	695	811	2243
Mean	147.4	139	162.2	149.5333333
Variance	74.3	6.5	53.2	136.8380952

F2

No. of Data	5	5	5	15
Total	469	411	411	1291
Mean	93.8	82.2	82.2	86.06666667
Variance	21.7	1.7	10.7	41.78095238

F7

No. of Data	5	5	5	15
Total	441	396	405	1242
Mean	88.2	79.2	81	82.8
Variance	28.7	6.7	12.5	29.88571429

F8

No. of Data	5	5	5	15
Total	410	378	379	1167
Mean	82	75.6	75.8	77.8
Variance	4.5	11.3	18.2	19.17142857

F1  
28

Total

No. of Data	20	20	20
Total	1721	1553	1597
Mean	86.05	77.65	79.85
Variance	45.31316	17.08158	29.29211

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	714.3167	3	238.1056	13.78324489	1.3E-06	2.79806
Block	758.9333	2	379.4667	21.96623251	1.68E-07	3.190721
Interaction	198.5333	6	33.08889	1.915420486	0.097456	2.294598
Residual	829.2	48	17.275			

Total 2500.983

59

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

5.1 (%)

LSD (5%)

df=48

3.07

LSD (1%)

df=48

4.10

F2

No. of Data	5	5	5	15
Total	673	697	831	2201
Mean	134.6	139.4	166.2	146.7333333
Variance	54.3	54.8	52.7	253.352381

F7

No. of Data	5	5	5	15
Total	761	720	945	2426
Mean	152.2	144	189	161.7333333
Variance	29.2	20.5	70	444.4952381

F8

No. of Data	5	5	5	15
Total	733	710	764	2207
Mean	146.6	142	152.8	147.1333333
Variance	89.3	7.5	57.2	64.98095238

Total

No. of Data	20	20	20
Total	2904	2822	3351
Mean	145.2	141.1	167.55
Variance	96.27368	23.14737	235.4184

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	2252.85	3	750.95	15.82335382	2.75E-07	2.79806
Block	8106.233	2	4053.117	85.40368745	1.54E-16	3.190721
Interaction	2211.1	6	368.5167	7.765057068	7.28E-06	2.294598
Residual	2278	48	47.45833			

Total 14848.18

59

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

4.6 (%)

LSD (5%)

df=48

5.08

LSD (1%)

df=48

6.80

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Plant height (cm)

Nitrogen Level  
IR64

Fertilizer	I	II	III	Total
F1	84	76	86	Control
	84	70	88	
	76	76	70	
	76	74	73	
	81	72	85	
F5	93	71	85	Basal- 20, Top -10 (kg/ha)
	92	72	94	
	89	72	96	
	96	73	92	
	94	73	80	
F6	95	81	80	Basal- 30, Top -15 (kg/ha)
	95	81	82	
	94	75	84	
	92	76	72	
	93	80	74	
F7	83	78	83	Basal- 40, Top -20 (kg/ha)
	88	83	86	
	85	80	77	
	88	76	79	
	97	79	80	

IKAN

Fertilizer	I	II	III	Total
F1	160	138	162	Control
	140	137	169	
	151	137	164	
	147	143	150	
	139	140	166	
F5	133	140	179	Basal- 20, Top -10 (kg/ha)
	141	121	163	
	140	122	168	
	134	151	176	
	131	131	174	
F6	164	131	138	Basal- 30, Top -15 (kg/ha)
	140	151	138	
	145	147	149	
	144	135	126	
	145	163	150	
F7	144	146	202	Basal- 40, Top -20 (kg/ha)
	158	140	179	
	155	139	186	
	150	150	190	
	154	145	188	

Source	I	II	III	Total
No. of Data	5	5	5	15
Total	401	368	402	1171
Mean	80.2	73.6	80.4	78.06666667
Variance	16.2	6.8	68.3	36.78095238

Source	I	II	III	Total
No. of Data	5	5	5	15
Total	737	695	811	2243
Mean	147.4	139	162.2	149.5333333
Variance	74.3	6.5	53.2	136.8380952

F5

No. of Data	5	5	5	15
Total	464	361	447	1272
Mean	92.8	72.2	89.4	84.8
Variance	6.7	0.7	44.8	102.0285714

F6

No. of Data	5	5	5	15
Total	469	393	392	1254
Mean	93.8	78.6	78.4	83.6
Variance	1.7	8.3	26.8	66.25714286

F7

No. of Data	5	5	5	15
Total	441	396	405	1242
Mean	88.2	79.2	81	82.8
Variance	28.7	6.7	12.5	29.88571429

F1, 30

Total

No. of Data	20	20	20
Total	1775	1518	1646
Mean	88.75	75.9	82.3
Variance	41.56579	14.51579	50.74737

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	391.65	3	130.55	6.865030675	0.000611	2.79806
Block	1651.233	2	825.6167	43.41542507	1.72E-11	3.190721
Interaction	725.3	6	120.8833	6.356704645	5.66E-05	2.294598
Residual	912.8	48	19.01667			
Total	3680.983	59				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

	5.3 (%)
LSD (5%)	df=48
LSD (1%)	df=48

F5

No. of Data	5	5	5	15
Total	679	665	860	2204
Mean	135.8	133	172	146.9333333
Variance	19.7	160.5	41.5	401.352381

F6

No. of Data	5	5	5	15
Total	738	727	701	2166
Mean	147.6	145.4	140.2	144.4
Variance	88.3	164.8	96.2	110.1142857

F7

No. of Data	5	5	5	15
Total	761	720	945	2426
Mean	152.2	144	189	161.7333333
Variance	29.2	20.5	70	444.4952381

Total

No. of Data	20	20	20
Total	2915	2807	3317
Mean	145.75	140.35	165.85
Variance	83.14474	99.08158	382.5553

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	2654.45	3	884.8167	12.87474233	2.7E-06	2.79806
Block	7222.8	2	3611.4	52.54856311	8.14E-13	3.190721
Interaction	4777.6	6	796.2667	11.5862738	5.59E-08	2.294598
Residual	3298.8	48	68.725			
Total	17953.65	59				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

	5.5 (%)
LSD (5%)	df=48
LSD (1%)	df=48

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Plant height (cm)

Nitrogen Application Method

IR64

Fertilizer	I	II	III	
F3	90	83	84	Basal-0, Top -30 (kg/ha)
	89	82	84	
	94	79	82	
	90	82	75	
	88	78	76	
F4	90	77	76	Basal-30, Top -0 (kg/ha)
	89	73	80	
	90	71	71	
	94	76	82	
	95	75	89	
F5	93	71	85	Basal-20, Top -10 (kg/ha)
	92	72	94	
	89	72	96	
	96	73	92	
	94	73	80	

Source	I	II	III	Total
F3				
No. of Data	5	5	5	15
Total	451	404	401	1256
Mean	90.2	80.8	80.2	83.73333333
Variance	5.2	4.7	19.2	30.78095238

Fertilizer	I	II	III	
F3	162	165	154	Basal-0, Top -30 (kg/ha)
	155	158	184	
	155	159	207	
	144	155	179	
	159	136	188	
F4	146	167	216	Basal-30, Top -0 (kg/ha)
	154	147	190	
	146	151	194	
	153	144	180	
	154	137	182	
F5	133	140	179	Basal-20, Top -10 (kg/ha)
	141	121	163	
	140	122	168	
	134	151	176	
	131	131	174	

Source	I	II	III	Total
F3				
No. of Data	5	5	5	15
Total	775	773	912	2460
Mean	155	154.6	182.4	164
Variance	46.5	121.3	364.3	333.4285714



F4

No. of Data	5	5	5	15
Total	458	372	398	1228
Mean	91.6	74.4	79.6	81.86666667
Variance	7.3	5.8	45.3	72.26666667

F5

No. of Data	5	5	5	15
Total	464	361	447	1272
Mean	92.8	72.2	89.4	84.8
Variance	6.7	0.7	44.8	102.0285714

Total

No. of Data	15	15	15	15
Total	1373	1137	1246	4756
Mean	91.53333	75.8	83.06667	83.46667
Variance	6.695238	17.45714	52.78095	25.11111

F4

No. of Data	5	5	5	15
Total	753	746	962	2461
Mean	150.6	149.2	192.4	164.0666667
Variance	17.8	125.2	206.8	530.352381

F5

No. of Data	5	5	5	15
Total	679	665	860	2204
Mean	135.8	133	172	146.9333333
Variance	19.7	160.5	41.5	401.352381

Total

No. of Data	15	15	15	15
Total	2207	2184	2734	7125
Mean	147.1333	145.6	182.2667	158.33333
Variance	96.26667	206.5429	249.3524	148.66667

F1 - 32

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	66.13333	2	33.06667	2.13027917	0.133539	3.259444
Block	1860.133	2	930.0667	59.91839656	3.51E-12	3.259444
Interaction	452.1333	4	113.0333	7.282032928	0.00021	2.633534
Residual	558.8	36	15.52222			

Total

2937.2

44

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

4.7 (%)

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	2924.133	2	1462.067	11.92334179	0.000106	3.259444
Block	12905.73	2	6452.867	52.62395796	2.06E-11	3.259444
Interaction	391.7333	4	97.93333	0.798658934	0.534019	2.633534
Residual	4414.4	36	122.6222			

Total

20636

44

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

7.0 (%)

LSD (5%)

df=36

8.26

LSD (1%)

df=36

11.12

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Unit Yield (ton/ha)**

**Planting Method**

Method	I	II	III
P1	3.94	2.93	2.52
P2	2.94	2.34	2.31
P3			

IR64  
Random T.P.  
T.P. in a row  
Direct Seeding

Method	I	II	III
P1	3.38	1.89	2.28
P2	2.37	1.95	2.08
P3			

IKAN  
Random T.P.  
T.P. in a row  
Direct Seeding

F-test

	P1	P2
Mean	3.13	2.53
Variance	0.5341	0.1263
No. of Data	3	3
D.F.	2	2
F-ratio	4.22882	
P-value	0.191248	
F-Prob.	39.00004	

Equal Variance

F-test

	P1	P2
Mean	2.516667	2.133333
Variance	0.597033	0.046233
No. of Data	3	3
D.F.	2	2
F-ratio	12.91348	
P-value	0.071873	
F-Prob.	39.00004	

Equal Variance

33

t-test

	P1	P2
Mean	3.13	2.53
Variance	0.5341	0.1263
No. of Data	3	3
S.S.	0.3302	
dif. with hypothesis	0	
D.F.	4	
t	1.278817	
P-value (one side)	0.135057	
t-value (one side)	2.131846	
P-value (both sides)	0.270115	
t-value (both sides)	2.776451	

Not Significant

t-test

	P1	P2
Mean	2.516667	2.133333
Variance	0.597033	0.046233
No. of Data	3	3
S.S.	0.321633	
dif. with hypothesis	0	
D.F.	4	
t	0.827831	
P-value (one side)	0.227149	
t-value (one side)	2.131846	
P-value (both sides)	0.454297	
t-value (both sides)	2.776451	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Number of grains per panicle

Planting Method

Method	I	II	III
P1	54.8	53.8	39.5
P2	62.0	46.0	57.0
P3			

IR64  
Random T.P.  
T.P. in a row  
Direct Seeding

Method	I	II	III
P1	82.2	59.2	60.6
P2	72.5	60.3	59.4
P3			

IKAN  
Random T.P.  
T.P. in a row  
Direct Seeding

F-test

	P1	P2
Mean	49.36667	55
Variance	73.26333	67
No. of Data	3	3
D.F.	2	2
F-ratio	1.093483	
P-value	0.477673	
F-Prob.	39.00004	

Equal Variance

t-test

	P1	P2
Mean	49.36667	55
Variance	73.26333	67
No. of Data	3	3
S.S.	70.13167	
dif. with hypothesis	0	
D.F.	4	
t	-0.82386	
P-value (one side)	0.228153	
t-value (one side)	2.131846	
P-value (both sides)	0.456306	
t-value (both sides)	2.776451	

Not Significant

F-test

	P1	P2
Mean	67.33333	64.06667
Variance	166.2533	53.54333
No. of Data	3	3
D.F.	2	2
F-ratio	3.105024	
P-value	0.243604	
F-Prob.	39.00004	

Equal Variance

t-test

	P1	P2
Mean	67.33333	64.06667
Variance	166.2533	53.54333
No. of Data	3	3
S.S.	109.8983	
dif. with hypothesis	0	
D.F.	4	
t	0.381641	
P-value (one side)	0.361068	
t-value (one side)	2.131846	
P-value (both sides)	0.722135	
t-value (both sides)	2.776451	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Number of panicles per hill

Planting Method

Method	I	II	III
P1	10.6	8.8	10.1
P2	11.7	12.2	9.9
P3			

Random T.P.  
T.P. in a row  
Direct Seeding

Method	I	II	III
P1	7.9	6.2	7.0
P2	8.0	8.2	8.5
P3			

Random T.P.  
T.P. in a row  
Direct Seeding

F-test

	P1	P2
Mean	9.833333	11.26667
Variance	0.863333	1.463333
No. of Data	3	3
D.F.	2	2
F-ratio	0.589977	
P-value	0.37106	
F-Prob.	0.025641	

Unequal Variance

t-test

	P1	P2
Mean	9.833333	11.26667
Variance	0.863333	1.463333
No. of Data	3	3
dif. with hypothesis	0	4
D.F.		
t	-1.62757	
P-value (one side)	0.089472	
t-value (one side)	2.131846	
P-value (both sides)	0.178945	
t-value (both sides)	2.776451	

Not Significant

F-test

	P1	P2
Mean	7.033333	8.233333
Variance	0.723333	0.063333
No. of Data	3	3
D.F.	2	2
F-ratio	11.42105	
P-value	0.080508	
F-Prob.	39.00004	

Equal Variance

t-test

	P1	P2
Mean	7.033333	8.233333
Variance	0.723333	0.063333
No. of Data	3	3
S.S.	0.393333	
dif. with hypothesis	0	4
D.F.		
t	-2.3434	
P-value (one side)	0.039542	
t-value (one side)	2.131846	
P-value (both sides)	0.079084	
t-value (both sides)	2.776451	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - 1000-grain weight (g)**

**Planting Method**

Method	I	II	III
P1	26.5	24.1	24.5
P2	25.1	25.9	25.5
P3			

Random T.P.  
T.P. in a row  
Direct Seeding

Method	I	II	III
P1	24.3	24.0	25.0
P2	24.8	24.0	25.2
P3			

Random T.P.  
T.P. in a row  
Direct Seeding

F-test

	P1	P2
Mean	25.03333	25.5
Variance	1.653333	0.16
No. of Data	3	3
D.F.	2	2
F-ratio	10.33333	
P-value	0.088235	
F-Prob.	39.00004	

Equal Variance

t-test

	P1	P2
Mean	25.03333	25.5
Variance	1.653333	0.16
No. of Data	3	3
S.S.	0.906667	
dif. with hypothesis	0	
D.F.	4	
t	-0.60025	
P-value (one side)	0.290347	
t-value (one side)	2.131846	
P-value (both sides)	0.580693	
t-value (both sides)	2.776451	

Not Significant

F-test

	P1	P2
Mean	24.43333	24.66667
Variance	0.263333	0.373333
No. of Data	3	3
D.F.	2	2
F-ratio	0.705357	
P-value	0.413613	
F-Prob.	0.025641	

Unequal Variance

t-test

	P1	P2
Mean	24.43333	24.66667
Variance	0.263333	0.373333
No. of Data	3	3
dif. with hypothesis	0	
D.F.	4	
t	-0.5065	
P-value (one side)	0.319574	
t-value (one side)	2.131846	
P-value (both sides)	0.639147	
t-value (both sides)	2.776451	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Ripened grain ratio (%)**

**Planting Method**

Method	I	II	III
P1	87.9	91.6	86.1
P2	86.8	85.7	88.4
P3			

IR64  
Random T.P.  
T.P. in a row  
Direct Seeding

Method	I	II	III
P1	75.9	69.4	78.2
P2	76.7	75.2	77.5
P3			

IKAN  
Random T.P.  
T.P. in a row  
Direct Seeding

F-test

	P1	P2
Mean	88.53333	86.96667
Variance	7.863333	1.843333
No. of Data	3	3
D.F.	2	2
F-ratio	4.265823	
P-value	0.189904	
F-Prob.	39.00004	Equal Variance

t-test

	P1	P2
Mean	88.53333	86.96667
Variance	7.863333	1.843333
No. of Data	3	3
S.S.	4.853333	
dif. with hypothesis	0	
D.F.	4	
t	0.870968	
P-value (one side)	0.216462	
t-value (one side)	2.131846	
P-value (both sides)	0.432924	
t-value (both sides)	2.776451	Not Significant

F-test

	P1	P2
Mean	74.5	76.46667
Variance	20.83	1.363333
No. of Data	3	3
D.F.	2	2
F-ratio	15.27873	
P-value	0.06143	
F-Prob.	39.00004	Equal Variance

t-test

	P1	P2
Mean	74.5	76.46667
Variance	20.83	1.363333
No. of Data	3	3
S.S.	11.09667	
dif. with hypothesis	0	
D.F.	4	
t	-0.72307	
P-value (one side)	0.254828	
t-value (one side)	2.131846	
P-value (both sides)	0.509656	
t-value (both sides)	2.776451	Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Plant height (cm)

Planting Method

Method	I	II	III	
P1	80	93	72	Random T.P.
	77	85	75	
	88	88	79	
	89	85	82	
	79	73	80	
P2	88	92	81	T.P. in a row
	82	79	80	
	81	91	82	
	83	87	86	
	95	92	82	
P3	76	60	60	Direct Seeding
	72	72	62	
	62	84	67	
	73	75	72	
	68	67	74	

Source	I	II	III	Total
P1				
No. of Data	5	5	5	15
Total	413	424	388	1225
Mean	82.6	84.8	77.6	81.66666667
Variance	30.3	54.2	16.3	38.52380952
P2				
No. of Data	5	5	5	15
Total	429	441	411	1281
Mean	85.8	88.2	82.2	85.4
Variance	33.7	30.7	5.2	26.4

Method	I	II	III	
P1	164	162	169	Random T.P.
	171	159	161	
	174	143	159	
	160	148	156	
	157	139	159	
P2	168	151	166	T.P. in a row
	163	144	164	
	175	142	172	
	151	152	168	
	172	160	162	
P3	157	125	141	Direct Seeding
	152	133	129	
	159	131	113	
	165	146	124	
	148	132	141	

Source	I	II	III	Total
P1				
No. of Data	5	5	5	15
Total	826	751	804	2381
Mean	165.2	150.2	160.8	158.7333333
Variance	51.7	99.7	24.2	92.63809524
P2				
No. of Data	5	5	5	15
Total	829	749	832	2410
Mean	165.8	149.8	166.4	160.6666667
Variance	88.7	51.2	14.8	107.5238095

P3

No. of Data	5	5	5	15
Total	351	358	335	1044
Mean	70.2	71.6	67	69.6
Variance	29.2	80.3	37	45.82857143

Total

No. of Data	15	15	15	15
Total	1193	1223	1134	1134
Mean	79.53333	81.53333	75.6	75.6
Variance	75.12381	102.1238	60.11429	60.11429

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	2045.911	2	1022.956	29.0520669	3.1E-08	3.259444
Block	273.3778	2	136.6889	3.881981698	0.02974	3.259444
Interaction	9.55556	4	2.38889	0.067844746	0.9912	2.633534
Residual	1267.6	36	35.21111			

Total

3596.444 44

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

7.5 (%)

LSD (5%)

df=36

4.42

LSD (1%)

df=36

5.96

P3

No. of Data	5	5	5	15
Total	781	667	648	2096
Mean	156.2	133.4	129.6	139.7333333
Variance	42.7	59.3	141.8	217.4952381

Total

No. of Data	15	15	15	15
Total	2436	2167	2284	2284
Mean	162.4	144.4667	152.2667	152.2667
Variance	72.97143	125.6952	332.4952	332.4952

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	4014.711	2	2007.356	31.46873367	1.3E-08	3.259444
Block	2425.644	2	1212.822	19.01306393	2.3E-06	3.259444
Interaction	1125.156	4	281.2889	4.409684724	0.00528	2.633534
Residual	2296.4	36	63.78889			

Total

9861.911

44

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

5.2 (%)

LSD (5%)

df=36

5.96

LSD (1%)

df=36

8.02



Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Unit Yield (ton/ha)**

**Weeding**

Method	I	II	III
W1	3.71	4.06	2.16
W2	1.60	2.45	1.35

With weeding  
Without weeding

F-test

	W1	W2
Mean	3.31	1.8
Variance	1.0225	0.3325
No. of Data	3	3
D.F.	2	2
F-ratio	3.075188	
P-value	0.245387	
F-Prob.	39.00004	

Equal Variance

t-test

	W1	W2
Mean	3.31	1.8
Variance	1.0225	0.3325
No. of Data	3	3
S.S.	0.6775	
dif. with hypothesis	0	
D.F.	4	
t	2.246818	
P-value (one side)	0.043977	
t-value (one side)	2.131846	
P-value (both sides)	0.087955	
t-value (both sides)	2.776451	

Not Significant

IKAN

Method	I	II	III
W1	4.07	1.78	2.83
W2	4.03	2.47	2.08

With weeding  
Without weeding

F-test

	W1	W2
Mean	2.893333	2.86
Variance	1.314033	1.0647
No. of Data	3	3
D.F.	2	2
F-ratio	1.234182	
P-value	0.447591	
F-Prob.	39.00004	

Equal Variance

t-test

	W1	W2
Mean	2.893333	2.86
Variance	1.314033	1.0647
No. of Data	3	3
S.S.	1.189367	
dif. with hypothesis	0	
D.F.	4	
t	0.037434	
P-value (one side)	0.485966	
t-value (one side)	2.131846	
P-value (both sides)	0.971933	
t-value (both sides)	2.776451	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

Yield Component Survey - Number of grains per panicle

Weeding

Method	I	II	III
W1	70.7	59.3	51.2
W2	48.8	49.4	37.3

With weeding  
Without weeding

F-test

	W1	W2
Mean	60.4	45.16667
Variance	95.97	46.50333
No. of Data	3	3
D.F.	2	2
F-ratio	2.063723	
P-value	0.3264	
F-Prob.	39.00004	

Equal Variance

t-test

	W1	W2
Mean	60.4	45.16667
Variance	95.97	46.50333
No. of Data	3	3
S.S.	71.23667	
dif. with hypothesis	0	
D.F.	4	
t	2.210491	
P-value (one side)	0.045788	
t-value (one side)	2.131846	
P-value (both sides)	0.091576	
t-value (both sides)	2.776451	

Not Significant

IKAN

Method	I	II	III
W1	85.4	62.5	67.3
W2	88.6	72.7	55.1

With weeding  
Without weeding

F-test

	W1	W2
Mean	71.73333	72.13333
Variance	145.8433	280.8033
No. of Data	3	3
D.F.	2	2
F-ratio	0.519379	
P-value	0.341836	
F-Prob.	0.025641	

Unequal Variance

t-test

	W1	W2
Mean	71.73333	72.13333
Variance	145.8433	280.8033
No. of Data	3	3
dif. with hypothesis	0	
D.F.	4	
t	-0.03354	
P-value (one side)	0.487425	
t-value (one side)	2.131846	
P-value (both sides)	0.97485	
t-value (both sides)	2.776451	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Number of panicles per hill**

**Weeding**

Method	I	II	III
W1	12.6	16.2	10.3
W2	7.7	11.7	9.2

With weeding  
Without weeding

F-test

	W1	W2
Mean	13.03333	9.533333
Variance	8.843333	4.083333
No. of Data	3	3
D.F.	2	2
F-ratio	2.165714	
P-value	0.315884	
F-Prob.	39.00004	

Equal Variance

t-test

	W1	W2
Mean	13.03333	9.533333
Variance	8.843333	4.083333
No. of Data	3	3
S.S.	6.463333	
dif. with hypothesis	0	
D.F.	4	
t	1.686108	
P-value (one side)	0.083527	
t-value (one side)	2.131846	
P-value (both sides)	0.167054	
t-value (both sides)	2.776451	

Not Significant

IKAN

Method	I	II	III
W1	12.2	7.1	10.5
W2	11.5	8.5	9.5

With weeding  
Without weeding

F-test

	W1	W2
Mean	9.933333	9.833333
Variance	6.743333	2.333333
No. of Data	3	3
D.F.	2	2
F-ratio	2.89	
P-value	0.257069	
F-Prob.	39.00004	

Equal Variance

t-test

	W1	W2
Mean	9.933333	9.833333
Variance	6.743333	2.333333
No. of Data	3	3
S.S.	4.538333	
dif. with hypothesis	0	
D.F.	4	
t	0.057491	
P-value (one side)	0.478456	
t-value (one side)	2.131846	
P-value (both sides)	0.956912	
t-value (both sides)	2.776451	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - 1000-grain weight (g)**

**Weeding**

Method	I	II	III
W1	26.0	26.3	25.5
W2	26.4	26.3	24.3

With weeding  
Without weeding

F-test

	W1	W2
Mean	25.93333	25.66667
Variance	0.163333	1.403333
No. of Data	3	3
D.F.	2	2
F-ratio	0.11639	
P-value	0.104255	
F-Prob.	0.025641	

Unequal Variance

t-test

	W1	W2
Mean	25.93333	25.66667
Variance	0.163333	1.403333
No. of Data	3	3
dif. with hypothesis	0	
D.F.	2	
t	0.369012	
P-value (one side)	0.373761	
t-value (one side)	2.919987	
P-value (both sides)	0.747522	
t-value (both sides)	4.302656	

Not Significant

IKAN

Method	I	II	III
W1	23.8	24.5	24.5
W2	24.2	24.4	24.1

With weeding  
Without weeding

F-test

	W1	W2
Mean	24.26667	24.23333
Variance	0.163333	0.023333
No. of Data	3	3
D.F.	2	2
F-ratio	7	
P-value	0.125	
F-Prob.	39.00004	

Equal Variance

t-test

	W1	W2
Mean	24.26667	24.23333
Variance	0.163333	0.023333
No. of Data	3	3
S.S.	0.093333	
dif. with hypothesis	0	
D.F.	4	
t	0.133631	
P-value (one side)	0.450074	
t-value (one side)	2.131846	
P-value (both sides)	0.900148	
t-value (both sides)	2.776451	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Ripened grain ratio (%)**

**Weeding**

Method	I	II	III
W1	92.2	90.9	94.3
W2	89.7	89.7	91.1

With weeding  
Without weeding

F-test

	W1	W2
Mean	92.46667	90.16667
Variance	2.943333	0.653333
No. of Data	3	3
D.F.	2	2
F-ratio	4.505102	
P-value	0.18165	
F-Prob.	39.00004	

Equal Variance

t-test

	W1	W2
Mean	92.46667	90.16667
Variance	2.943333	0.653333
No. of Data	3	3
S.S.	1.798333	
dif. with hypothesis	0	
D.F.	4	
t	2.100576	
P-value (one side)	0.051793	
t-value (one side)	2.131846	
P-value (both sides)	0.103586	
t-value (both sides)	2.776451	

Not Significant

IKAN

Method	I	II	III
W1	78.4	79.6	68.5
W2	77.3	52.8	82.7

With weeding  
Without weeding

F-test

	W1	W2
Mean	75.5	70.93333
Variance	37.11	253.9033
No. of Data	3	3
D.F.	2	2
F-ratio	0.146158	
P-value	0.12752	
F-Prob.	0.025641	

Unequal Variance

t-test

	W1	W2
Mean	75.5	70.93333
Variance	37.11	253.9033
No. of Data	3	3
dif. with hypothesis	0	
D.F.	3	
t	0.463664	
P-value (one side)	0.337229	
t-value (one side)	2.353363	
P-value (both sides)	0.674458	
t-value (both sides)	3.182449	

Not Significant

Table E-8 Statistical Analysis of Yield Component Survey (continued)

**Yield Component Survey - Plant height (cm)**

**Weeding**

IR64

Method	I	II	III	
W1	76	80	74	With weeding
	82	86	68	
	69	90	77	
	86	81	78	
	87	83	75	
W2	77	70	73	Without weeding
	65	74	70	
	77	70	65	
	70	72	67	
	79	75	71	

Method	I	II	III	
W1	183	152	138	With weeding
	170	170	110	
	168	157	136	
	174	184	141	
	169	159	141	
W2	170	151	135	Without weeding
	179	151	132	
	172	150	128	
	162	167	113	
	171	171	127	

45

Source	I	II	III	Total
W1				
No. of Data	5	5	5	15
Total	400	420	372	1192
Mean	80	84	74.4	79.46666667
Variance	56.5	16.5	15.3	41.83809524
W2				
No. of Data	5	5	5	15
Total	368	361	346	1075
Mean	73.6	72.2	69.2	71.66666667
Variance	34.8	5.2	10.2	17.95238095
Total				
No. of Data	10	10	10	30
Total	768	781	718	2267
Mean	76.8	78.1	71.8	75.56666667
Variance	51.95556	48.32222	18.84444	39.57407407

Source	I	II	III	Total
W1				
No. of Data	5	5	5	15
Total	864	822	666	2352
Mean	172.8	164.4	133.2	156.8
Variance	37.7	163.3	172.7	417.7428571
W2				
No. of Data	5	5	5	15
Total	854	790	635	2279
Mean	170.8	158	127	151.9333333
Variance	36.7	103	71.5	422.6380952
Total				
No. of Data	10	10	10	30
Total	1718	1612	1301	4631
Mean	171.8	161.2	130.1	154.3666667
Variance	34.17778	129.7333	119.2111	193.7077778

Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	456.3	1	456.3	19.76750903	0.000169891	4.259675279
Block	221.2667	2	110.6333	4.792779783	0.0177298	3.402831794
Interaction	61.8	2	30.9	1.338628159	0.28108713	3.402831794
Residual	554	24	23.08333			
Total	1293.367	29				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

Coefficient of variation

6.4 (%)

LSD (5%)

df=24

3.62

LSD (1%)

df=24

4.91

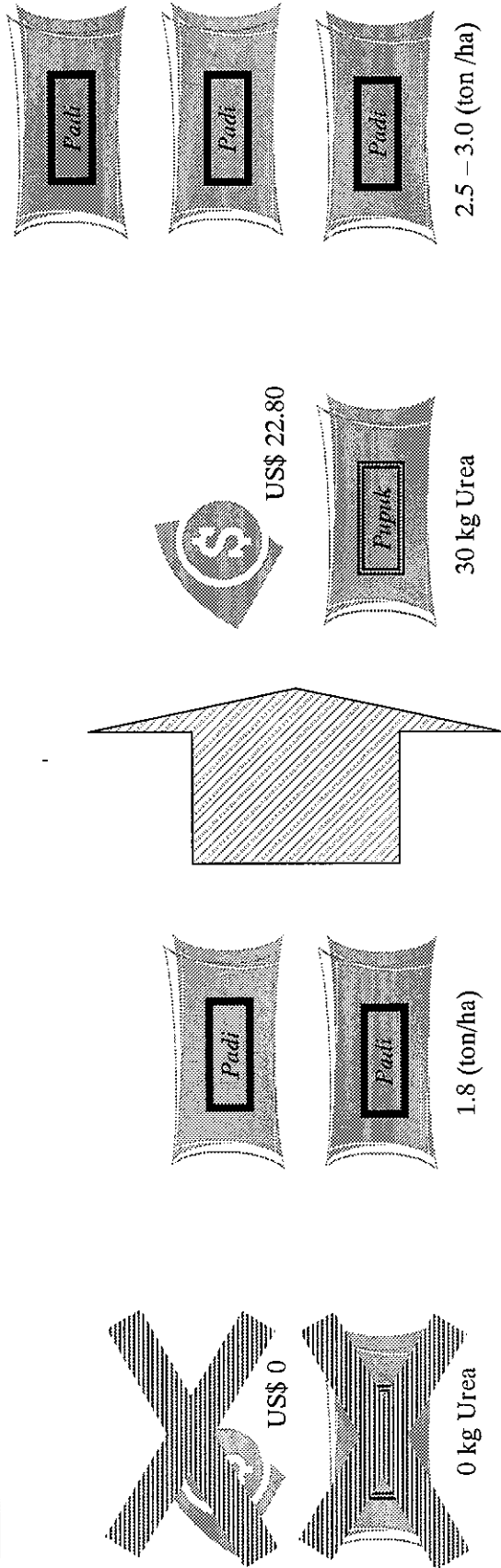
Analysis of Variance

Source	S.S.	D.F.	M.S.	F-ratio	P-value	F border
Treatment	177.6333	1	177.6333	1.822191828	0.189648	4.259675
Block	9394.867	2	4697.433	48.18704052	3.95E-09	3.402832
Interaction	30.86667	2	15.43333	0.158317661	0.854463	3.402832
Residual	2339.6	24	97.48333			
Total	11942.97	29				

S.S.: Sum of squares, D.F.: Degree of freedom, M.S.: Mean squares

## Kepentingan Dan Harga dari Penggunaan Pupuk

IR64



Harga: US\$22.80

Kepenting: + 0.7 – 1.2 (ton/ha)    (Harga dari Padi: US\$ 5 / 35kg)

700 kg / 35 kg x US\$ 5 = US\$ 100

1,200 kg / 35 kg x US\$ 5 = US\$ 171

**Keseimbangan: + US\$ 77.20 – US\$ 148.20**

Harga edisitambahan: Harga transportasi dari Dili




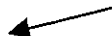




## Yield Components Survey Data Sheet

Name: \_\_\_\_\_

Date: \_\_\_\_\_

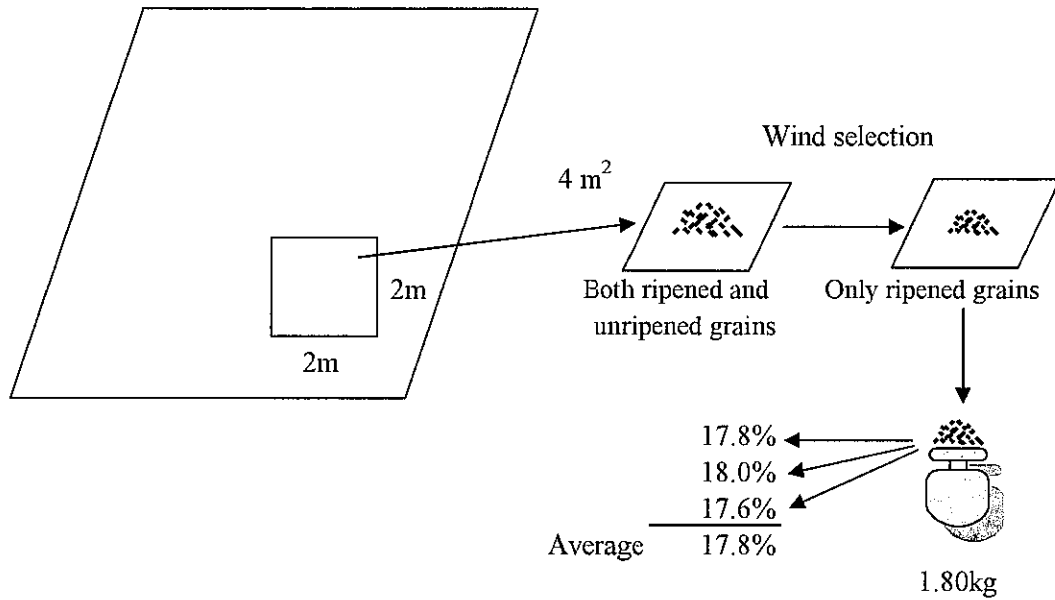
Sample Code: \_\_\_\_\_

- 1 Count number of total panicles from 15 small envelopes.
- 2 Thresh all the grains of 15 small envelopes and put into one big envelope.
- 3 Put all the grains into water and take the floating unripened grains into a small envelope with code and count the number of unripened grains after drying.
- 4 Put back the ripened grains (sunk grains) into one big envelope with code together with three small envelopes and dry them for 2-3 days.
- 5 After 2-3 days drying, measure the weight of all the ripened grains.
- 6 Take three samples with 500 ripenend grains and put them into three small envelopes with code.
- 7 Measure the weight of the three samples (500 ripened grains).
- 8 Measure the moisture content for the three samples with a moisture meter.

1a						
1b						Total No. of panicles (1) <input style="width: 100px; height: 30px;" type="text"/>
1c						
						
3	Total No. of the floating unripened grains	(2) <input style="width: 100px; height: 30px;" type="text"/>				
5	Weight of all the ripened grains.	(3) <input style="width: 100px; height: 30px;" type="text"/> g				
7	500 grains	 <input style="width: 100px; height: 30px;" type="text"/> g	<input style="width: 100px; height: 30px;" type="text"/> g	 <input style="width: 100px; height: 30px;" type="text"/> g	<input style="width: 100px; height: 30px;" type="text"/> g	Total weight of 1,500 ripenend grains  No. of grains / 10 grams (4) <input style="width: 100px; height: 30px;" type="text"/>
8	Moisture content	 <input style="width: 100px; height: 30px;" type="text"/> %	 <input style="width: 100px; height: 30px;" type="text"/> %	 <input style="width: 100px; height: 30px;" type="text"/> %	AVG <input style="width: 100px; height: 30px;" type="text"/> %	

No. of all the grains (X):  $(3)/10 \times (4)$       Ripenend grains:  $X / (X + (2)) \times 100$   
 No. of grains per panicle:  $(X + (2)) / (1)$

### Yield Survey by Unit Area Sampling



- 1 Exclude unripened grains and select only ripened grains by wind.
- 2 Measure the weight of sample grains (4 square meters).
- 3 Take three samples for measuring water content.
- 4 Convert the samples weight with 14 % water content.  
 $1.80 \text{ kg} [(100-17.8) / (100-14.0)] = 1.72 \text{ kg}$
- 5 Estimate the yield per hectare from calculation.  
 $1.72 \text{ kg} \times 10,000 \text{ m}^2 / 4 \text{ m}^2 = 4,300 \text{ kg / ha}$

### Fertilizer

	Treat1	Treat2	Treat3	Treat4	Treat5	Treat6	Treat7	Treat8
Rep1(kg)								
w.c.1								
w.c.2								
w.c.3								
Rep2(kg)								
w.c.1								
w.c.2								
w.c.3								
Rep3(kg)								
w.c.1								
w.c.2								
w.c.3								