

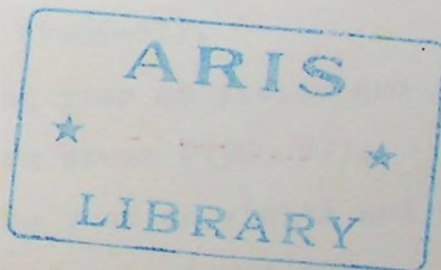
SOIL FERTILITY IN UGANDA

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VOLUME II

(Tables and Appendices)



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Soil mapping unit	Dominant soil types	Parent material	Trial centre or station
<u>Upwarped Tanganyika surface in West Nile</u>			
Yumbe catena	Shallow sandy loams over laterite	CC schists, gneisses, and quartzites	1
Arua catena	Grey sands over yellowish red sandy clay loams, occasionally lateritized	CC gneisses, granites	2, A
Parombo series	Reddish-brown sandy clay loams	CC schists, gneisses and quartzites	5, 6
<u>Rift Valley flats</u>			
Rogem series	Red sands and loamy sands	Kaiso sands	3, 4, 7
<u>Acholi surface</u>			
Palabek complex	Shallow brown sandy loam over older alluvium	CC gneiss	8
<u>Degraded Tanganyika surface</u>			
Anaka complex	Shallow brown sandy loam soils over rock or laterite	CC gneisses and granites	10, 12
Rukiri complex	Reddish brown gritty clay loams	CC granites, gneisses and schists	52, 53

Soil mapping unit	Dominant soil types	Parent material	Trial centre or station
<u>Ancient lake deposits overlying Tanganyika surface</u>			
Amuria catena	Shallow, grey brown, sandy loams over laterite	Lake deposits derived from CC granites, gneisses	14, 15 [*] , 21 [*] , 22 [*] , 23, 24
Mazimasa complex	Grey-brown and brown sandy loams over laterite	Lake deposits derived from CC granites, gneisses	26, 27 [*] , 29 [*] , 32, 33, 36, D, E
Usuku series	Greyish-brown sands and sandy loams	Lake deposits derived from CC granites, gneisses	20, C
Dokolo series	Greyish-brown sand over reddish-brown sandy clay loam	Lake deposits derived from CC granites, gneisses	16, 19
Lwampanga series	Greyish and yellowish-brown sands	Pleistocene beach deposits derived from CC rocks	28
<u>Tanganyika surface and dissected remnants</u>			
Pajule catena	Red sandy clay over laterite	CC granites, gneisses	9, 13, B
Buruli catena	Reddish-brown sandy loams and loams over laterite	CC gneisses, granites	11 [*] , 17 [*] , 18 [*] , 21 [*] , 22 [*] , 24 [*] , 29 [*] , 30 [*] , 31, 35, 36, 37, F, G, I
Buyaga catena	Deep, red, clay loam over laterite	CC gneisses and amphibolites	34, 38, 39, 42, 43, M

Soil mapping unit	Dominant soil types	Parent material	Trial centre or station
Bukedea series	Reddish-brown loam over laterite	GC gneisses	25
Kigumba catena	Red sandy clay loams over laterite	KA phyllite, granite	50*, 51
Hoima catena	Yellowish-red clay loams occasionally shallow over phyllite	Bunyoro series, tillites and phyllites	49. 50*, 0
<u>Buganda surface and its dissected remnants</u>			
Buganda catena	Reddish-brown clay loams	T schists, phyllites	40, 45, 46, 47, 48, J, K, L
<u>Degraded Buganda surface</u>			
Kabira catena	Reddish-brown sandy loams on red-clay loams	GC gneisses, granites	41, R
Buwekula catena	Red gravelly loams	Granites	44*, N
Lukaya catena	Yellowish-red loams with quartz gravel	Quartz-mica schists	44*
Mawogola catena	Yellowish-red gravelly loams	T gneisses, granites	58
Mbale series	Red sandy clay loams occasionally underlain by laterite	GC mica, schists and amphibolites	60
Bubutu series	Yellowish brown sandy clay loams	GC granite	61
Nakabango catena	Deep red clays	T amphibolites and phyllites	E

Soil mapping unit	Dominant soil types	Parent material	Trial centre or station
<u>Upwarped Tanganyika surface in Ankole and dissected remnants</u>			
Mbarara catena	Yellowish-red loams and sandy loams with occasional soft laterite	Phyllites, quartz and schists	54, 55
Bushenyi catena	Yellowish-brown loams and sandy clay loams with dark subsoil horizon	T phyllites, schists and gneisses	56, P, Q
<u>Ankole and Koki surfaces and dissected remnants</u>			
Koki catena	Reddish clay loams or silty clays	KA phyllites	57
<u>Volcanic mountains</u>			
Siroko series	Black clays and clay loams	Colluvium from Elgon volcanics	59
Sipi catena	Red sandy clay loams occasionally lateritized	Elgon volcanics	62

(* Trials at these centres carried out on more than one soil unit.

CC = Gneiss complex.

KA = Karogwe-Ankollen.

T = Toro)

Table IV. 1. Average seed cotton unfertilized yields and responses to low fertilizer rates (in lb/acre).

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1	Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1
						(P1-PO)NO	(N1-NO)PO (N1-NO)P1	N1P1/P1 (S.D.)		
1	Yumbe	66	30	1.1	1458	*** 309	*** 303	*** 251	91	16.1 (19.8)
		67	30	3.5	671	*** 125	*** 183	*** 176	33	23.0 (12.9)
		68	30	1.3	2140	*** 423	*** 601	*** 331	133	14.5 (16.9)
		All	90	2.0	1423	*** 285	*** 362	*** 253	42	17.9
2	Terego	65	20	1.0	602	70	*** 187	*** 173	67	39.7 (60.3)
		66	30	0.4	520	14	*** 168	*** 198	53	55.5 (57.3)
		67	28	1.4	913	-51	68	*** 182	50	23.7 (26.7)
		All	78	0.9	682	5	*** 137	*** 186	33	40.0
3	Rhinocamp	67	27	1.3	664	-47	*** 154	*** 227	43	41.1 (33.0)
		68	29	1.4	692	64	*** 340	*** 286	119	49.0 (59.5)
		All	56	1.4	678	11	*** 251	*** 257	32	45.2
		65	29	0.0	684	121	*** 144	44	62	10.9 (25.5)
4	Inde	66	28	0.0	825	73	*** 162	*** 239	62	47.0 (134.9)
		All	57	0.0	753	98	*** 153	*** 140	45	28.6

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1 (P1-PO)NO	Response to N1 (N1-NO)PO (N1-NO)P1		L.S.D. (P = 0.05) of interactions	Percentage response to N1 N1P1/P1 (S.D.)	
5	Paidha	65	29	0.1	536	128 ^{**}	76 ^{**}	150 ^{**}	71	26.7	(45.5)
		66	24	0.1	435	105 ^{**}	156 ^{***}	64	50	38.7	(35.5)
		All	53	0.1	490	118 ^{***}	158 ^{***}	153 ^{***}	45	32.1	
6	Angal	65	22	0.4	702	46	117 ^{**}	143 ^{***}	54	28.0	(39.0)
		66	30	0.1	727	-9	113 ^{**}	235 ^{***}	58	35.7	(26.5)
		All	52	0.2	716	15	115 ^{**}	196 ^{***}	41	32.4	
7	Obongi	65	24	0.0	857	39	156 ^{***}	289 ^{***}	65	43.4	(61.9)
		66	27	0.0	809	65	169 ^{***}	158 ^{***}	62	23.4	(32.2)
		All	51	0.0	832	52	163 ^{***}	220 ^{***}	48	32.8	
8	Pakelle	65	23	0.1	757	284 ^{***}	214 ^{***}	78 ^{**}	67	9.6	(14.6)
		66	30	0.4	852	133 ^{***}	330 ^{***}	179 ^{***}	50	19.0	(19.0)
		67	23	1.6	539	16	237 ^{***}	186 ^{***}	50	37.4	(33.2)
		68	22	1.1	681	10	135 [*]	135 [*]	95	21.7	(24.3)
		All	98	0.8	718	113 ^{***}	237 ^{***}	147 ^{***}	28	21.7	

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1		Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1	
						(P1-PO)NO	(P1-PO)NO	(N1-NO)PO (N1-NO)P1	(N1-NO)PO (N1-NO)P1		N1P1/P1 (S.D.)	
9	Atiak	70	20	4.0	424	*** 164	***	*** 152	*** 59*	42	13.2 (28.4)	
		71	18	4.0	548	** 139	**	*** 211	70	70	9.1 (17.5)	
		All	38	4.0	483	*** 152	***	*** 180	*** 65*	40	11.3	
11	Gulu	70	20	4.0	1036	** 111	**	*** 156	*** 112**	52	9.7 (11.9)	
		71	20	4.0	1055	*** 138	***	*** 245	*** 131	53	11.4 (13.3)	
		All	40	4.0	1045	*** 125	***	*** 201	*** 122	37	10.6	
12	Anaka	70	20	4.0	757	41		16	25	36	2.8 (17.3)	
		71	20	4.0	1060	40		*** 108	46	50	4.6 (15.2)	
		All	40	4.0	909	40		** 62	36	30	3.7	
13	Kitgum	70	18	4.0	551	-3		** 105	*** 104	53	21.5 (28.4)	
		71	19	4.0	928	29		* 86	68	55	7.1 (13.2)	
		All	37	4.0	745	13		*** 95	*** 86	38	14.1	
14	Patongo	70	19	4.0	605	-26		* 79	*** 131	50	24.0 (25.9)	
		71	20	4.0	400	29		38	32	35	10.2 (26.3)	
		All	39	4.0	500	2		** 58	*** 80	30	16.9	

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1	Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1	
						(P1-PO)NO	(N1-NO)PO (N1-NO)P1	(N1-NO)P1 (S.D.)			
15	Aboke	65	26	3.3	943	*** 286	*** 242	32	45	2.6	(15.2)
		66	19	3.4	609	*** 148	*** 249	78*	50	10.3	(20.9)
		67	26	3.4	743	*** 226	*** 252	31	42	4.1	(14.8)
		All	71	3.4	780	*** 227	*** 248	44*	27	5.2	
16	Ngetta	65	22	2.0	899	25	*** 240	181**	81	20.9	(21.3)
		66	27	2.1	573	3	*** 186	149***	40	29.9	(24.4)
		67	25	3.0	711	-8	45	102**	51	17.4	(25.1)
		68	11	4.0	934	9	** 259	234*	136	33.9	(37.1)
17	Abako	All	85	2.6	745	6	*** 168	155***	33	24.4	
		65	27	3.8	855	* 114	* 103	121*	70	18.8	(45.1)
		66	30	3.9	1173	21	** 86	67*	44	6.1	(14.4)
		67	25	4.0	872	** 75	* 63	29	38	5.1	(12.8)
18	Aduku	68	17	4.0	923	*** 115	*** 154	54	48	5.9	(11.6)
		All	99	3.9	967	*** 76	*** 96	70***	27	9.3	
		65	28	2.4	818	21	63	64	55	11.4	(35.0)
		66	29	1.6	752	26	* 74	62*	43	9.0	(21.0)
		All	57	2.0	784	24	** 69	64*	35	10.2	

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1		Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1 N1P1/P1 (S.D.)
						(P1-PO)NO	(P1-PO)NO	(N1-NO)PO	(N1-NO)P1		
19	Dokolo	66	29	2.9	900	** 166	** 198	** 154	** 80		20.6 (27.2)
		67	28	1.0	715	*** 150	*** 191	3	63		3.6 (23.9)
		68	12	4.0	863	** 181	*** 297	91	82		9.8 (24.1)
		All	69	2.3	819	*** 162	*** 212	* 81	45		11.8
20	Katakwi	65	25	1.4	573	39	* 111	** 129	62		28.1 (32.2)
		66	27	1.3	464	* 78	*** 151	** 89	46		18.6 (31.6)
		67	22	1.7	405	35	*** 230	*** 250	46		77.1 (94.2)
		68	11	4.0	598	-3	*** 376	*** 332	115		62.6 (69.9)
		All	85	1.8	498	* 45	*** 189	*** 174	31		42.2
21	Soroti	65	24	1.9	573	** 126	*** 163	*** 152	61		24.9 (43.1)
		66	30	1.3	475	23	25	47	51		16.0 (40.9)
		All	54	1.6	519	* 68	** 86	*** 94	39		20.0
22	Serere	65	29	2.2	720	46	*** 209	*** 230	53		33.8 (31.1)
		66	28	1.3	633	70	*** 168	*** 154	53		27.5 (28.0)
		All	57	1.8	677	* 59	*** 189	*** 192	38		30.7

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1 (P1-PO)NO	Response to N1		L.S.D. (p = 0.05) of interactions	Percentage response to N1 N1P1/P1 (S.D.)
							(N1-NO)PO	(N1-NO)P1		
23	Ngora	66	30	1.8	533	29	88	184***	63	31.1 (25.2)
24	Kumi	65	28	1.6	674	85*	122**	140***	57	24.6 (32.2)
		66	24	1.4	462	71*	150***	99**	48	23.2 (30.2)
		All	52	1.5	576	78**	135***	121***	37	24.0
26	Pallisa	65	26	2.5	698	112**	143***	60	56	10.4 (31.5)
		66	22	0.3	521	32	142***	118***	48	19.6 (26.8)
		67	28	2.2	379	37	49*	36	28	12.1 (37.2)
27	Budaka	All	76	1.8	529	61**	108***	69***	27	13.7
		65	28	2.1	663	47	135***	144***	54	25.6 (30.6)
		66	24	1.5	598	-6	139***	121**	58	18.5 (25.5)
28	Bunyole	67	27	2.9	400	32	44	32	37	15.3 (41.2)
		All	79	2.2	553	26	106***	99***	21	19.9
		65	11	0.4	646	137	48	4	108	5.4 (37.8)
28	Bunyole	66	24	0.2	532	53	157**	134*	77	33.4 (50.8)
		67	28	2.1	496	30	148***	91**	50	16.1 (38.7)
		All	63	1.1	536	57	134***	92**	41	20.8

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1		Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1 N1P1/P1 (S.D.)
						(P1-PO)NO	(P1-PO)NO	(N1-NO)PO	(N1-NO)P1		
29	Budama	65	25	1.3	898	-59	77	219***	70	38.0	(54.8)
		66	27	1.2	684	-2	87	139**	63	38.2	(63.0)
		All	52	1.2	787	-30	83*	178***	47	38.2	
30	Samia Bugwe	65	22	1.0	499	60	33	48	66	16.9	(43.1)
		66	18	0.1	582	18	55	83*	54	19.3	(63.8)
		67	20	2.5	577	28	-7	32	61	11.3	(34.7)
		68	15	4.0	662	160**	94	-4	77	5.9	(25.1)
		All	75	1.8	572	61**	40	42	32	13.8	
31	Kamuli	65	18	0.2	589	-64	-61	-15	65	-2.6	(36.8)
		66	27	0.4	1375	134*	-22	32	85	5.0	(25.7)
		67	20	0.8	435	91	26	-28	75	-4.8	(20.0)
		68	18	4.0	604	25	49	72	69	21.2	(35.0)
		All	83	1.2	811	57*	-4	16	36	4.5	
32	Bularogi	70	24	4.0	704	128***	107**	51**	54	12.5	(28.3)
		71	24	4.0	752	60	188***	144**	62	32.1	(73.4)
		All	48	4.0	728	94**	148***	97***	41	22.3	

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1	Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1
						(P1-PO)NO	(N1-NO)PO (N1-NO)P1	N1P1/P1 (S.D.)		
33	Busiki	70	24	4.0	668	92*	162***	207***	53	35.9 (40.7)
		71	23	4.0	772	67	130***	166***	50	21.4 (23.9)
		All	47	4.0	719	79**	156***	187***	36	28.8
34	Kagoma	65	25	0.2	821	69	49	11	66	3.3 (28.2)
		66	26	0.1	1010	53	43	29	82	7.4 (25.5)
		67	28	1.5	858	70	82	-14	95	0.8 (30.1)
35	Iganga	All	79	0.6	896	64*	59*	8	37	3.8
		65	23	0.6	640	29	24	7	63	18.1 (51.1)
		66	25	1.0	617	43	114**	129**	59	22.2 (48.0)
36	Bugiri	67	24	2.3	750	-14	30	39	84	11.3 (33.1)
		All	72	1.3	669	19	57*	60*	33	17.3
		65	24	0.7	713	68	108*	19	67	6.8 (25.6)
36	Bugiri	66	25	0.1	677	-28	-15	10	68	4.4 (29.7)
		67	20	1.9	515	49	82	77	97	16.5 (42.1)
		68	18	4.0	881	136*	-5	9	81	2.5 (16.2)
		All	87	1.5	692	50*	43	28	35	7.5

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1	Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1	
						(P1-PO)NO	(N1-NO)PO (N1-NO)P1	(N1-NO)P1 (S.D.)			
37	Nakasongola	66	27	1.9	569	18	119*	127**	65	23.4	(42.7)
		67	23	2.6	678	-12	100	173**	75	30.1	(33.6)
		68	18	4.0	836	30	139*	169**	82	21.7	(21.5)
		All	68	2.7	677	11	118***	153***	41	25.2	
38	Kayunga	65	25	0.1	1136	-34	2	72	70	7.9	(22.0)
		66	26	0.0	1029	27	68	58	64	9.1	(27.9)
		67	21	2.1	954	48	55	68	127	11.5	(30.6)
		68	15	4.0	1079	1	167**	220***	81	22.7	(25.1)
		All	87	1.2	1050	10	63*	92***	36	11.7	
39	Kalagala	65	23	0.2	922	3	-8	34	50	7.8	(29.0)
		66	25	0.0	755	-31	-28	85	63	24.0	(59.0)
		All	48	0.1	845	-15	-18	61*	40	16.2	
40	Buikwe	66	12	0.0	890	190*	148	50	115	4.2	(23.2)
42	Kiboga	70	20	4.0	871	49	96*	83*	59	12.5	(22.8)
		71	20	4.0	1149	56	143*	134*	89	25.8	(59.1)
		All	40	4.0	1010	53	120**	108**	53	19.2	

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1		Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1 N1P1/P1 (S.D.)
						(P1-PO)NO	(P1-PO)NO	(N1-NO)PO	(N1-NO)P1		
43	Bukomero	65	28	0.5	1142	31	31	8	65	3.1 (23.7)	
		66	29	0.3	1188	100*	42	62	60	7.5 (23.7)	
		67	18	2.6	865	23	97	127	97	15.5 (19.9)	
		68	20	4.0	1361	169	205*	229**	114	20.5 (28.7)	
		All	95	1.6	1150	79**	83**	94***	37	10.5	
44	Kalangalo	66	14	0.0	1344	21	195	60	147	10.7 (29.2)	
		70	15	4.0	933	35	59*	81**	39	8.3 (11.7)	
		71	16	4.0	906	44	68*	101***	40	12.2 (13.0)	
		All	45	2.8	1051	34	105**	82*	49	10.4	
		71	12	3.9	935	1	9	46	121	4.5 (25.9)	
46	Kiriri	66	14	0.0	1556	291	236	56	207	10.4 (29.8)	
		70	18	4.0	825	52	207**	153*	89	29.2 (63.5)	
		71	19	4.1	763	92	104	-5	81	4.8 (33.5)	
		All	51	2.9	1003	132**	176***	67	71	14.9	
		65	24	0.0	1212	63	-31	19	74	6.7 (26.0)	
47	Kakiri	66	15	0.0	867	72	130*	41	85	9.3 (29.8)	
		All	39	0.0	1079	66	31	28	56	7.7	

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1	Response to N1			
						(P1-PO)NO	(N1-NO)PO (N1-NO)P1	(P = 0.05) of interactions	N1P1/P1 (S.D.)	
48	Nkozi	71	15	4.0	871	147	136	68	156	25.4 (80.5)
49	Bwijanga	66	17	1.1	711	78	135 [*]	94	76	10.7 (28.4)
		67	16	1.3	821	42	24	21	123	3.7 (21.6)
		All	33	1.2	720	77 [*]	78 [*]	51	53	7.3
50	Masindi	68	14	4.0	1011	-45	158 [*]	238 ^{***}	90	29.6 (35.4)
51	Kiryan-dongo	70	17	4.0	1222	-5	35	108 [*]	70	12.6 (29.7)
		71	20	4.0	950	68	165 ^{**}	107	78	10.7 (26.9)
		All	37	4.0	1075	35	105 ^{**}	106 ^{**}	53	11.6
57	Rakai	66	14	0.0	1286	266 ^{**}	234 ^{**}	-120	117	-2.5 (27.4)
59	N. Bugisu	65	19	0.7	571	22	25	28	165	16.5 (38.2)
		66	24	1.0	666	27	81 [*]	70	55	14.6 (30.5)
		67	23	2.7	514	35	29	17	53	13.0 (39.7)
		68	20	3.0	1043	-28	151 ^{**}	169 ^{***}	72	16.7 (15.6)
		All	86	1.9	692	15	71 [*]	70 [*]	49	15.1

Map key	Location	Year	No. of trials	No. of sprays	Unfertilized yield	Response to P1	Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1 N1P1/P1 (S.D.)
						(P1-PO)NO	(N1-NO)PO	(N1-NO)P1		
60	C. Bugisu	65	13	0.5	577	33	-24	-1	67	1.0 (27.7)
		66	23	0.0	444	34	69*	120***	43	32.2 (38.0)
		67	22	1.2	457	29	68*	57	45	16.0 (29.7)
		All	58	0.6	479	32	48*	69***	29	19.1
61	S. Bugisu	65	18	0.3	329	43	139***	137***	43	34.4 (34.7)
		66	26	0.0	439	66*	85**	2	40	4.8 (25.2)
		67	22	1.1	379	70*	67*	69*	40	25.0 (44.1)
		68	20	4.0	661	132**	161***	131**	69	17.2 (18.0)
		All	86	1.3	452	78***	110***	77***	25	19.0

Map key	Location	Year	Additional response to N2			Response to P in presence of N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2	(P2-P0)N2		N2P2/N1P2	(S.D.)
5	Paidha	65	102 [*]	32	91	133 ^{**}	192 ^{***}	71	12.2	(22.3)
		66	64	167 ^{***}	128 ^{***}	107 ^{**}	117 ^{**}	50	19.7	(22.5)
		All	85 ^{**}	93 ^{**}	108 ^{***}	121 ^{***}	158 ^{***}	45	15.6	
6	Angal	65	25	70	68	118 ^{**}	155 ^{***}	54	13.6	(28.0)
		66	72	44	80	86 [*]	75	58	11.6	(27.7)
		All	51	55	74 [*]	100 ^{***}	109 ^{***}	41	12.4	
7	Obongi	65	29	-64	234 ^{***}	79	201 ^{***}	65	24.0	(26.4)
		66	43	67	125 ^{**}	78	143 ^{***}	62	17.3	(42.9)
		All	36	5	176 ^{***}	78	170 ^{***}	48	20.5	
8	Pakelle	65	78	277 ^{***}	258 ^{***}	346 ^{***}	527 ^{***}	67	20.3	(10.9)
		66	-91	233 ^{***}	266 ^{***}	306 ^{***}	417 ^{***}	50	22.3	(16.7)
		67	40	171 ^{***}	148 ^{***}	96 ^{**}	186 ^{***}	50	17.4	(21.0)
		68	120	106	132	-3	83	95	20.3	(31.2)
		All	27	201 ^{***}	207 ^{***}	197 ^{***}	314 ^{***}	28	20.2	

Map key	Location	Year	Additional response to N2			Response to P in presence of N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)P0 (N2-N1)P1 (N2-N1)P2	(P1-PO)N2 (P2-PO)N2		N2P2/N1P2 (S.D.)				
9	Atiak	70	-8	8	65*	87**	149***	42	12.5	(23.5)
		71	-5	29	58	32	110*	70	10.4	(26.9)
		All	-7	17	62*	61*	131***	40	11.5	
11	Gulu	70	58	64	45	72	183***	52	6.1	(17.4)
		71	29	61	148***	57	224***	53	11.3	(12.5)
		All	43	62*	97***	65	204***	37	8.7	
12	Anaka	70	21	-38	46	-8	81**	36	7.5	(20.6)
		71	77*	95**	47	-5	-8	50	4.5	(12.9)
		All	49*	29	46*	-6	37	30	6.0	
13	Kitgum	70	14	24	157***	5	146***	53	25.3	(26.1)
		71	-28	41	44	79*	89*	55	4.3	(20.6)
		All	-8	33	99***	43	116***	38	14.5	
14	Patongo	70	12	121***	89*	135***	158***	50	12.2	(25.0)
		71	-37	53*	39	114***	87***	35	13.0	(30.2)
		All	-13	86***	63**	124***	121***	30	12.6	

Map key	Location	Year	Additional response to N2		Response to P in presence of N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2	(P2-P0)N2	N2P2/N1P2	(S.D.)
15	Aboke	65	*** 155	*** 114	*** 267	36	*** 170	22.1	(12.8)
		66	** 92	** 105	*** 213	-11	68	31.2	(25.5)
		67	*** 246	*** 250	*** 238	9	* 65	24.3	(16.1)
		All	*** 171	*** 162	*** 243	14	*** 105	25.3	
16	Ngetta	65	-21	89	2	76	58	2.4	(32.1)
		66	29	35	*** 142	-28	*** 104	20.2	(17.3)
		67	45	55	*** 174	57	*** 125	29.2	(35.3)
		68	202*	88	24	-130	-120	4.9	(29.2)
17	Abako	All	43	** 61	*** 100	11	** 69	16.3	
		65	-17	74	** 150	*** 223	*** 358	15.0	(24.2)
		66	*** 148	*** 181	*** 242	35	*** 175	19.5	(14.4)
		67	*** 182	*** 135	*** 201	-6	** 81	20.8	(20.3)
18	Aduku	68	*** 146	*** 167	*** 235	35	** 111	23.6	(19.1)
		All	*** 112	*** 138	*** 206	*** 76	*** 190	19.3	
		65	64	48	-17	7	-40	-1.7	(22.0)
		66	52	52	48	14	* 78	6.4	(15.5)
18	Aduku	All	57*	49	17	11	21	2.4	

key		in presence of N2			(P = 0.05) of interactions		response to N2	
		(N2-N1)PO (N2-N1)P1 (N2-N1)P2	(P1-PO)N2 (P2-PO)N2				N2P2/N1P2	(S.D.)
19	Dokolo	66	** 179	50 248***	-7	125*	23.8	(31.9)
		67	49	** 140	53	68	7.6	(30.0)
		68	* 126	* 131	-20	68	15.8	(17.1)
		All	*** 117	** 101	*** 136	*** 92	15.8	
20	Katakwi	65	45	50 55	62	100*	7.1	(31.3)
		66	40	*** 144	*** 120	*** 211	19.9	(48.4)
		67	53	** 87	** 89	*** 219	65.9	(145.6)
		68	153	** 231	33	48	15.2	(27.7)
		All	** 60	*** 113	*** 83	*** 159	27.4	
21	Soroti	65	-20	56 48	*** 191	*** 211	7.2	(23.7)
		66	-4	-4 115	45	*** 192	27.0	(37.2)
		All	-11	23 84	*** 110	*** 200	18.2	
22	Serere	65	13	** 107	*** 162	*** 184	20.1	(25.7)
		66	63	56 105	49	*** 136	13.4	(23.3)
		All	38	** 82	*** 106	*** 160	16.8	
23	Ngora	66	58	15 73	81	*** 132	14.2	(21.7)

Map key	Location	Year	Additional response to N2			Response to P in presence of N2 (P1-PO)N2 (P2-PO)N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)PO	(N2-N1)P1	(N2-N1)P2	(P1-PO)N2	(P2-PO)N2		N2P2/N1P2	(S.D.)
24	Kumi	65	21	61	26	*** 143	*** 168	57	5.8	(24.6)
		66	40	34	78*	15	*** 121	48	12.8	(22.4)
		All	29	49	50	** 84	*** 146	37	9.0	
26	Pallisa	65	27	*** 134	*** 121	*** 138	*** 157	56	20.8	(29.6)
		66	97**	*** 143	* 82	54	87	48	10.5	(24.0)
		67	58**	*** 75	** 63	* 41	* 47	28	18.6	(35.2)
27	Budaka	All	59	*** 115	*** 89	** 78	*** 96	27	17.0	
		65	*** 131	** 120	*** 164	45	26	54	24.2	(36.3)
		66	*** 156	*** 212	*** 181	32	44	58	63.2	(207.8)
28	Bunyole	67	*** 142	*** 118	37	-4	-33	37	8.8	(28.2)
		All	*** 142	*** 147	*** 126	24	11	21	30.8	
		65	106	-14	* -177	-27	-86	108	-13.5	(33.3)
28	Bunyole	66	21	58	* 99	67	65	77	28.8	(61.5)
		67	-1	17	-40	-8	-27	50	-2.6	(37.0)
		All	25	28	-12	18	-2	41	8.1	

Map key	Location	Year	Additive response			in presence of N2 (P = 0.05) of interactions		Response		
			(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2	(P2-P0)N2	N2P2/N1P2	(S.D.)	
29	Budama	65	43	-36	114 [*]	4	90	70	14.1	(31.1)
		66	61	78	-28	68	-18	63	3.5	(35.6)
		All	51	24	40	38	34	47	8.6	
30	Samia Bugwe	65	20	33	54	135 ^{**}	141 ^{**}	66	12.3	(29.5)
		66	28	40	-23	88 [*]	142 ^{***}	54	-4.0	(15.2)
		67	-45	23	20	58	58	61	8.5	(40.8)
		68	29	59	-50	92	110 [*]	77	-5.7	(28.5)
		All	6	37	5	94 ^{***}	115 ^{***}	32	3.8	
31	Kamuli	65	5	-45	64	-68	4	65	27.6	(106.5)
		66	71	-2	114	116	245 ^{***}	85	9.5	(24.6)
		67	38	61	72	61	94	75	23.1	(59.2)
		68	114 [*]	92	23	25	28	69	11.3	(33.9)
		All	58 [*]	24	73 ^{**}	43	109 ^{***}	36	17.1	
32	Bulamogi	70	81 [*]	103 ^{**}	42	92 [*]	107 ^{**}	54	7.0	(18.1)
		71	88 [*]	139 ^{**}	123 ^{**}	68	66	62	14.6	(24.5)
		All	84 ^{**}	121 ^{***}	83 ^{**}	80 ^{**}	87 ^{**}	41	10.8	

Map key	Location	Year	Additional response to N2		Response to P in presence of N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2	(P2-P0)N2	N2P2/N1P2	(S.D.)
33	Busiki	70	51	103**	133***	169***	189***	15.2	(20.7)
		71	88*	141***	160***	156***	113**	18.8	(23.8)
		All	69**	122***	147***	163***	152***	17.0	
34	Kagoma	65	-42	-48	44	25	84	6.7	(34.2)
		66	113	87	16	14	-1	5.0	(24.1)
		67	2	32	19	4	52	6.9	(23.9)
		All	24	25	26	14	45	6.2	
35	Iganga	65	47	21	-38	-14	11	2.0	(30.8)
		66	100*	-8	44	-49	-2	8.7	(25.0)
		67	30	115	70	79	38	11.4	(21.9)
		All	59*	42	27	5	16	7.5	
36	Bugiri	65	-6	106*	201***	91	249***	28.7	(24.6)
		66	46	0	111*	-49	101*	17.3	(40.1)
		67	47	32	55	28	24	13.0	(34.9)
		68	184**	97	128*	62	53	13.7	(26.8)
		All	61*	56*	129***	30	114***	18.7	

Map key	Location	Year	Additional response to N2			Response to P in presence of N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2	(P2-P0)N2		N2P2/N1P2	(S.D.)
37	Nakason-gola	66	-25	61	** 140	111*	187***	65	26.4	(43.6)
		67	35	112*	-5	138*	101	75	-0.1	(18.9)
		68	149*	158**	63	69	22	82	5.8	(17.2)
		All	41	104***	* 71	109***	114***	41	12.0	
38	Kayunga	65	68	-23	-36	-56	-28	70	-0.5	(19.8)
		66	-3	73	26	93*	67	64	3.4	(27.1)
		67	24	-86	-43	-50	31	127	-2.1	(18.6)
		68	-15	-3	-9	66	64	81	-0.0	(12.5)
39	Kalagala	All	22	-6	-14	11	31	36	0.4	
		65	93**	78*	36	30	30	50	8.0	(36.9)
		66	-4	41	57	127***	195***	63	11.2	(31.6)
		All	42	58*	46	80**	115***	40	9.7	
40	Buikwe	66	-82	-54	-44	120	89	115	10.4	(55.5)
42	Kiboga	70	17	67	** 119	85*	97*	59	15.5	(25.0)
		71	17	52	71	82	149*	89	5.8	(16.4)
		All	17	60	* 94	84*	123**	53	10.7	

Map key	Location	Year	Additional response to N2		Response to P in presence of N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)PO	(N2-N1)P1	(N2-N1)P2	(P1-PO)N2	(P2-PO)N2	N2P2/N1P2	(S.D.)
43	Bukomeró	65	76	90	-13	22	-17	1.8	(25.7)
		66	154***	39	16	4	14	1.3	(14.1)
		67	-1	-8	53	46	113	6.4	(20.5)
		68	93	-3	-73	98	22	-2.8	(17.6)
		All	89***	36	-5	37	25	1.5	
44	Kalangalo	66	229*	234*	223*	-109	-137	147	34.5 (64.1)
		70	72**	26	97***	11	61*	39	10.1 (10.1)
		71	58	-64*	8	-44	-13	40	1.7 (9.9)
		All	116**	59	105**	-46	-27	49	14.7
45	Kakindu	71	7	41	-17	73	-2	121	0.9 (24.1)
46	Kiriri	66	43	-17	356*	52	536***	207	23.6 (29.0)
		70	33	-17	30	-51	44	89	6.5 (28.2)
		71	32	95	45	47	78	81	8.4 (26.4)
		All	34	25	125*	14	192***	71	11.9
47	Kakiri	65	-19	-44	-94	88	73	74	-3.9 (20.8)
		66	-38	71	-69	92	3	85	-2.2 (23.8)
		All	-27	0	-85*	90*	46	56	-3.2

Map key	Location	Year	Additional response to N2		Response to P in presence of N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)P0 (N2-N1)P1 (N2-N1)P2		(P1-PO)N2 (P2-PO)N2			N2P2/N1P2	(S.D.)
48	Nkozi	71	52	69	-165	96	28	156	-8.8 (37.6)
49	Bwijanga	66	73	37	35	-21	29	76	34.5 (16.2)
		67	133	127	166	32	25	123	24.4 (30.3)
		All	127***	82*	107**	5	27	53	29.6
50	Masindi	68	0	-16	50	19	51	90	6.8 (18.7)
51	Kiryan-dongo	70	46	128*	161**	149**	134**	70	15.5 (17.5)
		71	89	104	158**	25	37	78	17.4 (24.5)
		All	70	116**	160***	82*	82*	53	16.5
57	Rakai	66	-34	77	144*	24	146	117	14.9 (38.0)
59	N. Bugisu	65	98	92	43**	19	9	165	10.8 (27.5)
		66	44	-36	36**	-63	20	55	9.6 (35.1)
		67	56	9	14	-24	-13	53	11.7 (39.9)
		68	179***	251***	207***	62	48	72	25.7 (32.8)
		All	91**	71*	72*	-6	15	49	14.2

Map key	Location	Year	Additional response to N2		Response to P in presence of N2		L.S.D. (P = 0.05) of interactions	Percentage additional response to N2	
			(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2	(P2-P0)N2	N2P2/N1P2	(S.D.)
60	C. Bugisu	65	52	51	50	55	85	7.6	(38.4)
		66	114***	0	96**	-28	44	29.0	(40.8)
		67	10	-12	56	-4	34	17.6	(31.7)
		All	60**	7	71***	0	50	19.9	
61	S. Bugisu	65	38	-7	63*	-5	21**	32.2	(57.3)
		66	24	48	53	6	79**	16.3	(32.6)
		67	10	-12	6	50	53	5.9	(29.3)
		68	20	3	-60	85	61	-0.2	(25.9)
		All	22	11	17	34	56**	13.1	

Table IV.3 Cotton yield percentage responses to muriate of potash fertilizer over years 1 to 4 (first phase) and years 5 to 8 (second phase) in long-term trials under normal management

Map key	Station	Trial	FIRST PHASE (years 1 to 4)				SECOND PHASE (years 5 to 8)			
			Extr. K in unfert. mg/100g	No. of trials	No. of sig. K responses	Mean percent response to K treatment	Extr. K in unfert. mg/100g	No. of trials	No. of sig. K responses	Mean percent response to K treatment
L	Kawanda	II	7.0	2	0	7	7.5	2	2	66
O	Bulindi	II	23.5	2	0	6	16.0	2	2	44
N	Kakumiro	I & II	17.0	4	1	17	17.5	2	2	53
L	Kawanda	I	22.0	2	0	8	16.5	2	2	26
J	Bukalasa	I & II	45.0	4	0	1	31.5	4	0	3
O	Bulindi	I	33.5	2	0	4	27.0	2	0	-9
K	Namulonge	I & II	N.A.	4	0	1	23.5	4	0	3

(During the first phase, K treatment was 0.5 cwt/acre muriate of potash applied every season.

During the second phase, K treatment was 2 cwt/acre muriate of potash applied in alternate seasons.)

(N.A. = Not available)

Table IV.4 Cotton yields without lime and significant yield increases
due to lime in long-term trials under normal management

Map key	Station	Trial	Year/Season	Yield without lime lbs/acre	Percent increase due to lime	Soil pH
N	Kakumiro	I	1/1	763	N.S.	5.00
N	Kakumiro	II	2/1	333	N.S.	5.06
L	Kawanda	II	1/1	381	44 ^{**}	5.06
C	Arapai	I	1/1	548	N.S.	5.10
K	Namulonge	I	1/1	1162	10 [*]	5.25
K	Namulonge	I	3/1	782	N.S.	5.25
K	Namulonge	II	2/1	1134	N.S.	5.28
O	Bulindi	II	2/1	333	N.S.	5.64
J	Bukalasa	II	2/1	704	N.S.	5.77
O	Bulindi	I	1/1	763	N.S.	5.78
O	Bulindi	I	3/1	877	N.S.	5.78
L	Kawanda	I	2/2	343	N.S.	5.83
J	Bukalasa	I	1/1	387	N.S.	5.86
J	Bukalasa	I	3/1	1044	N.S.	5.86

(Lime was applied in the first season of each year at the rate of 2 tons per acre)

Table IV.5 Cotton mean yields and treatment effects (in lbs/acre) in "improved" long-term trials

Map key	Station	Year	Mean Yield	Main Effects			Extra Effects "Control" B2	Significant Two-Factor Interactions	C.V.
				B	K	L			
A	Abi A	68	1378	133 [*]	-2	9	-286 ^{**}	-	10.9
		69	885	-21	216 ^{***}	89	-187 [*]	-	18.6
		70	516	25	142 ^{***}	213 ^{**}	-202 [*]	-	24.6
B	Kitgum A	69	539	39	-39	16	-43	-	22.9
		70	1162	260 ^{**}	106	-90	-195 ^{**}	-	18.4
		71	665	101	19	101	-92	-	23.0
H	Nakabango A	69	1251	26	-76	37	55	-	8.8
		70	1524	-8	-2	45	-193 ^{**}	-	8.0
		71	1766	-20	-67	125	-142	-	12.4
I	Nakason-gola A	69	1595	-59	44	85	-143	-	21.4
		70	1275	113	91	121	-216	-	22.4
		71	855	-49	57	95	-114	-	29.6
J	Bukalasa B	69	1521	86	-32	67	-210 ^{**}	-	9.4
		70	1028	-115 ^{**}	71 [*]	2	-3	BK = 77 [*]	9.1
		71	1373	81	-96	-13	19	-	10.4
K	Namulonge A	68	1344	93 [*]	-95 [*]	2	-61	-	8.8
		69	1397	8	-40	53	-81	-	16.5
		70	1600	-123	-156	-198 [*]	171	-	15.7

Map key	Station	Year	Mean yield	Main Effects			Extra Effects		Significant Two-Factor Interactions	C.V.
				B	K	L	"Control"	B2		
L	Kavanda C	69	1442	63	105	28	-314**	65	-	12.5
		70	1454	-66	234*	127	-489**	77	BK = 224*	18.7
		71	1235	-90	256*	225*	-423*	113	-	26.9
M	Bukomero	69	1219	199***	187**	119*	-493***	210*	-	12.5
		70	1130	74	36	59	-177	125	-	15.1
		71	1458	-64	79	64	-203	-21	-	10.4

Table IV.6

Effect of management on yields and responses of cotton in Northern areas (1965-67)

a) Mean unfertilized seed cotton yields (lbs/acre) obtained at different spray rates

Year	No. of sprays					Overall S.D.
	0	1	2	3	4	
65	657 (192)	771 (42)	750 (72)	761 (64)	844 (75)	285
66	695 (343)	693 (38)	628 (68)	779 (57)	898 (89)	361
67	596 (102)	463 (12)	452 (39)	572 (38)	741 (146)	263
All	668 (637)	699 (92)	639 (179)	722 (159)	811 (310)	

b) Mean seed cotton yield responses (lbs/acre) to N2P2 fertilizer treatment at different spray rates

Year	No. of sprays					Overall S.D.
	0	1	2	3	4	
65	356 (192)	263 (42)	317 (72)	359 (64)	430 (75)	294
66	357 (343)	364 (38)	301 (68)	408 (57)	428 (89)	317
67	272 (102)	227 (12)	251 (39)	267 (38)	375 (146)	234
All	343 (637)	300 (92)	297 (179)	355 (159)	404 (310)	

c) Mean seed cotton percentage yield responses to N2P2 fertilizer treatment at different spray rates

Year	No. of sprays					
	0	1	2	3	4	
All	61 (637)	50 (92)	53 (179)	58 (159)	60 (310)	

(N.B. The number of trials from which the figures have been derived are given in brackets.)

Table IV.7

Effect of management on yields and responses of cotton in Southern areas (1965-67)

a) Mean unfertilized seed cotton yields (lbs/acre) obtained at different spray rates

Year	0	No. of sprays			4	Overall S.D.
		1	2	3		
65	884 (161)	772 (27)	902 (20)	847 (4)	(0)	402
66	917 (188)	940 (13)	999 (9)	779 (4)	1479 (2)	422
67	675 (56)	556 (11)	650 (41)	792 (20)	892 (37)	310
All	870 (405)	768 (51)	767 (70)	798 (28)	922 (39)	

b) Mean seed cotton yield responses (lbs/acre) to N2P2 fertilizer treatment at different spray rates

Year	0	No. of sprays			4	Overall S.D.
		1	2	3		
65	82 (161)	72 (27)	308 (20)	323 (4)	(0)	270
66	161 (188)	245 (13)	305 (9)	227 (4)	452 (2)	270
67	139 (56)	227 (11)	139 (41)	133 (20)	117 (37)	186
All	127 (405)	149 (51)	209 (70)	174 (28)	134 (39)	

c) Mean seed cotton percentage yield responses to N2P2 fertilizer treatment at different spray rates

Year	0	No. of sprays			4
		1	2	3	
All	23 (405)	23 (51)	33 (70)	28 (28)	18 (39)

(N.B. The number of trials from which the figures have been derived are given in brackets)

Table IV.8

Effect of cropping year on yields and responses of cotton in Northern areas
(1965-67)

a) Mean unfertilized seed cotton yields (lbs/acre) obtained in different
cropping years

Year	Cropping year					Overall S.D.
	1	2	3	4	5	
65	721 (186)	677 (66)	755 (47)	722 (34)	763 (113)	285
66	677 (300)	828 (81)	763 (54)	698 (41)	775 (111)	361
67	598 (180)	723 (26)	738 (30)	607 (21)	644 (83)	263
All	668 (666)	755 (113)	754 (131)	687 (96)	735 (307)	

b) Mean seed cotton yield responses (lbs/acre) to N2P2 fertilizer treatment
in different cropping years

Year	Cropping year					Overall S.D.
	1	2	3	4	5	
65	294 (186)	395 (66)	460 (47)	358 (34)	381 (113)	294
66	363 (300)	351 (81)	308 (54)	380 (41)	407 (111)	317
67	256 (180)	279 (26)	311 (30)	380 (21)	419 (83)	234
All	315 (666)	357 (173)	363 (131)	372 (96)	401 (307)	

c) Mean seed cotton percentage yield responses to N2P2 fertilizer treatment
in different cropping years

Year	Cropping year				
	1	2	3	4	5
All	56 (666)	56 (173)	58 (131)	66 (96)	64 (307)

Table IV.9

Effect of cropping year on yields and responses of cotton in Southern areas
(1965-67)

) Mean unfertilized seed cotton yields (lbs/acre) obtained in different cropping years

Year	1	2	Cropping year		4	5	Overall S.D.
			3				
65	904 (124)	966 (37)	711 (25)		822 (8)	691 (18)	402
66	892 (111)	999 (48)	964 (29)		897 (10)	892 (18)	422
67	690 (100)	732 (37)	798 (7)		615 (3)	891 (20)	310
All	836 (335)	908 (122)	841 (61)		828 (21)	824 (56)	

) Mean seed cotton yield responses (lbs/acre) to N2P2 fertilizer treatment in different cropping years

Year	1	2	Cropping year		4	5	Overall S.D.
			3				
65	119 (124)	77 (37)	143 (25)		37 (8)	64 (18)	270
66	191 (111)	196 (48)	127 (29)		53 (10)	179 (18)	270
67	141 (100)	162 (37)	108 (7)		100 (3)	96 (20)	186
All	149 (335)	150 (122)	131 (61)		54 (21)	112 (56)	

) Mean seed cotton percentage yield responses to N2P2 fertilizer treatment in different cropping years

Year	1	2	Cropping year		4	5
			3			
All	24 (335)	21 (122)	24 (61)		20 (21)	24 (56)

Table IV.10

Change in mean unfertilized seed cotton yields (lbs/acre) with
cropping year in the second series of long term trials

Map key	Trial	Yield in 1st year	Change in yield (compared with 1st year)	
			2nd year	3rd year
A	Abi	1092	-394 ^{**}	-778 ^{***}
B	Kitgum	496	471 ^{***}	77
H	Nakabango	1306	25	318 ^{**}
I	Nakasongola	1452	-393	-711 ^{***}
J	BuKalasa	1311	-286 ^{**}	81
K	Namulonge	1283	33	488 ^{***}
L	Kawanda C	1128	-163	-316 [*]
M	Bukomero	726	227	529 ^{***}

Table IV.11 Cotton yields and leaf nutrient levels in relation to soil properties: simple correlation coefficients

Map No.	Location	Year	No. of trials	Linear correlation of unfertilized cotton yields with soil:			Linear correlation of leaf P with soil:			Leaf K with Extr. K
				O.M.	pH	Extr. P	Rest	O.M.	pH	
1	Yumbe	66	30	N.S.	N.S.	N.S.	-0.475**			
		67	30	N.S.	N.S.	N.S.	N.S.			
		68	30	N.S.	N.S.	N.S.	-0.381*			
2	Terego	65	20	~* 0.398	N.S.	N.S.	N.S.			
		66	30	* 0.365	N.S.	N.S.	N.S.			
		67	28	~* 0.351	N.S.	N.S.	N.S.			
3	Rhino-camp	67	27	N.S.	N.S.	N.S.	N.S.			
		68	29	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	0.610** N.S.
4	Inde	65	29	N.S.	N.S.	N.S.	N.S.			
		66	28	N.S.	N.S.	N.S.	N.S.			
5	Paidha	65	29	N.S.	0.355*	N.S.	N.S.~*			
		66	24	N.S.	N.S.	N.S.	-0.363			
6	Angal	65	22	~* 0.379	N.S.	N.S.	N.S.			
		66	30	* 0.434	N.S.	0.495**	N.S.			
7	Obongi	65	24	* 0.449	N.S.~*	0.589**	N.S.~*			
		66	27	N.S.	0.371*	N.S.	0.331			

Map No.	Location	Year	No. of trials	Linear correlation of unfertilized cotton yields with soil:				Linear correlation of leaf P with soil:			Leaf K with
				O.M.	pH	Extr. P	Rest	O.M.	pH	Extr. P	Extr. K
8	Pakelle	65	23	N.S.	N.S.	N.S.	0.385 ^{~*}				
		66	30	0.558 ^{***}	N.S.	N.S.	0.617 ^{***}				
		67	23	N.S.	N.S.	N.S.	-0.376 ^{~*}				
		68	22	N.S.	-0.566 ^{**}	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
9	Atiak	70	20	N.S.	0.433 ^{~*}	N.S.	N.S.				
		71	18	N.S.	N.S.	N.S.	N.S.				
11	Gulu	70	20	N.S.	0.553 [*]	N.S.	0.398 ^{~*}	N.S.	0.411 ^{~*}	0.648 ^{**}	0.714 ^{***}
		71	20	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	0.411 ^{~*}	N.S.
12	Anaka	70	20	N.S.	N.S.	N.S.	N.S.				
		71	20	0.682 ^{***}	N.S.	N.S.	0.539 [*]				
13	Kitgum	70	18	N.S.	0.612 ^{**}	0.504 [*]	N.S.				
		71	19	N.S.	N.S.	N.S.	N.S.				
14	Patongo	70	19	0.555 [*]	N.S.	0.637 ^{**}	N.S.				
		71	20	N.S.	N.S.	N.S.	N.S.				
15	Aboke	65	26	N.S.	N.S.	N.S.	N.S.				
		66	19	0.419 [*]	0.452 [*]	N.S.	0.576 ^{**}				
		67	26	0.418 [*]	0.489 ^{**}	N.S.	N.S.				

[illegible]

Map No.	Location	Year	No. of trials	Linear correlation of unfertilized cotton yields with soil:				Linear correlation of leaf P with soil:			Leaf K with
				O.M.	pH	Extr. P	Rest	O.M.	pH	Extr. P	
21	Soroti	65	24	N.S.	0.352 ^{~*}	N.S.	N.S.	N.S.	N.S.	N.S.	0.582 ^{**}
		66	30	N.S.	N.S.	N.S.	N.S.				
22	Serere	65	29	N.S.	N.S.	0.677 ^{***}	N.S.	N.S.	N.S.	N.S.	0.357 ^{~*}
		66	28	0.522 ^{**}	N.S.	0.421 [*]	0.335 ^{~*}	N.S.			
23	Ngora	66	30	N.S.	N.S.	N.S.	N.S.	N.S.			
24	Kimi	65	28	N.S.	0.469 [*]	N.S.	N.S.	N.S.	N.S.	0.400 [*]	0.555 ^{**}
		66	24	N.S.	N.S.	N.S.	N.S.	N.S.			
26	Pallisa	65	26	N.S.	N.S.	N.S.	N.S.	N.S.	0.349 ^{~*}	0.447 [*]	
		66	22	N.S.	N.S.	N.S.	N.S.				
		67	28	N.S.	N.S.	N.S.	N.S.				
27	Budaka	65	28	N.S.	N.S.	N.S.	0.453 [*]	N.S.	0.560 ^{**}	0.620 ^{***}	0.508 ^{**}
		66	24	N.S.	N.S.	N.S.	0.560 ^{**}				
		67	27	N.S.	0.332 ^{~*}	0.377 ^{~*}	N.S.				
28	Bunyole	65	11	N.S.	N.S.	N.S.	N.S.	N.S.	0.572 ^{**}	N.S.	
		66	24	0.596 ^{**}	N.S.	N.S.	N.S.				
		67	28	0.450 [*]	N.S.	0.462 [*]	N.S.				

Map No.	Location	Year	No. of trials	Linear correlation of unfertilized cotton yields with soil:				Linear correlation of leaf P with soil:				Leaf K with Extr. K
				O.M.	pH	Extr. P	Rest	O.M.	pH	Extr. P		
29	Budama	65	25	N.S.	N.S.	N.S.	N.S.	N.S.	0.456*	0.430*	N.S.	
		66	27	N.S.	N.S.	N.S.	N.S.					
30	Samia-Bugwe	65	22	N.S.	N.S.	N.S.	N.S.	N.S.	0.706***	0.804***		
		66	18	N.S.	0.556*	0.404~*	0.504*					
		67	20	N.S.	N.S.	N.S.	N.S.					
		68	15	N.S.	N.S.	0.651**	N.S.	N.S.	N.S.	0.736**	N.S.	
31	Kamuli	65	18	N.S.	N.S.	0.442*	N.S.	N.S.	N.S.	N.S.		
		66	27	N.S.	0.355~*	0.521**	N.S.					
		67	20	-0.464*	N.S.	N.S.	N.S.					
		68	18	N.S.	0.547**	N.S.	N.S.	N.S.	0.405~*	0.476*	N.S.	
32	Bulamogi	70	24	0.595**	N.S.	N.S.	N.S.	N.S.	0.510*	0.571**	N.S.	
		71	24	N.S.	0.578**	N.S.	N.S.	-0.441*	0.359~*	N.S.	N.S.	
33	Busiki	70	24	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	0.469*	0.651***	
		71	23	0.547**	N.S.	N.S.	N.S.	-0.414*	0.441*	N.S.	N.S.	
34	Kagoma	65	25	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	
		66	26	N.S.	N.S.	N.S.	N.S.					
		67	28	N.S.	N.S.	N.S.	N.S.					

Map No.	Location	Year	No. of trials	Linear correlation of unfertilized cotton yields with soil:				Linear correlation of leaf P with soil:				Leaf K with Extr. K
				O.M.	pH	Extr. P	Rest	O.M.	pH	Extr. P		
35	Iganga	65	23	N.S.	N.S.	N.S.	N.S.	N.S.	0.395 [*]	0.583 ^{**}	0.568 ^{**}	
		66	25	N.S.	0.431 [*]	N.S.	N.S.					
		67	24	N.S.	0.367 [*]	N.S.	N.S.					
36	Bugiri	65	24	N.S.	N.S.	N.S.	0.475 [*]	N.S.	N.S.	0.387 [*]		
		66	25	-0.492 [*]	N.S.	N.S.	N.S.					
		67	20	N.S.	N.S.	N.S.	N.S.					
		68	18	0.562 [*]	N.S.	0.401 [*]	N.S.	N.S.	N.S.	N.S.	N.S.	
37	Nakason-gola	66	27	N.S.	N.S.	N.S.	N.S.					
		67	23	N.S.	0.436 [*]	N.S.	N.S.					
		68	18	N.S.	0.486 [*]	N.S.	-0.522 [*]	N.S.	N.S.	0.552 [*]	N.S.	
38	Kayunga	65	25	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	
		66	26	N.S.	N.S.	N.S.	N.S.					
		67	21	0.480 [*]	0.468 [*]	N.S.	N.S.					
		68	15	0.458 [*]	0.535 [*]	0.574 [*]	N.S.	N.S.	N.S.	N.S.	N.S.	
39	Kalagala	65	23	N.S.	0.417 [*]	N.S.	N.S.	N.S.	0.522 [*]	0.490 [*]	N.S.	
		66	25	N.S.	0.442 [*]	0.590 ^{**}	N.S.	N.S.				
40	Buikwe	66	12	0.668 [*]	N.S.	0.719 ^{**}	N.S.					

Map No.	Location	Year	No. of trials	Linear correlation of unfertilized cotton with soil:				Linear correlation of leaf P with soil:				Leaf K with
				O.M.	pH	Extr. P	Rest	O.M.	pH	Extr. P	Extr. K	
42	Kiboga	70	20	0.532*	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	
		71	20	N.S.	N.S.	0.455*	N.S.	N.S.	N.S.	N.S.		
43	Bukomero	65	28	N.S.	N.S.	N.S.	N.S.	N.S.	0.345 [~] *	0.447*		
		66	29	N.S.	0.324 [~] *	0.483**	N.S.	N.S.				
		67	18	N.S.	N.S.	N.S.	N.S.					
		68	20	N.S.	N.S.	N.S.	N.S.	0.391 [~] *	N.S.	0.480*		N.S.
44	Kalangalo	66	14	N.S.	N.S.	N.S.	-0.517*	N.S.				
		70	15	N.S.	N.S.	N.S.	N.S.	N.S.	0.447 [~] *	0.562*		0.651**
		71	16	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.		N.S.
45	Kakindu	71	12	-0.619*	N.S.	N.S.	N.S.	N.S.	N.S.	0.713**		
46	Kiriri	66	14	N.S.	N.S.	N.S.	N.S.					
		70	18	N.S.	N.S.	N.S.	N.S.	N.S.	0.505*	N.S.		0.551*
		71	19	N.S.	0.451*	0.538*	N.S.	N.S.	N.S.	N.S.		N.S.
47	Kakiri	65	24	N.S.	0.479*	0.464*	N.S.	N.S.	0.618**	0.552**		0.355 [~] *
		66	15	N.S.	N.S.	N.S.	N.S.					
48	Nkozi	71	15	0.452 [~] *	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.		N.S.
49	Bwijanga	66	17	N.S.	N.S.	0.482*	N.S.					
		67	16	N.S.	N.S.	N.S.	N.S.					

Map No.	Location	Year	No. of trials	Linear correlation of unfertilized cotton with soil:			Linear correlation of leaf P with soil:			Leaf K with Extr. K
				O.M.	pH	Extr. P	Rest	O.M.	pH	
50	Masindi	68	14	-0.533 [†]	N.S.	N.S.	N.S.			
51	Kiryan-dongo	70	17	N.S.	N.S.	N.S.	N.S.			
		71	20	N.S.	0.417 ^{√*}	N.S.	N.S.			
57	Rakai	66	14	N.S.	N.S.	N.S.	N.S.			
59	N. Bugisu	65	19	0.758 ^{***}	N.S.	N.S.	0.708 ^{***}	N.S.	N.S.	N.S.
		66	24	0.775 ^{***}	N.S.	0.556 ^{**}	N.S.			
		67	23	N.S.	N.S.	N.S.	N.S.			
		68	20	N.S.	N.S.	N.S.	N.S.	0.385 ^{√*}	0.515 [*]	N.S.
60	C. Bugisu	65	13	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	
		66	23	0.509 [*]	N.S.	0.780 ^{***}	N.S.			
		67	22	N.S.	N.S.	0.542 ^{**}	N.S.			
61	S. Bugisu	65	18	N.S.	N.S.	N.S.	N.S.	0.571 [*]	N.S.	0.625 ^{**}
		66	26	N.S.	N.S.	N.S.	-0.369 ^{~*}			
		67	22	-0.395 ^{~*}	0.477 [*]	0.515 [*]	N.S.			
		68	20	N.S.	0.397 ^{~*}	0.500 [*]	N.S.	0.468 [*]	0.650 ^{**}	N.S.

Map key	Station	Trial	Year of rotation	Percentage of total dry weight			m.e./100g dry weight			Percentage of total bases (m.e. basis)		
				Ca	Mg	K	Ca	Mg	K	Ca	Mg	K
H	Nakabango	A	2nd	2.39	0.59	1.87	119	48	48	55.3	22.3	22.3
I	Nakasongola	A	2nd	2.20	0.47	2.29	110	39	59	52.9	18.8	28.4
J	Bukalasa	B	2nd	2.16	0.32	1.99	108	26	51	58.4	14.1	27.6
K	Namulonge	A	2nd	2.69	0.36	2.28	134	30	58	60.4	13.5	26.1
L	Kawanda	C	2nd	2.81	0.53	2.16	140	44	55	58.6	18.4	23.0
M	Bukomero	A	2nd	2.76	0.68	2.44	138	56	62	53.9	21.9	24.2
H	Nakabango	A	3rd	2.58	0.60	2.37	129	49	61	54.0	20.5	25.5
I	Nakasongola	A	3rd	2.56	0.31	1.78	128	25	46	64.3	12.6	23.1
J	Bukalasa	B	3rd	3.14	0.83	1.78	157	68	46	57.9	25.1	17.0
K	Namulonge	A	3rd	NA	NA	NA	NA	NA	NA	NA	NA	NA
L	Kawanda	C	3rd	3.19	0.73	2.01	159	60	51	58.9	22.2	18.9
M	Bukomero	A	3rd	3.03	0.96	2.14	151	79	55	53.0	22.7	19.3

Map key	Station	Trial	Year of rotation	Mean in unlimed plots					Difference in limed plots				
				Percentage of total dry weight					Percentage of total dry weight				
				N	P	Ca	Mg	K	N	P	Ca	Mg	K
H	Nakabango	A	2nd	4.58	0.36	2.33	0.59	1.86	0.01	0.02	0.10	-0.01	-0.02
I	Nakasongola	A	2nd	4.55	0.42	2.17	0.46	2.36	0.07	0.03	0.11*	0.00	-0.10
J	Bukalasa	B	2nd	4.66	0.43	2.13	0.29	2.05	-0.03	0.01	0.13	0.02	0.11
K	Namulonge	A	2nd	4.79	0.49	2.55	0.35	2.25	0.05	0.04	0.23***	0.00	0.04
L	Kawanda	C	2nd	4.81	0.37	2.73	0.47	2.28	0.03	0.04***	0.13*	0.01	-0.01
M	Bukomero	A	2nd	4.99	0.43	2.58	0.68	2.42	0.02	0.02	0.16	-0.04	-0.05
H	Nakabango	A	3rd	4.61	0.29	2.51	0.60	2.36	0.09	0.02**	0.09*	0.03	0.06
I	Nakasongola	A	3rd	4.34	0.34	2.48	0.29	1.74	0.00	0.03*	0.22*	0.01	0.09
J	Bukalasa	B	3rd	4.77	0.35	3.06	0.82	1.86	0.10	0.02	0.08	-0.02	-0.03
K	Namulonge	A	3rd	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
L	Kawanda	C	3rd	4.76	0.36	3.14	0.70	2.18	0.02	0.04*	0.09	-0.01	-0.05
M	Bukomero	A	3rd	4.56	0.34	2.91	0.97	2.16	0.00	0.01	0.08	-0.06**	-0.08

Map No.	Location	Year	No. of trials	Percentage of total dry weight			Total bases m.e./100g	Percentage of total bases (m.e. basis)		
				Ca	Mg	K		Ca	Mg	K
20	Katakwi	65	28	1.73	0.41	1.82	184	53.4	21.2	25.4
21	Soroti	65	24	2.19	0.59	1.60	199	54.6	24.0	21.4
22	Serere	65	29	2.60	0.31	2.52	220	59.0	11.4	29.6
24	Kumi	65	28	2.20	0.31	2.21	192	57.1	13.4	29.6
27	Budaka	65	28	2.64	0.45	2.67	237	55.4	15.7	28.9
29	Budama	65	25	2.42	0.43	2.22	213	56.2	16.8	27.0
34	Kagoma	65	25	2.87	0.34	2.76	242	59.1	11.6	29.4
35	Iganga	65	23	2.86	0.42	2.57	243	58.4	14.4	27.2
39	Kalagala	65	23	2.57	0.53	2.67	240	53.1	18.3	28.6
47	Kakiri	65	24	2.45	0.45	2.70	228	53.5	16.1	30.3
3	Rhino-camp	68	29	1.39	0.50	1.86	158	43.1	26.3	30.6
8	Pakelle	68	22	2.00	0.50	2.02	193	51.7	21.5	26.8
16	Ngetta	68	11	2.13	0.53	1.92	199	53.5	21.8	24.8

Map No.	Location	Year	No. of trials	Percentage of total dry weight			Total bases m.e./100g	Percentage of total bases (m.e. basis)		
				Ca	Mg	K		Ca	Mg	K
17	Abako	68	17	1.73	0.38	1.73	162	53.2	19.3	27.5
19	Dokolo	68	12	1.64	0.33	1.44	146	56.1	18.4	25.5
20	Katakwi	68	11	1.33	0.28	1.25	121	54.8	18.7	26.6
30	Samia-Bugwe	68	15	1.83	0.47	1.33	164	55.7	23.5	20.8
31	Kamuli	68	18	1.92	0.41	1.59	170	56.3	19.5	24.2
36	Bugiri	68	18	2.10	0.37	2.03	187	56.8	16.3	26.9
37	Nakason-gola	68	18	2.07	0.41	2.02	189	54.7	17.8	27.6
61	Bugisu S.	68	20	1.95	0.39	1.92	179	54.6	17.9	27.5
59	Bugisu N.	68	20	2.01	0.48	1.90	188	53.0	20.9	26.1
43	Bukomero	68	20	2.37	0.72	2.31	236	50.1	25.0	24.9
38	Kayunga	68	15	2.21	0.50	1.93	201	54.8	20.4	24.8

ble IV.15 Classification of trial areas according to unfertilized cotton
yield level

Land Surface	Soil mapping unit	Average unfertilized cotton yield (lbs/acre seed cotton)		
		Low (<625)	Medium (626 - 825)	High (>825)
Upwarped Tanganyika	Yumbe			1
	Arua		2	
	Parombo	5	6	
Rift valley	Rogem		3, 4	7
Acholi	Palabek		8	
Degraded Tanganyika	Anaka			12
Lake deposits overlying Tanganyika	Amuria	14, 21 [*] , 23, 24 [*]	15, 22 [*]	
	Mazimasa	26, 27	29 [*] , 32, 33, 36 [*]	
	Usuku	20		
	Dokolo		16, 19	
	Lwampanga	28		
Tanganyika	Pajule	9	13	
	Buruli	21 [*] , 24 [*] , 30	17, 18, 22 [*] , 29 [*] , 31, 35, 36 [*] , 37	11
	Buyaga			34, 38, 39, 42, 43
	Holma		49	
	Kigumba			50, 51
Buganda	Buganda			40, 45, 46, 47

Land surface	Soil mapping unit	Average unfertilized cotton yield (lbs/acre seed cotton)		
		Low (<625)	Medium (626 - 825)	High (>825)
Degraded Buganda	Kabira			41
	Buwekula			44 [*]
	Lukaya			44 [*]
	Mbale	60		
	Bubutu	61		
Koki	Koki			57
Volcanic	Siroko		59	

B. Trial centres identified by their map key.

Asterisks indicate centres where trials are on more than one soil mapping unit.)

mean results obtained in different seasons

Soils	No. of centres	Dependent variable	Independent variables		Fitted regression equation	R ² %	r _{YX1.X2}	r _{YX2.X1}	Residual error
			Y	X1	X2				
F	122	Response to N1 in presence of P1 (lbs/acre).		Soil O.M. (%)		22.7	-0.476***		65.3
T	100			Soil O.M. (%)		23.5	-0.485***		67.4
F	51			Soil N.I. (p.p.m.)		29.0	-0.538***		67.6
T	43			Soil N.I. (p.p.m.)		27.4	-0.524***		70.9
F	122	Response to N2 in presence of P2 (lbs/acre).		Soil O.M. (%)	Sunshine (hrs/day)	21.3	-0.079	0.388***	124.9
T	100			Soil O.M. (%)	Sunshine (hrs/day)	30.6	-0.184*	0.436***	112.0

Soils	No. of centres	Dependent variable	Independent variables		Fitted regression equation	R ² %	r _{YX1.X2}	r _{YX2.X1}	Residual error
		Y	X1	X2					
F	122	Response to N1 in presence of P1 (percent).	Soil O.M. (%)		Y = 4.05 + 37.6/X1	31.7	0.563***		11.4
T	100		Soil O.M. (%)		Y = 3.51 + 38.3/X1	34.4	0.587***		11.5
F	51		Soil N.I. (p.p.m.)		Y = 927.0/X1 - 0.53	42.1	0.649***		9.4
T	43		Soil N.I. (p.p.m.)		Y = 890.7/X1 + 0.47	40.4	0.635***		9.7
F	122	Response to N2 in presence of P2 (percent).	Soil O.M. (%)		Y = 12.2 + 57.4/X1	23.5	0.484***		21.4
T	100		Soil O.M. (%)		Y = 11.7 + 58.2/X1	25.8	0.508***		21.4
F	51		Soil N.I. (p.p.m.)		Y = 5.9 + 1351.4/X1	32.3	0.568***		16.9
T	43		Soil N.I. (p.p.m.)		Y = 5.0 + 1362.4/X1	38.0	0.616***		15.7

Table IV.1. Regression of YULLUM yield responses to nitrogen and phosphorus mean results averaged over all seasons

Soils	No. of centres	Dependent variable	Independent variables		Fitted regression equation	R ² %	r _{YX1.X2}	r _{YX2.X1}	Residual error
			Y	X1	X2				
F	47	Response to N1 in presence of P1 (lbs/acre).		Soil O.M. (%)		Y = 196.4 - 29.5X1	-0.649***		45.0
T	37			Soil O.M. (%)		Y = 198.9 - 29.5X1	-0.644***		46.8
F	47	Response to N2 in presence of P2 (lbs/acre).		Soil O.M. (%)	Sunshine (hrs/day)	Y = 84.2X2 - 17.7X1 - 415.5	-0.211	0.448**	93.4
T	37			Soil O.M. (%)	Sunshine (hrs/day)	Y = 89.4X2 - 19.9X1 - 452.0	-0.270 ⁺	0.426**	85.0
F	47	Response to N1 in presence of P1 (percent).		Soil O.M. (%)		Y = 3.94 + 38.4/X1	0.721***		7.65
T	37			Soil O.M. (%)		Y = 3.85 + 38.4/X1	0.757***		7.26
F	47	Response to N2 in presence of P2 (percent).		Soil O.M. (%)		Y = 11.8 + 56.4/X1	0.688***		12.3
T	37			Soil O.M. (%)		Y = 13.9 + 53.2/X1	0.721***		11.2

Soils	No. of centres	Dependent variable	Independent variables		Fitted regression equation	R ² %	r _{YX1.X2}	r _{YX2.X1}	Residual error
		Y	X1	X2					
Trial centre mean results obtained in different seasons									
P	122	Response to P1 in presence of N2 (lbs/acre).	Soil Extr. P p.p.m.		Y = 97.2 - 5.09X1	14.4	-0.380***		65.2
T	100				Y = 100.5 - 5.54X1	12.4	-0.352***		67.0
F	122	Response to P2 in presence of N2 (lbs/acre).	Soil Extr. P p.p.m.	Sunshine (hrs/day)	Y = 35.7X2 - 2.42X1 - 162.8	9.0	-0.114	0.195*	97.2
T	100				Y = 46.4X2 - 4.54X1 - 234.7	15.0	-0.211*	0.240**	88.9
Trial centre mean results averaged over all seasons									
F	47	Response to P1 in presence of N2 (lbs/acre).	Soil Extr. P p.p.m.		Y = 105.6 - 5.51X1	23.2	-0.482***		42.0
T	37				Y = 104.0 - 5.50X1	21.0	-0.453***		40.1
F	47	Response to P2 in presence of N2 (lbs/acre).	Soil Extr. P p.p.m.	Sunshine (hrs/day)	Y = 27.7X2 - 5.84X1 - 71.9	29.9	-0.340*	0.252 ^{uv} *	57.5
T	37				Y = 40.2X2 - 6.26X1 - 170.2	31.7	-0.366*	0.319*	54.8

No.	management) trials	(and S.D.)	P1 - P0	(S.D.)	P2 - P0	P2 - P1	SP - TP
2	66 (U)	23	2654 (1238)	495 ***	456 **	-39	
	67 (U)	15	2368 (560)	439 **	691 ***	252	
	67 (I)	10	4081 (755)	581 ***	457 **	-124	
	68 (I)	16	3770 (482)	951 ***	962 ***	11	
	66 - 68	64	3089	609	638	29	
5	66 (U)	22	1132 (469)	66	112	46	
8	68 (I)	19	2540 (599)	536 ***	595 ***	59	
10	69 (I)	18	2721 (1261)	689 ***	620 ***	-69	17 ***
	70 (I)	19	6117 (641)	653 ***	680 ***	27	578 ***
	71 (I)	20	4940 (1121)	69	312 **	243 *	190
	69 - 71	57	4632	459	532	73	265
13	69 (I)	19	2723 (591)	514 ***	628 ***	114	363 ***
	70 (I)	20	3593 (736)	465 *	561 **	96	215
	71 (I)	19	2212 (565)	605 ***	663 ***	58	1
	69 - 71	58	2856	527	616	89	193

Map No.	Location	Year (and management)	No. of trials	Unfertilized yield (and S.D.)	Treatment effects				
					P1 - P0	(S.D.)	P2 - P0	P2 - P1	SP - TP
14	Patongo	69 (I)	20	2343 (756)	*** 339	(512)	*** 343	4	49
		70 (I)	19	3431 (747)	*** 465	(544)	*** 712	247*	115
		71 (I)	20	3035 (670)	* 345	(427)	* 421	76	-140
		69 - 71	59	2928	382		488	106	6
19	Dokolo	66 (U)	20	2315 (667)	*** 832	(587)	*** 911	79	
		67 (U)	20	2366 (855)	* 372	(589)	* 356	-16	
		67 (I)	10	3202 (1170)	* 461	(590)	* 303	-158	
		68 (I)	19	2538 (995)	* 381	(461)	*** 609	228	
20	Katakwi	66 - 68	69	2520	521		579	58	
		66 (U)	29	2141 (562)	*** 748	(470)	*** 1060	312***	
		67 (U)	15	2737 (443)	*** 1228	(498)	*** 1082	-146	
		67 (I)	10	2324 (527)	*** 1181	(714)	*** 1051	-130	
21	Soroti	68 (I)	16	1983 (793)	*** 1245	(676)	*** 1132	-113	
		66 - 68	70	2259	1026		1080	54	
		66 (U)	22	1821 (569)	* 280	(491)	127	-153	

Map No.	Location	Year (and management)	No. of trials	Unfertilized yield (and S.D.)	Treatment effects				
					P1 - P0	(S.D.)	P2 - P0	P2 - P1	SP - TP
22	Serere	65 (U)	28	1848 (782)	150	(301)	*** 310	* 160	
		66 (U)	29	2672 (1097)	284**	(547)	*** 672	*** 388	
		65 - 66	57	2267	218		494	276	
23	Ngora	66 (U)	29	2255 (1104)	517***	(505)	*** 505	-12	
24	Kumi	65 (U)	30	2387 (1051)	294***	(516)	*** 384	90	
		66 (U)	29	1768 (633)	323***	(390)	*** 416	93	
		65 - 66	59	2083	308		400	92	
25	Bukeden	69 (I)	15	1678 (379)	437***	(378)	*** 456	19	112
		70 (I)	27	2419 (781)	252**	(263)	** 254	2	-3
		69 - 70	42	2154	318		326	8	38
26	Pallisa	69 (I)	17	1366 (679)	105	(347)	125	20	57
28	Bumyole	69 (I)	17	2238 (1020)	-129	(460)	45	174	20
		71 (I)	16	2019 (1251)	-44	(303)	60	104	85
		69 & 71	33	2132	-88		52	140	52

						P1 - PO (S.D.)	P2 - PO	P2 - P1	SF - 1P
31	Kamuli	66 (U)	20	2969 (834)	833 ***	(567)	926 ***	93	
		67 (U)	13	2576 (1143)	52	(443)	198	146	
		67 (I)	10	2527 (1047)	607 ***	(453)	572 ***	-35	
		68 (I)	19	2943 (1765)	195	(450)	125	-70	
32	Bulamogi	66 - 68	62	2807	437		471	34	
		70 (I)	23	2078 (567)	225 *	(428)	195 *	-30	-84
		71 (I)	23	2502 (517)	109	(461)	190 *	81	104
		70 - 71	46	2254	167		193	26	12
33	Busiki	70 (I)	25	2310 (664)	159 *	(318)	88	-71	99
		71 (I)	23	3185 (1263)	229 ***	(517)	196 *	-33	-4
		70 - 71	48	2729	193		140	-53	50
34	Kagoma	66 (U)	19	2968 (1226)	115	(396)	-5	-120	
		67 (U)	11	2029 (906)	2	(476)	87	85	
		67 (I)	10	2854 (1488)	204	(324)	10	-194	
		66 - 67	40	2681	106		24	-82	

Map No.	Location	Year (and management)	No. of trials	Unfertilized yield (and S.D.)	Treatment effects			
					P1 - P0 (S.D.)	P2 - P0	P2 - P1	SP - TP
35	Iganga	65 (U)	10	2070 (1096)	-25 (199)	363**	388**	
		66 (U)	24	2021 (1033)	26 (172)	147	121	
		67 (U)	14	2389 (1052)	-111 (581)	242	353*	
		67 (I)	10	3796 (2222)	-229 (247)	4	233	
		65 - 67	58	2424	-60	183	243	
36	Bugiri	66 (U)	20	2125 (746)	-25 (384)	-29	-4	
		68 (I)	11	2778 (1017)	-140 (490)	86	226	
		66 & 68	31	2357	-66	12	78	
37	Nakasongola	66 (U)	28	2307 (893)	91 (348)	175	84	
		67 (U)	10	3302 (904)	-113 (591)	133	246	
		68 (I)	19	3376 (981)	81 (510)	139	58	
		69 (I)	15	2537 (1255)	142 (397)	151	9	-77
		66 - 69	72	2775	71	155	84	
38	Kayunga	72 (I)	19	5112 (1527)	-164 (671)	66	230	
41	Kojja	72 (I)	21	5117 (1340)	75	54	21	

Map No.	Location	Year (and management)	No. of trials	Unfertilized yield (and S.D.)	Treatment effects				
					P1 - P0	(S.D.)	P2 - P0	P2 - P1	SP - TP
42	Kiboga	69 (I)	12	3106 (1027)	161	(392)	194	33	-55
		70 (I)	19	3021 (656)	227	(600)	137	-90	30
		71 (I)	20	3177 (1421)	149	(529)	268	119	
		69 - 71	51	3102	181		202	21	
43	Bukomero	66 (U)	28	2666 (644)	307 ^{**}	(373)	362 ^{**}	55	
		67 (U)	10	3792 (835)	37	(434)	32	-5	
		67 (I)	10	5210 (1185)	173	(532)	48	-125	
		68 (I)	21	4610 (1337)	256	(394)	245	-11	
51	Kiryan-dongo	67 - 68 (I)	69	3790	233		233	0	
		71 (I)	17	4849 (1127)	291	(527)	110	-181	
54	North Kashari	65 (U)	26	1608 (805)	675 ^{***}	(410)	459 ^{***}	-216 [*]	-225 [*]
		68 (I)	16	2084 (406)	247 [*]	(417)	381 ^{***}	134	
		65 & 68	42	1789	512		429	-83	
55	South Kashari	66 (U)	15	694 (280)	277 ^{**}	(362)	264 ^{**}	-13	

Map No.	Location	Year (and management)	No. of trials	Unfertilized yield (and S.D.)	Treatment effects				
					P1 - P0	(S.D.)	P2 - P0	P2 - P1	SP - TP
57	Rakai	66 (U)	15	1350 (388)	*** 540	(384)	*** 646	106	
		67 (I)	10	2394 (869)	* 329	(483)	*** 783	*** 454	
		68 (I)	19	2522 (700)		(468)	* 310	* 259	
		69 (I)	15	2949 (959)	** 251	(370)	** 248	-3	* -186
		66 - 69	59	2311	273		460	187	

* U = Unimproved

I = Improved

S.D. = Standard deviation

Table V.1b. Mean individual treatment effects on groundnut yields (in lbs/acre unshelled nuts) at four selected locations

Location	Year	No. of trials	Yield without fertilizer	Treatment effects				Standard error of effects
				S1	S2	T1	T2	
Kashari	1967	14	1736	255	52	273	258	141
	1968	16	2076	164	276	344	498	113
Koki	1969	15	2949	182	152	321	345	107
Pabbo	1969	18	2721	642	666	734	605	145
	1970	19	6115	1039	812	269	551	196
	1971	20	4939	207	343	-70	279	165
Kitgum	1969	19	2722	693	906	336	616	126
	1970	20	3592	497	721	433	402	166
	1971	19	2211	671	607	543	721	116

(S1 = single superphosphate applied at P1 rate
S2 = single superphosphate applied at P2 rate
T1 = triple superphosphate applied at P1 rate
T2 = triple superphosphate applied at P2 rate)

Location	No. of trials		Unfertilized yield Lbs/acre		Increase due to P1 Lbs/acre		Increase due to P1 Per cent	
	U	I	Unimproved	Improved	Unimproved	Improved	Unimproved	Improved
Terago	38	26	2541	3890	473	809	22.1	22.0
Dokolo	40	29	2341	2767	602	409	29.4	18.2
Katakwi	44	26	2344	2114	912	1220	41.3	60.1
Kamuli	33	29	2814	2800	525	337	19.8	19.2
Nakasongola	38	34	2569	3006	37	108	3.9	5.8
Bukomero	38	31	2962	4804	236	229	10.5	5.4
Overall	231	175	2582	3250	476	487	21.8	20.5

Table V.3 Legume yield percentage responses to muriate of potash fertilizer over years 1 to 4 (first phase) and years 5 to 8 (second phase) in long-term trials under normal management

Map key	Station	Trial	Extr. K in unfert. soil mg/100g	No. of trials	No. of sig. K responses	Mean percent response to K treatment	Extr. K in unfert. soil mg/100g	No. of trials	No. of sig. K responses	Mean percent response to K treatment
GROUNDNUTS										
A	Abi	I & II	7.0	4	0	-1	8.5	4	1	8
O	Bulindi	I	33.5	2	0	0	27.0	2	0	1
K	Namulonge	I & II	N.A.	4	0	2	23.5	4	0	-9
BEANS										
Q	Rubare	I & II	8.5	4	2	15	8.0	4	2	18
-*	Kachwekano	I	11.0	1	0	-14	11.0	2	1	38
L	Kavanda	II	7.0	2	0	7	7.5	2	2	44
N	Kakumiro	I & II	17.0	4	1	7	17.5	4	1	16
L	Kavanda	I	22.0	2	0	-4	16.5	2	0	12
-*	Kachwekano	II	28.0	1	0	-4	17.0	2	1	12
-**	Kyembogo	I & II	60.5	4	0	-3	48.5	4	0	-2
J	Bukalasa	I & II	45.0	4	0	-2	31.5	4	0	-11
K	Namulonge	I & II	N.A.	4	0	-2	23.5	3	0	-7

(During the first phase, K treatment was 0.5 cwt/acre muriate of potash applied every season.

During the second phase, K treatment was 2 cwt/acre muriate of potash applied in alternate seasons.

N.A. = Not available; * In Kigezi district; ** In Toro district)

Table V.4 Groundnut yields without lime and responses to lime
(in lbs/acre dry unshelled nuts) in long-term
trials under normal management

Map key	Station	Trial	Year/Season	Yield without lime lbs/acre	Per cent increase due to lime	Soil pH
A	Abi	I	2/1	1617	12 ^{**}	4.80
		II	1/1	1325	NS	4.84
		II	3/1	1192	28 ^{**}	4.84
C	Arupai	I	2/2	1951	19 ^{**}	5.10
K	Namulonge	I	1/2	1106	NS	5.25
		I	3/2	1041	37 [*]	5.25
		II	2/2	935	22 ^{**}	5.28
L	Kawanda	I	4/1	1058	14 [*]	5.83
O	Bulindi	I	1/2	670	NS	5.78
		I	3/2	736	NS	5.78

(Lime was applied in the first season of each year at the rate of 2 tons per acre)

e V.5 Bean yields without lime and responses to lime (in lbs/acre
dry grain) in long-term trials under normal management

Station	Trial	Year/ Season	Yield without lime lbs/acre	Per cent increase due to lime	Soil pH
Rubare	II	2/2	458	51 [*]	4.28
Rubare	I	2/1	405	31 ^{**}	4.53
Kakumiro	I	2/1	361	56 ^{**}	5.00
Kachwekano	II	1/1	667	N.S.	5.02
Kachwekano	II	3/1	566	N.S.	5.02
Kakumiro	II	1/1	562	14 ^{**}	5.06
Kawanda	II	2/1	283	N.S.	5.06
Arapai	I	2/1	442	N.S.	5.10
Kachwekano	I	2/1	294	N.S.	5.20
Namulonge	I	2/1	682	N.S.	5.25
Namulonge	II	3/2	945	N.S.	5.28
Kyembogo	II	2/1	1223	N.S.	5.32
Kyembogo	I	1/1	1422	N.S.	5.50
Kyembogo	I	3/1	613	N.S.	5.50
Bulindi	II	2/2	500	N.S.	5.64
Bukalasa	II	1/1	343	N.S.	5.77
Bukalasa	II	3/2	943	N.S.	5.77
Kawanda	I	1/2	221	N.S.	5.83
Kawanda	I	3/1	1300	N.S.	5.83
Bukalasa	I	2/1	234	N.S.	5.86

Lime was applied in the first season of each year at the rate of 2
tons per acre.

^{*}In Kigezi district;

^{**}In Toro district.)

Map key	Station	Year	Mean yield	Main Effects			Extra Effects (-)	B2	Significant 2-factor interactions	C.V.
C	Arapai	68	2087	-44	44	317***	-381***	293**	-	9.9
		69	1106	55	77	153	-105	248	-	22.7
		70	1256	-39	22	67	-132	-9	-	10.2

Map key	Station	Year	Mean yield	Main effects			Extra effects		Significant 2 - factor interactions	C.V.
				B	K	L	(-)	B2		
D	Kibale	69	402	-19	-69	124 [*]	-50	-22	-	34.4
		70	526	-10	8	40	-212 [*]	-19	-	25.1
		71	630	79	-37	129 [*]	-256 ^{**}	66	-	23.1
E	Iki-Iki	69	993	109	-69	-7	-373 [*]	71	-	18.8
		70	1317	181 ^{**}	-90	130 [*]	-497 ^{***}	196	-	12.3
		71	679	31	-76	69	-156 [*]	-5	-	13.8
F	Tororo	69	771	15	-45	121 [*]	0	-60	-	16.9
		70	733	84 [*]	-97 [*]	134 ^{**}	-99	78	-	14.6
		71	548	14	57	104 [*]	-28	-55	-	26.1
G	Bugaya	69	601	249 ^{***}	51	-108	-198	206 [*]	BL = -95 [*]	34.0
		70	823	276 ^{**}	156	-15	-338 [±]	201		31.2
		71	364	103 [*]	61	7	-43	49		32.1
H	Nakabango	69	818	19	0	123	241	108	-	29.7
		70	1745	-7	-94	-77	53	6	-	12.0
		71	1862	80	12	23	-160	-227	-	10.6

key		Yield	B	K	L	(-)	B2	Z - factor interactions	
J	Bukalasa B	69	-18	-24	80	-21	-14	-	8.3
		70	63	-128	135	-75	-11	BK = -132	7.5
		71	205	-144	116	-18	190	BK = -157	8.2
K	Namulonge	69	53	-55	-53	-159	202	-	20.8
		70	7	-62	-24	-247	373	-	13.5
		71	59	-57	20	-681	199	-	7.5
L	Kavanda A	69	258	252	35	-792	534	-	11.4
		70	98	146	98	-485	185	-	13.5
		71	80	192	157	-327	400	-	16.6
L	Kavanda C	69	87	87	-27	-426	134	-	18.2
		70	87	-72	170	-145	172	-	14.5
		71	0	-53	76	-303	106	-	8.3
M	Bukomero	69	161	20	5	-325	129	-	16.2
		70	50	30	25	-164	-63	-	19.1
		71	129	23	159	-204	204	BL = -197	20.0
O	Bulindi	69	234	34	111	-240	-7	-	15.4
		70	97	45	-71	-211	9	-	17.7
		71	55	-113	211	-530	-76	-	9.3

Map key	Station	Year	Mean yield	B	K	L	(-)	B2	2 - factor interactions	
P	Bushenyi	69	342	-50	39	360	-130	218	-	35.2
		70	325	-7	42	457	-234	345	-	31.5
		71	478	-30	261	726	-338	583	KL = 213	38.0
R	Kyotera	69	1387	145	-131	131	-386	286	-	16.3
		70	754	56	5	63	-113	10	-	25.7
		71	1109	58	-115	79	-418	418	-	23.5

Map No.	Location	Year	No. of trials	Linear correlation of leaf % P with soil:				Linear correlation of leaf % K with soil:				
				O.M.	pH	Extr. P	Acid sol. P	Org. P	O.M.	pH	Extr. K	K/TEB
2	Terego	66(U)	23	N.S.	0.412 ⁺	0.579 ^{**}	0.522 [*]	N.S.	N.S.	0.554 ^{**}	0.393 ⁺	N.S.
		67(U)	15	0.521 [*]	N.S.	0.491 ⁺	0.537 [*]	0.466 ⁺				
		67(I)	10	N.S.	N.S.	N.S.						
		68 (I)	16	N.S.	N.S.	0.463 ⁺						
5	Paidha	66(U)	22	N.S.	0.483 [*]	0.614 ^{**}	0.693 ^{**}	0.489 [*]	N.S.	N.S.	N.S.	
8	Pakelle	68(I)	19	N.S.	N.S.	0.448 ⁺						
10	Pabbo	70(I)	19	N.S.	N.S.	N.S.			N.S.	N.S.	N.S.	
19	Dokolo	66(U)	20	N.S.	N.S.	0.409 ⁺	0.506 [*]	N.S.	N.S.	N.S.	N.S.	N.S.
		67(U)	20	N.S.	N.S.	0.437 ⁺	0.625 ^{**}	0.603 ^{**}				
		67(I)	10	N.S.	N.S.	0.619 ⁺						
		68(I)	19	0.506 [*]	N.S.	0.596 ^{**}						
20	Katakwi	66(U)	29	N.S.	N.S.	0.643 ^{**}	0.673 ^{**}	N.S.	0.476 ^{**}	0.539 ^{**}	0.458 [*]	N.S.
		67(U)	15	N.S.	0.495 ^{***}	0.402 ⁺	0.502 ^{**}	N.S.				
		67(I)	10	N.S.	N.S.	0.627 ^{**}						
		68(I)	16	N.S.	N.S.	N.S.						

Map No.	Location	Year	No. of trials	Linear correlation of leaf % P with soil:				Linear correlation of leaf % K with soil:			
				O.M.	pH	Extr. P	Acid sol. P	Org. P	O.M.	pH	Extr. K
21	Soroti	66(U)	22	N.S.	N.S.	0.440 [*]	0.443 [*]	N.S.	N.S.	N.S.	N.S.
22	Serere	65(U)	28	N.S.	0.519 ^{**}	0.535 ^{**}	0.487 ^{**}	N.S.	N.S.	N.S.	N.S.
23	Ngona	66(U)	29	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
24	Kumi	65(U)	30	N.S.	0.523 ^{**}	0.592 ^{***}	0.482 ^{**}	N.S.	N.S.	N.S.	N.S.
		66(U)	29	N.S.	0.435 [*]	0.633 ^{***}	0.665 ^{***}	0.392 [*]	N.S.	N.S.	N.S.
25	Bukedea	69(I)	15	N.S.	0.418 [*]	0.536 ^{**}	0.573 ^{**}	N.S.	0.443 [*]	0.412 [*]	N.S.
26	Pallisa	69(I)	17	N.S.	N.S.	0.475 ⁺	0.665 ^{**}	N.S.	N.S.	0.596 ⁺	N.S.
28	Bunyole	69(I)	17	N.S.	N.S.	0.563 ^{**}	0.573 ^{**}	N.S.	N.S.	0.495 ^{**}	N.S.
		71(I)	16	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	0.693 ^{**}	N.S.
31	Kamuli	66(U)	20	N.S.	0.766 ^{**}	0.466 ⁺	0.446 ⁺	N.S.	N.S.	N.S.	N.S.
		67(U)	13	N.S.	0.629 ^{**}	0.676 ^{**}	0.670 ^{**}	N.S.	0.622 [*]	0.475 ⁺	N.S.
		67(I)	10	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	0.594 ^{**}	N.S.
		68(I)	19	N.S.	0.648 [*]	0.634 [*]	0.634 [*]	N.S.	0.567 ^{**}	0.594 ^{**}	N.S.
32	Bulamogi	70(I)	23	N.S.	0.587 ^{**}	0.574 ^{**}	0.574 ^{**}	N.S.	N.S.	N.S.	N.S.
		71(I)	23	N.S.	0.422 [*]	0.733 ^{***}	0.733 ^{***}	N.S.	N.S.	0.714 ^{***}	N.S.

Map No.	Location	Year	No. of trials	Linear correlation of leaf % P with soil:					Linear correlation of leaf Z K with soil:			
				O.M.	pH	Extr. P	Acid sol. P	Org. P	O.M.	pH	Extr. K	K/TEB
33	Busiki	70(I)	25	N.S.	0.479 [*]	0.410 [*]			N.S.	0.544 ^{**}	0.526 ^{**}	
		71(I)	25	N.S.	0.465 [*]	0.637 ^{**}			N.S.	N.S.	N.S.	
34	Kagoma	66(U)	19	N.S.	N.S.	0.597 ^{**}	0.526 [*]	N.S.	N.S.	N.S.	0.589 ^{**}	N.S.
		67(U)	11	0.543 ⁺	0.617 [*]	0.807 ^{**}	0.836 ^{**}	0.534 ⁺				
		67(I)	10	N.S.	N.S.	N.S.			N.S.	N.S.		0.358 ⁺
35	Iganga	65(U)	10	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	
		66(U)	24	N.S.	N.S.	N.S.	N.S.	N.S.				
		67(U)	14	N.S.	0.522 ⁺	0.468 ⁺	N.S.	N.S.				
36	Bugiri	67(I)	10	N.S.	N.S.	0.630 ⁺			0.584 ^{**}	N.S.	0.520 [*]	N.S.
		66(U)	20	0.492 [*]	0.369 ⁺	0.578 ^{**}	0.494 [*]	N.S.				
		68(I)	11	N.S.	N.S.	N.S.						
37	Nakason-gola	67(U)	10	N.S.	N.S.	N.S.	N.S.	N.S.				
		68(I)	19	N.S.	N.S.	N.S.						
42	Kiboga	70(I)	19	N.S.	0.460 [*]	0.392 ⁺			N.S.	N.S.	N.S.	
		71(I)	20	0.418 ⁺	0.551 [*]	0.612 ^{**}			N.S.	N.S.	N.S.	

Map No.	Location	Year	No. of trials	Linear correlation of leaf % P with soil:				Linear correlation of leaf % K with soil:			
				O.M.	pH	Extr. P	Acid sol. P	Org. P	O.M.	pH	Extr. K
43	Bukomero	67(U)	10	N.S.	N.S.	N.S.	N.S.	N.S.			
		67(I)	10	N.S.	N.S.	N.S.					
		68(I)	21	0.514 [*]	N.S.	0.742 ^{***}					
57	Rakai	67(I)	10	N.S.	N.S.	N.S.					
		68(I)	19	N.S.	0.510 [*]	0.433 ⁺			N.S.	N.S.	0.484 [*]

Map key	Station	Trial	Year of rotation	Mean in unlimed plots					Difference in limed plots					
				Percentage of total dry weight					Percentage of total dry weight					
				N	P	Ca	Mg	K	N	P	Ca	Mg	K	
D	Kibale	A	2nd	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
E	Iki-Iki	A	2nd	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
F	Tororo	A	2nd	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
G	Bugaya	A	2nd	4.98	0.49	1.41	0.34	3.65	0.11	0.01	0.05	-0.02	-0.02	-0.02
H	Nakabango	A	2nd	4.65	0.45	1.57	0.48	3.68	-0.07	0.01	-0.04	-0.03	0.09	0.09
J	Bukalasa	B	2nd	4.59	0.39	1.58	0.44	3.13	-0.04	0.00	0.00	-0.01	0.05	0.05
K	Namulonge	A	2nd	4.96	0.34	1.81	0.47	3.25	-0.07	-0.02	0.18**	-0.05*	0.03	0.03
L	Kawanda	A	2nd	4.88	0.42	1.42	0.62	2.33	-0.14	0.02	0.01	-0.05	0.11	0.11
L	Kawanda	C	2nd	4.54	0.52	1.36	0.48	2.98	0.09	0.00	0.08*	-0.01	-0.01	-0.01
M	Bukomero	A	2nd	3.92	0.53	1.21	0.48	3.15	0.08	0.04	0.08	0.01	0.16	0.16
O	Bulindi	A	2nd	4.60	0.41	1.33	0.50	3.03	-0.05	0.01	0.01	-0.02	0.10	0.10

(N.A. = Not available)

Map key	Station	Trial	Year of rotation	Mean in unlimited plots					Difference in limited plots				
				Percentage of total dry weight					Percentage of total dry weight				
				N	P	Ca	Mg	K	N	P	Ca	Mg	K
D	Kibale	A	3rd	N.A.	0.32	1.42	0.55	2.59	N.A.	0.02	0.29 ^{***}	-0.03	-0.04
E	Iki-Iki	A	3rd	4.16	0.29	1.84	0.63	2.46	0.07	0.00	0.10	-0.01	0.06
F	Tororo	A	3rd	4.58	0.39	1.59	0.62	2.62	-0.14 [*]	0.02 [*]	0.04	-0.02	-0.03
G	Bugaya	A	3rd	5.04	0.31	1.44	0.42	3.53	-0.01	0.02	0.22 ^{**}	-0.04	0.05
H	Nakabango	A	3rd	4.53	0.32	1.68	0.56	3.56	-0.07	0.01	0.06	-0.03	0.07
J	Bukalasa	B	3rd	4.48	0.35	1.39	0.49	2.88	0.01	0.01	0.11 [*]	0.02	0.07
K	Namulonge	A	3rd	4.10	0.36	1.21	0.34	2.76	0.19 [*]	0.01	0.10 ^{***}	-0.03	0.10
L	Kavanda	A	3rd	4.93	0.40	1.43	0.63	2.19	0.12	0.02 ^{**}	0.21 ^{***}	-0.04	-0.04
L	Kavanda	C	3rd	4.61	0.43	1.48	0.43	3.16	0.05	0.00	0.13 [*]	-0.02	-0.05
M	Bukomero	A	3rd	4.36	0.34	1.28	0.45	3.30	-0.12	0.04 ^{***}	0.00	-0.06 ^{***}	-0.12
O	Bulindi	A	3rd	4.81	0.52	1.10	0.40	2.92	0.17	0.05 [*]	-0.10 [*]	-0.03	-0.04

Table VI.1 Average finger millet unfertilized yield and response

Map key	Location	Year	No. of Trials	Unfertilized yield	Response to P1	Response to N1		L.S.D. of interactions (P = 0.05) of	Percentage response to N1
					(P1-PO)NO	(N1-NO)PO	(N1-NO)P1		
2	Terego	66	15	1076	320 [*]	557 ^{***}	442 ^{**}	191	31.2 (20.3)
		67	20	1738	86	267	351 [*]	233	19.0 (17.4)
		All	35	1454	187	392 ^{**}	389 ^{**}	156	24.2
11	Gulu	70	16	2653	325 ^{**}	683 ^{***}	509 ^{***}	173	18.3 (16.5)
		71	20	2667	531 ^{**}	771 ^{***}	463 ^{**}	238	16.2 (14.8)
		All	36	2661	439 ^{***}	732 ^{***}	494 ^{***}	153	17.1
13	Kitgum	70	16	1600	100 ^{**}	240	496 ^{**}	243	34.7 (38.3)
		71	20	2120	429 ^{**}	912 ^{***}	860 ^{***}	211	41.6 (30.0)
		All	36	1889	283 [*]	613 ^{***}	698 ^{***}	159	38.5
15	Aboke	66	29	2072	268 ^{**}	399 ^{***}	121	124	11.7 (17.6)
		67	20	2865	212	540 ^{***}	271 [*]	154	9.9 (7.6)
		All	49	2395	245 ^{**}	456 ^{***}	182 [*]	97	11.0
16	Ngetta	66	19	2269	294	577 ^{**}	702 ^{***}	290	31.5 (18.7)
		67	23	2597	389 [*]	595 ^{**}	496 ^{**}	265	19.8 (18.0)
		All	42	2449	345 [*]	586 ^{***}	590 ^{***}	196	25.1

exp key	location	year	no. of trials	unfertilized yield	Response to P1		Response to N1 (P1-PO)NO		Response to N1 (N1-NO)PO (N1-NO)P1		L.S.D. (P = 0.05) of interactions	Percentage response to N1	
												N1/NO	(S.D.)
17	Abako	66	23	1966	131		165	107	182	6.7	(14.0)		
		67	28	3241	240 ^{**}		204 [*]	163	194	4.0	(10.7)		
		All	51	2666	191 [*]		186	137	134	5.2			
18	Aduku	65	25	2716	504 ^{**}		155	-70	254	5.1	(25.2)		
		66	27	1975	141		308 [*]	153	176	14.0	(17.6)		
		All	52	2331	316 ^{**}		235 [*]	46	153	9.7			
26	Pallisa	65	22	2173	188		365	573 ^{**}	298	49.8	(77.4)		
		66	23	2140	273		740 ^{***}	671 ^{***}	280	37.7	(28.0)		
		All	45	2156	232		557 ^{***}	623 ^{***}	204	43.6			
27	Budaka	65	28	1756	255		350 [*]	150	218	14.3	(28.9)		
		66	21	2103	112		814 ^{***}	1078 ^{***}	211	44.8	(27.7)		
		All	49	1905	193		549 ^{***}	548 ^{***}	154	27.4			
28	Bunyole	66	10	1649	222		750 ^{**}	675 [*]	398	54.9	(48.9)		
		66	21	1846	98		871 ^{***}	1281 ^{***}	289	57.5	(34.5)		

Map key	Location	Year	No. of trials	Unfertilized yield	Response to P1 (P1-PO)NO	Response to N1 (N1-NO)PO (N1-NO)P1		L.S.D. (P = 0.05) of interactions	Percentage response to N1 N1/NO (S.D.)	
									N1/NO	(S.D.)
30	Samia Bugwe	66	18	2867	286	549 [*]	671 ^{**}	315	22.6	(32.6)
56	Shema-Igara	65	22	3240	399	618 [*]	52	407	11.7	(25.5)
		66	14	4246	-40	-125	-24	393	1.9	(11.3)
		67	10	2942	325	-135	-204	424	-1.5	(12.0)
		All	46	3480	250	229	-27	246	5.8	

Table VI.2 Average finger millet responses to high fertilizer rates (in lbs/acre fresh neaus)

Map key	Location	Year	Additional response to N2			Response to P in presence of N2		L.S.D. (P = 0.05) of interactions
			(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-PO)N2	(P2-PO)N2	
2	Terego	66	-42	-25	115	221	282*	191
		67	167	388*	179	391*	288	233
		All	77	211	151	318**	285*	156
11	Gulu	70	362**	528***	647***	317*	598***	175
		71	298	233	678***	158	660***	238
		All	326**	364**	665***	229*	633***	153
13	Kitgum	70	293	388*	158	451**	396*	243
		71	273	229	116	333*	280	211
		All	282*	300*	135	386**	332**	159
15	Aboke	66	379***	437***	155	48	-69	124
		67	81	336**	285**	198	187	154
		All	257***	396***	208**	110	36	97
16	Ngetta	66	481*	429*	523*	367	764***	290
		67	567**	407*	1025*	130	823**	265
		All	529***	417**	798***	237	796***	196

key			Response to P1			Response to P2			Response to P3			presence of N2 (P1-PO)N2 (P2-PO)N2	(P= 0.05) of interactions
			(N2-N1)PO (N2-N1)P1 (N2-N1)P2										
17	Abako	66	141	191	339	123	387	182					
		67	383	389	693	205	591	194					
		All	274	301	533	169	499	134					
18	Aduku	65	102	-44	91	133	322	254					
		66	-75	201	36	262	375	176					
		All	10	83	62	200	349	153					
26	Pallisa	65	311	538	186	623	418	298					
		66	595	490	755	99	673	280					
		All	456	513	477	355	548	204					
27	Budaka	65	487	633	646	201	558	218					
		66	813	779	930	342	433	211					
		All	626	696	768	262	505	154					
28	Bunyole	66	294	284	758	137	389	398					
29	Budama	66	727	296	215	77	70	289					

Map key	Location	Year	Additional response to NZ			Response to P in presence of N2		L.S.D. (P = 0.05) of interactions
			(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2	(P2-P0)N2	
30	Samia Bugwe	66	131	567*	476*	844***	810***	315
56	Shema-Igara	65	-167	312	725*	312	843**	407
		66	473	668*	1019***	256	533	393
			1555***	1040***	784**	-259	177	424
		All	402*	578**	827***	170	603**	246

Table VI.3 Average maize unfertilized yields and responses to N1

Map key	Location	Year	No. of trials	Management	Unfertilized yield	Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1	
						(P1-PO)NO	(N1-NO)PO (N1-NO)P1		N1/NO	(S.D.)
38	Kayunga	66	19	U	3058	-223	355	632 ^{**}	275	22.2 (23.3)
		67	10	U	4599	254	71	-20	508	5.3 (8.1)
		68	11	I	5900	611 [*]	650 [*]	455	429	10.2 (12.5)
		All	40		4225	125	365 [*]	421 [*]	217	14.7
39	Kalagala	65	16	U	2255	15	303	323	264	12.3 (12.1)
		66	11	U	2991	-66	88	322	344	8.8 (17.2)
		All	27		2555	-18	218	322 [*]	210	10.9
44	Kalangalo	66	26	U	3757	2	531 [*]	360	323	24.0 (37.7)
		70	11	U	3207	-136	254	749 ^{**}	329	16.6 (14.6)
		71	14	I	4185	126	82	508 [*]	317	11.0 (18.5)
		All	51		3756	6	348 [*]	485 ^{**}	199	18.8
45	Kakindu	71	14	I	5125	-14	719	1729 ^{***}	638	33.4 (41.4)

Map key	Location	Year	No. of trials	Management	Unfertilized yield	Response to P1		Response to N1		L.S.D. (P = 0.05) of interactions	Percentage response to N1	
						(P1-PO)NO	(P1-PO)NO	(N1-NO)PO (N1-NO)P1	(N1-NO)PO (N1-NO)P1		N1/NO	(S.D.)
46	Kiriri	66	16	U	3521	60		1073 [*]	570	595	24.4	(48.0)
		67	8	I	5441	-333		1077 [*]	1192 [*]	669	25.5	(16.6)
		All	24		4161	-71		1074 ^{**}	777 [*]	455	24.8	
47	Kakiri	66	18	U	2025	53		406 [*]	455 ^{**}	243	28.0	(34.1)
49	Bvijanga	67	11	U	3903	263		56	15	397	5.2	(8.2)
58	Sembabule	71	10	I	3114	317		433	-104	510	15.4	(36.3)
59	N. Bugisu	66	21	U	3058	-34		223	551 ^{**}	254	11.7	(17.2)
		67	7	U	3403	538		923 [*]	259	601	14.2	(18.4)
		67	10	I	5667	-162		1314 ^{**}	1866 ^{***}	707	27.4	(22.4)
		68	20	I	3470	40		831 ^{**}	756 ^{**}	378	31.5	(23.7)
		All	58		3699	38		705 ^{***}	813 ^{***}	213	21.5	
60	C. Bugisu	66	12	U	2061	-43		437	637 [*]	348	30.1	(34.5)

key		trials	ment	yield	to P1		(P = 0.05) of interactions	response to N1	
					(P1-PO)NO	(N1-NO)PO (N1-NO)P1		N1/NO	(S.D.)
61	S. Eugisu	66	U	2127	346	*** 838	*** 796	37.0	(35.2)
		67	U	3223	-42	* 707	* 723	28.3	(23.9)
		67	I	4134	366	-219	* 985	16.1	(14.5)
		All		2926	256	** 526	*** 828	29.3	
62	Bukva	66	U	4265	69	* 628	*** 777	27.0	(31.5)
		67	U	3578	*** 1288	* 797	167	18.7	(17.1)
		67	I	4134	1948	2230	-335	19.4	(11.3)
		68	I	3562	* 859	*** 1613	505	28.9	(27.9)
		All		3915	** 827	*** 1132	401	24.3	

Map key	Location	Year	Management	Additional response to N2			Response to P in presence of N2		L.S.D. (p = 0.05) of interactions
				(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2	(P2-P0)N2	
38	Kayunga	66	U	198	98	294	-46	-75	275
		67	U	556	252	-18	-141	-51	508
		68	I	617 [*]	522	140	321	150	429
		All		403 [*]	253	174	31	-7	217
39	Kalagala	65	U	-174	94	140	298	309	264
		66	U	625 [*]	384	303	-78	-71	344
		All		152	212	207	146	154	210
44	Kalangalo	66	U	104	672 ^{**}	463 [*]	399	320	323
		70	U	-46	-609 ^{**}	-3	-203	323	329
		71	I	373	102	472 [*]	281	467 [*]	317
		All		145	239	365 [*]	237	361 [*]	199
45	Kakindu	71	I	893	-243	515	-130	564	638
46	Kiriri	66	U	322	1017 [*]	656	252	353	595
		67	I	-908	98	-690	788	435	669
		All		-88	711 [*]	207	431	380	455

Map key	Location	Year	Management	Additional response to N2		Response to P in presence of N2		L.S.D. (P = 0.05) of interactions
				(N2-N1)P0	(N2-N1)P1	(N2-N1)P2	(P1-P0)N2 (P2-P0)N2	
47	Kakiri	66	U	198	332	330	236	243
49	Brijanga	67	U	1288***	772**	363	-294	397
58	Sembabule	71	I	300	410	12	-110	510
59	N. Bugisu	66	U	477**	474**	212	291	254
		67	U	819	369	1020*	-576	601
		67	I	1208*	893	829	75	707
		68	I	1155***	963***	1221***	-227	378
60	C. Bugisu	All		878***	703***	764***	-29	213
		66	U	306	416	615*	267	348
61	S. Bugisu	66	U	518*	473*	523*	259	276
		67	U	279	660	647	355	484
		67	I	1790***	1020*	841*	800	585
		All		796***	663***	638***	425*	237

Map key	Location	Year	Management	Additional response to N2		Response to P in presence of N2		L.S.D. (P = 0.05) of interactions
				(N2-N1)P0 (N2-N1)P1 (N2-N1)P2		(P1-P0)N2 (P2-P0)N2		
62	Bukwa	66	U	636 [*] 178 549		-240 127		438
		67	U	833 [*] 853 [*] 249		678 262		522
		67	I	256 909 835		36 214		1629
		68	I	39 739 1011 [*]		451 747		587
		All		491 [*] 580 [*] 624 [*]		185 316		346

Table VI.5 Cereal yield percentage responses to muriate of potash fertilizer over years 1 to 4 (first phase) and years 5 to 8 (second phase) in long-term trials under normal management

		FIRST PHASE (years 1 to 4)				SECOND PHASE (years 5 to 8)				
Map key	Station	Trial	Extr. K in unfert. soil mg/100g	No. of trials	No. of signif. K responses	Mean percent response to K treatment	Extr. K in unfert. soil mg/100g	No. of trials	No. of signif. K responses	Mean percent response to K treatment
MAIZE										
- *	Kachwekano	I	11.0	1	0	6	11.0	2	2	61
L	Kawanda	II	7.0	2	0	4	7.5	2	1	14
O	Bulindi	II	23.5	2	0	2	16.0	2	0	5
L *	Kawanda	I	22.0	2	0	-6	16.5	2	0	8
- *	Kachwekano	II	28.0	1	0	-11	17.0	2	1	15
J	Bukalasa	I & II	45.0	4	0	0	31.5	4	0	-4
K	Namulonge	I & II	N.A.	3	1	11	23.5	4	0	2
MILLET										
Q	Rubare	I & II	8.5	3	0	11	8.0	4	4	31
A	Abi	I & II	7.0	4	0	-3	8.5	4	1	29
N	Kakumiro	I & II	17.0	4	0	2	17.5	3	0	9
- *	Kachwekano	II	28.0	1	0	-7	17.0	2	0	5
- **	Kyembogo	I & II	60.5	4	0	-6	48.5	4	0	6

(During the first phase, K treatment was 0.5 cwt/acre muriate of potash applied every season.

During the second phase, K treatment was 2 cwt/acre muriate of potash applied in alternate seasons.

N.A. = Not available. ^{*}In Kigezi district.

^{**}In Toro district.)

Table VI.6 Millet yields without lime and responses to lime (in
lbs/acre dry grain) in long-term trials under
normal management

Map key	Station	Trial	Year/ Season	Yield without lime	Percent increase due to lime	Soil pH
Q	Rubare	II	1/1	1387	N.S.	4.28
Q		I	2/2	1460	N.S.	4.53
A	Abi	II	2/1	611 ⁺	N.S.	4.84
N	Kakumiro	II	2/2	696	N.S.	5.06
- ⁺⁺	Kyembogo	II	2/2	1350	N.S.	5.32
- ⁺⁺		I	1/2	987	-14 ^{**}	5.50

(⁺ Fingermillet, sorghum and pigeon peas were sown together
at Abi.

⁺⁺ In Toro district.)

Table VI.7 Maize yields without lime and responses to lime (in
lbs/acre dry grain) in long-term trials under
normal management

Map key	Station	Trial	Year/ Season	Yield without lime	Percent increase due to lime	Soil pH
- ⁺	Kachwekano	II	1/1	743	N.S.	5.02
- ⁺		II	2/2	1430	N.S.	5.02
L	Kawanda	II	2/2	2920	N.S.	5.06
C	Arapai	I	1/2	548	71 ⁺	5.10
- ⁺	Kachwekano	I	1/2	850	N.S.	5.20
- ⁺		I	3/1	727	N.S.	5.20
K	Namulonge	I	2/2	3200	-24 ^{**}	5.25
K		II	1/2	3345	N.S.	5.28
O	Bulindi	II	1/2	1354	21 ^{**}	5.64
O		II	3/1	1660	N.S.	5.64
J	Bukalasa	II	1/2	1907	N.S.	5.77
J		II	3/1	1692	N.S.	5.77
L	Kawanda	I	2/1	2397	N.S.	5.83
L		I	3/2	1487	N.S.	5.83
J	Bukalasa	I	2/2	3221	N.S.	5.86

(⁺ In Kigezi district.)

Map key	Station	Year	Mean yield	Main Effects			Extra Effects		Significant 2-factor interactions	C.V.
				B	K	L	(-)	B2		
D	Kibale	69	1039	29	-181*	121	-303*	103	-	21.0
		70	2114	192	-179	198	-711***	155	-	15.3
		71	1684	261*	-215*	-6	-752**	237	-	16.9
E	Iki-Iki	69	1328	175	-79	222	-623***	247	-	23.8
		70	1188	71	-13	-33	-356**	40	-	12.7
		71	1900	57	181	94	-279	-26	-	17.7
F	Tororo	69	1114	87	-27	-109	20	58	-	24.5
		70	1014	47	-123	118	-34	302	-	29.2
		71	1796	-8	8	91	80	4	-	14.9
C	Bugaya	71	1411	394**	154	205	-595*	828**	-	23.3
P	Bushenyi	68	1731	-104	116	164	273	46	-	17.7
		69	712	-48	28	-32	-107	-145	-	19.3

Table VI.9 Maize mean yields and treatment effects (in lbs/acre dry grain) in long-term trials under improved management

Map key	Station	Year	Mean yield	Main Effects			Extra Effects		Significant 2-factor interactions	C.V.
				B	K	L	(-)	B2		
J	Bukalasa A	68	4683	255	53	-255	-495	92	-	13.5
		69	4835	94	178	144	-622*	-1	-	9.9
		70	4174	155	185	81	-622**	-4	-	8.0
		71	3702	111	291	112	-696*	-72	-	13.0
L	Kavanda A	68	4988	286	482*	181	-967*	443	-	13.2
		69	4876	48	998***	244	-1414***	220	-	10.0
		70	3429	101	745***	147	-699*	15	-	13.4
		71	3623	31	559**	326	-660*	953**	-	15.5
O	Bulindi	68	5835	-215	6	-14	-1049**	134	-	9.9
		69	5452	-40	-101	390*	-397	316	-	9.5
		70	2593	-138	30	-373	230	701	-	20.5
		71	2971	52	-208	-2	-1016	-330	-	27.9

Map	Station	Trial	Year of rotation	Mean in unlimed plots					Difference in limed plots				
				Percentage of total dry weight					Percentage of total dry weight				
				N	P	Ca	Mg	K	N	P	Ca	Mg	K
D	Kibale	A	2nd	2.51	0.27	1.09	0.33	2.83	-0.07	0.02	0.12 ^{**}	0.03	0.03
E	Iki-Iki	A	2nd	1.99	0.18	1.06	0.28	2.30	0.07	0.04 ^{***}	0.07 [*]	0.03	-0.16
F	Tororo	A	2nd	2.10	0.35	1.27	0.29	2.49	0.06	0.04	0.08	-0.01	-0.09
G	Bugaya	A	2nd	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	Kibale	A	3rd	2.82	0.19	1.27	0.33	1.79	0.04	0.02 ^{**}	0.19	0.03	-0.05
E	Iki-Iki	A	3rd	2.69	0.19	1.58	0.52	1.57	0.02	0.01	0.06	0.02	-0.03
F	Tororo	A	3rd	2.94	0.29	1.31	0.32	1.76	-0.03	0.03 [*]	0.13 ^{**}	-0.02	0.03
G	Bugaya	A	3rd	2.90	0.17	1.35	0.34	1.92	0.03	0.00	0.09	0.03	0.01

(N.A. = Not available)

Map key	Station	Trial	Year of rotation	Mean in unlimed plots					Difference in limed plots				
				Percentage of total dry weight					Percentage of total dry weight				
				N	P	Ca	Mg	K	N	P	Ca	Mg	K
J	Bukalasa	A	2nd	2.47	0.22	0.58	0.30	2.27	-0.09*	-0.01	-0.01	-0.01	-0.09
L	Kawanda	A	2nd	1.68	0.14	0.47	0.56	0.91	0.10	0.01*	0.06	-0.10	0.13
O	Bulindi	A	2nd	2.03	0.16	0.60	0.24	1.83	0.01	0.01	0.01	-0.01	0.05
J	Bukalasa	A	3rd	2.30	0.30	0.64	0.28	2.30	-0.04	-0.02	0.04	-0.01	-0.04
L	Kawanda	A	3rd	2.49	0.25	0.79	0.76	1.41	0.12**	0.00	0.07*	0.00	0.01
O	Bulindi	A	3rd	1.74	0.23	0.64	0.30	2.38	0.12*	0.00	0.06*	-0.04	0.17
J	Bukalasa	A	4th	1.85	0.19	0.63	0.44	2.44	0.00	0.00	0.08*	-0.02	0.05
L	Kawanda	A	4th	1.97	0.17	0.63	0.72	1.28	0.12*	0.02*	0.10**	-0.02	0.14
O	Bulindi	A	4th	1.92	0.17	0.63	0.43	2.46	0.03	0.02	0.03	-0.01	-0.03

Map key	Location	No. of trials	Mean % O.M.	Linear correlation of soil organic matter with:							
				Clay + silt	Rest score	Total N	N index	Extr. P	Extr. Ca	Extr. Mg	Extr. K
1	Yumbe	30	2.68	*** 0.625	0.179	*** 0.881	0.332 ⁺	0.157	*** 0.808	*** 0.718	*** 0.653
2	Terego	20	2.41	0.366	0.218	*** 0.946	*** 0.686	0.360	*** 0.800	*** 0.622	* 0.450
4	Inde	29	2.08	*** 0.877	0.040	*** 0.985	*** 0.491	*** 0.866	*** 0.955	*** 0.869	*** 0.924
5	Paidha	29	3.39	-0.044	0.221	*** 0.895	*** 0.503	0.285	*** 0.569	* 0.447	*** 0.612
6	Angal	22	2.82	*** 0.772	-0.088	*** 0.922	*** 0.750	0.619	*** 0.808	*** 0.859	* 0.566
7	Obongi	30	1.24	*** 0.500	-0.092	*** 0.971	*** 0.515	0.123	*** 0.890	*** 0.932	*** 0.861
8	Pakelle	23	2.00	*** 0.533	0.269	*** 0.936	*** 0.563	0.488	*** 0.703	*** 0.681	* 0.520
9	Atiak	20	2.33	*** 0.710	N.A.	N.A.	N.A.	0.553	*** 0.825	*** 0.802	*** 0.623
10	Pabbo	18	2.14	*** 0.699	0.225	N.A.	N.A.	0.441 ⁺	* 0.624	*** 0.755	* 0.561
11	Gulu	20	2.27	*** 0.698	N.A.	N.A.	N.A.	-0.005	N.A.	*** 0.901	N.A.

key	Location	Trials	% O.M.	Clay + silt	Rest score	Total N	N index	Extr. P	Extr. Ca	Extr. Mg	Extr. K
12	Anaka	17	3.34	-0.148	N.A.	N.A.	N.A.	0.574	0.873	0.328	0.755
13	Kitgum	16	3.02	0.924	N.A.	N.A.	N.A.	-0.157	0.980	0.962	0.465
14	Patongo	20	3.15	0.880	N.A.	N.A.	N.A.	0.612	0.619	0.764	0.544
15	Aboke	26	4.68	0.290	0.229	0.922	0.177	0.390	0.893	0.703	0.665
16	Ngetta	22	4.05	0.535	-0.215	0.837	0.846	0.447	0.805	0.426	0.671
17	Abako	27	3.00	0.468	0.269	0.801	0.493	0.446	0.660	0.696	0.443
18	Aduku	28	4.71	0.459	0.006	0.952	0.473	0.637	0.891	0.773	0.833
19	Dokolo	29	3.78	0.445	0.240	0.869	0.435	0.158	0.832	0.732	0.204
20	Katakwi	25	0.96	0.852	0.346	0.828	0.440	0.113	0.788	0.783	0.796
21	Soroti	24	1.73	0.799	0.047	0.828	0.695	-0.320	0.924	0.919	-0.018
22	Serara	29	2.47	0.809	0.484	0.938	0.235	-0.107	0.711	0.587	0.370
23	Ngora	30	1.44	0.717	0.165	0.891	0.707	0.287	0.845	0.747	0.551

key	LIQUID	% O.M.	clay + silt	rest score	TOTAL N	N index	P	Ca	Mg	K
24	28	1.90	0.690 ^{***}	-0.003	0.833 ^{***}	0.576 ^{***}	0.350 [†]	0.639 ^{***}	0.706 ^{***}	0.210
25	15	2.28	0.181	-0.047	N.A.	N.A.	0.736 [†]	0.556 [†]	0.443 [†]	0.671 [†]
26	26	1.90	0.764 [†]	0.055	0.956 [†]	0.844 [†]	0.328	0.680 [†]	0.768 [†]	0.722 [†]
27	28	2.36	0.538 [†]	-0.054	0.827 [†]	0.574 [†]	-0.188	0.882 [†]	0.740 [†]	0.711 [†]
28	25	1.74	0.911 ^{***}	-0.439 [*]	0.954 [†]	N.A.	0.309	0.939 [†]	0.808 [†]	0.896 [†]
29	25	1.55	0.533 [†]	0.204	0.978 [†]	0.582 [†]	-0.106	0.517 [†]	0.635 [†]	0.786 [†]
30	22	4.01	0.733 [†]	0.057	0.933 [†]	0.271	-0.501 [*]	0.689 [†]	0.176	0.455 [†]
31	18	5.01	0.702 [†]	-0.227	0.913 [†]	0.285	0.116	0.690 [†]	0.568 [*]	0.594 [†]
32	23	2.30	0.704 ^{***}	N.A.	N.A.	N.A.	-0.282	0.499 [*]	0.898 [†]	0.487 [†]
33	25	2.20	0.896 [†]	N.A.	N.A.	N.A.	0.025	0.886 [†]	0.922 [†]	0.748 [†]
34	25	6.10	0.422 [*]	0.198	0.754 [†]	0.588 [†]	0.099	0.458 [*]	0.742 [†]	0.625 [†]

Map key	Location	No. of trials	Mean % O.M.	Linear correlation of soil organic matter with:							
				Clay + silt	Rest score	Total N	N index	Extr. P	Extr. Ca	Extr. Mg	Extr. K
35	Iganga	23	3.96	0.742 ^{***}	0.280	0.981 ^{***}	0.228	0.144	0.497 ⁺	0.742 ^{***}	0.665 ^{***}
36	Bugiri	25	5.02	0.410 [*]	-0.110	0.841 ^{***}	N.A.	0.164	0.602 ^{**}	0.370 ⁺	0.372 ⁺
37	Nakasongola	27	2.31	0.672 ^{***}	0.103	0.871 ^{***}	0.775 ^{***}	0.546 ^{***}	0.893 ^{***}	0.811 ^{***}	0.889 ^{***}
38	Kayunga	25	6.72	0.392 ⁺	0.145	0.929 ^{***}	0.660 ^{***}	0.081	0.625 ^{***}	0.793 ^{***}	0.485 ⁺
39	Kalagala	23	4.57	0.342	0.121	0.518 [*]	0.529 ^{**}	-0.134	0.686 ^{***}	0.428 [*]	0.302
40	Buikwe	12	3.78	0.654 [*]	-0.204	0.657 ⁺	0.331	0.630 [*]	0.849 ^{***}	0.774 ^{***}	0.885 ^{***}
41	Kojja	21	3.60	0.346	0.096	N.A.	N.A.	0.172	0.365	N.A.	0.092
42	Kiboga	18	5.40	0.147	N.A.	N.A.	B.A.	0.424 ⁺	0.682 ^{***}	0.845 ^{***}	0.305
43	Bukomero	28	4.04	0.532 ^{***}	0.074	0.947 ^{***}	0.489 ^{**}	0.193	0.734 ^{***}	0.349 ⁺	0.345 ⁺
44	Kalangaio	16	4.93	0.184	0.082	N.A.	0.842 ^{***}	0.575 ⁺	0.716 ^{***}	0.724 ^{***}	0.049
45	Kakindu	14	4.00	0.672 ^{***}	0.054	N.A.	0.658 ⁺	-0.084	0.412	N.A.	-0.466

Map key	Location	No. of trials	Mean % O.M.	Clay + silt	Rest score	Total N	N index	Extr. P	Extr. Ca	Extr. Mg	Extr. K
46	Kiriri	15	4.51	0.478	0.376	N.A.	0.863	0.233	0.617	0.755	-0.049
47	Kakiri	24	4.45	-0.095	0.261	0.837	0.724	0.044	0.638	0.605	-0.028
49	Bwijanga	17	6.46	0.040	0.027	0.599	N.A.	0.080	0.591	0.614	-0.046
50	Masindi	14	6.67	0.717	N.A.	N.A.	N.A.	0.307	0.140	0.276	-0.017
51	Kiryandongo	17	5.96	0.895	N.A.	N.A.	N.A.	0.237	0.906	0.953	0.703
52	Hoima	20	4.13	0.463	N.A.	N.A.	N.A.	-0.014	0.353	N.A.	0.176
53	Kiburara	15	5.28	0.691	N.A.	N.A.	N.A.	0.513	0.692	0.370	0.522
54	N. Kashari	26	4.02	0.386	N.A.	0.886	N.A.	0.741	0.948	0.925	0.782
55	S. Kashari	15	3.12	0.835	0.000	N.A.	N.A.	0.659	0.831	0.847	0.413
56	Shema Igara	22	5.36	0.246	N.A.	0.881	N.A.	0.156	-0.140	-0.243	0.275
57	Rakai	14	6.41	0.009	0.254	0.974	0.705	0.792	0.717	0.916	0.790

key	Location	trials	Z O.N.	Clay + silt	Rest score	Total N	N index	Expt. P	Expt. Ca	Expt. Mg	Expt. K
58	Sembabule	10	3.14	0.658 [*]	0.302	N.A.	-0.026	0.300	0.478	N.A.	0.216
59	N. Bugisu	19	6.45	0.732 ^{***}	0.701 ^{***}	0.963 ^{***}	0.820 ^{***}	0.622 ^{***}	0.960 ^{***}	0.814 ^{***}	0.768 ^{***}
60	C. Bugisu	13	4.55	0.381	0.431	0.955 ^{***}	0.764 ^{***}	0.527 ^{***}	0.893 ^{***}	0.105 [*]	0.580 [*]
61	S. Bugisu	18	3.30	0.845 ^{***}	0.071	0.982 ^{***}	0.629 ^{***}	0.624 ^{***}	0.237	0.270	0.119
62	Bukwa	23	8.18	0.077	N.A.	0.756 ^{***}	N.A.	0.424 [*]	0.714 ^{***}	0.460 [*]	0.371 [†]

e VII.2. Relationships between soil organic matter and other soil properties within locations: simple correlation coefficients.

	Location	No. of trials	Linear correlation of soil O.M. with:			
			Org. P	Org. S	Acid-sol. P	Extr. P
1	Terego	23	0.906 ^{***}	0.810 ^{***}	0.728 ^{***}	0.446 [*]
2	Paidha	22	0.754 ^{***}	0.818 ^{***}	0.264	0.279
3	Dokolo	20	0.579 ^{**}	0.795 ^{***}	0.157	0.049
4	Katakwi	29	0.598 ^{***}	0.454 [*]	0.494 ^{**}	0.358 ⁺
5	Soroti	22	0.773 ^{***}	0.780 ^{***}	0.471 [*]	0.252
6	Serere	29	0.568 ^{**}	0.534 ^{**}	0.244	0.265
7	Ngora	29	0.763 ^{***}	0.884 ^{***}	0.316 ⁺	0.161
8	Kumi	29	0.667 ^{***}	0.905 ^{***}	0.415 [*]	0.149
9	Kamuli	20	0.905 ^{***}	0.871 ^{***}	0.633 ^{**}	0.473 [*]
10	Kagoma	19	0.785 ^{***}	0.492 [*]	0.209	0.428 ⁺
11	Iganga	24	0.843 ^{***}	0.742 ^{***}	0.749 ^{***}	0.631 ^{***}
12	Bugiri	20	0.512 [*]	0.902 ^{***}	0.634 ^{**}	0.323
13	Nakasongola	28	0.944 ^{***}	0.718 ^{***}	0.584 ^{**}	0.531 ^{**}
14	Bukomero	28	0.679 ^{***}	0.911 ^{***}	0.192	-0.079
15	N. Kashari	26	0.781 ^{***}	0.953 ^{***}	0.824 ^{***}	0.741 ^{***}
16	S. Kashari	15	0.433	0.812 ^{***}	0.252	0.479 ⁺
17	Rakai	15	0.791 ^{***}	0.933 ^{***}	0.384	0.166

Table VII.3 Relationships between soil pH and other soil properties within
locations: simple correlation coefficients.

Location	No. of trials	Linear correlation of soil pH with:				
		Exch. Ca	Exch. Mg	Exch. K	Acid sol. P	Extr. P
Terego	23	0.402 ⁺	0.222	0.248	0.230	0.509 [*]
Paidha	22	0.517 ⁺	0.277	0.793 ^{***}	0.460 [*]	0.445 [*]
Dokolo	20	0.734 ^{***}	0.125	0.705 ^{***}	0.368	0.581 ^{**}
Katakwi	29	-0.100	-0.226	0.143	0.520	0.683 ^{***}
Soroti	22	0.628 ^{**}	0.487 [*]	0.667 ^{***}	0.564 ^{**}	0.671 ^{***}
Serere	29	0.458 [*]	-0.254	-0.102	0.452 [*]	0.597 ^{***}
Ngora	29	0.479 ^{**}	-0.033	0.662 ^{***}	0.528 ^{**}	0.808 ^{***}
Kumi	29	0.408	0.035	0.453 [*]	0.064	0.703 ^{***}
Kamuli	20	0.708 ^{***}	0.494 [*]	0.581 ^{**}	0.695 ^{***}	0.722 ^{***}
Kagoma	19	0.363	-0.145	0.236	0.012	0.197
Iganga	24	-0.266	-0.152	0.036	-0.448 [*]	-0.390 ⁺
Bugiri	20	0.545	0.299	0.579 ^{**}	0.347	0.558 [*]
Nakasongola	28	0.365 ⁺	0.052	0.345 ⁺	0.516 ^{**}	0.585 ^{**}
Bukomero	28	0.245	-0.203	0.326 ⁺	0.570 [*]	0.452 [*]
N. Kashari	26	0.759 ^{***}	0.777 ^{***}	0.762 ^{***}	0.520 ^{**}	0.523 ^{**}
S. Kashari	15	0.634 [*]	0.412	0.638 [*]	0.802 ^{***}	0.659 ^{**}
Rakai	15	0.784 ^{**}	0.399	0.436	0.365	0.424

Table VII.4 Mean analysis results for 0 - 20cm soil samples collected from departmental trials under improved management at the end of the third year

Trial	Soil pH		Soil extr. Ca (mg/100g)		Soil extr. P(p.p.m.)	
	No lime	Effect of lime	No lime	Effect of lime	No lime	Effect of lime
Kawanda A	5.44	+0.86**	111.6	+92.1**	5.8	+ 4.2**
Kawanda C	5.89	+0.72**	121.8	+70.9**	11.3	+ 7.6*
Bukalasa A	6.26	+0.61**	262.9	+94.7**	18.4	+ 7.6*
Bukalasa B	5.73	+0.70**	238.0	+91.9**	12.6	+ 9.8**
Namulonge A	6.13	+0.86**	136.6	+92.5**	22.9	+ 8.5*
Bulindi A	5.91	+0.63**	283.6	+72.1**	8.2	+10.2**
Bukomero A	5.48	+0.98**	86.2	+85.4**	11.4	+11.4**
Bushenyi A	4.26	+1.23**	24.7	+136.3**	15.6	+ 5.0**
Kyotera A	5.51	+1.16**	70.4	+95.2**	14.1	+11.6**
Bugaya A	5.37	+0.50**	101.6	+43.8**	3.7	+ 3.4**
Nakabango A	5.73	+0.78**	253.6	+157.2**	15.7	+20.1**
Tororo A	5.71	+0.93**	77.7	+79.7**	19.3	+18.8**
Iki-Iki A	5.46	+0.65**	98.1	+40.0**	5.2	+ 4.4**
Kibale A	5.06	+1.40**	45.0	+77.6**	7.6	+ 9.3**
Nakasongola A	5.95	+0.69**	91.1	+72.8**	8.1	+ 8.0**
Abi A	5.47	+0.88**	72.8	+142.1**	3.9	+10.4**
Arapai A	5.26	+0.91**	46.3	+27.8**	7.9	+ 4.2*
Kitgum A	6.25	+1.21**	72.3	+109.4**	6.5	+17.9**

Trial	UNLINED PLOTS			CONTROL PLOTS					
	Soil pH		Soil % organic matter	Soil extr. P p.p.m.					
	On opening % change after 1 year	% change after 3 years	On opening % change after 1 year	% change after 3 years	On opening 1 year	After 3 years			
Kawanda A	5.40	+1.1	+0.7	4.1	+7.3	-9.8	3.2	3.0	3.3
Kawanda C	5.84	-0.2	+0.8	3.9	-23.0	-20.5	7.5	2.8	4.0
Bukalasa A	5.89	+3.1	+6.3	7.2	-4.1	-13.9	10.2	8.7	6.8
Bukalasa B	5.83	+0.3	-1.7	9.0	-26.6	-32.3	10.7	6.8	7.8
Namulonge A	6.20	-4.8	-1.1	4.3	-18.6	-23.3	23.1	16.0	15.3
Bulindi A	5.85	+0.5	+1.0	7.4	-4.0	-9.5	6.8	4.3	4.5
Bukomero A	5.88	-6.0	-6.8	3.8	-31.6	-26.3	9.9	4.8	5.3
Bushenyi A	4.00	+5.3	+6.5	4.4	-6.8	-18.2	17.0	15.3	10.3
Kyotera A	5.75	-1.4	-4.2	2.9	-13.7	-13.8	15.1	6.5	6.8
Bugaya A	5.39	0.0	-0.4	4.0	-22.5	-15.0	2.4	2.0	3.0
Nakabango A	5.86	-1.4	-2.2	9.3	-25.7	-20.4	13.9	8.8	9.0
Tororo A	5.83	+2.7	-2.1	2.2	-9.1	-18.2	22.9	23.5	19.5
Ik1-Ik1 A	5.18	+6.0	+5.4	3.2	-3.1	-12.5	1.8	2.8	5.8
Kibale A	5.04	+2.0	0.0	2.3	-17.3	-26.1	2.4	3.3	3.5
Nakasongola A	5.90	+4.4	+0.8	2.3	+13.0	+13.0	5.4	8.3	10.0
Ab1 A	5.93	-7.6	-7.8	4.5	-31.1	-26.7	3.8	3.5	2.5
Xitgum A	6.43	-3.5	-2.9	1.9	-5.2	+7.1	4.1	3.0	6.0
Arapai A	5.38	-0.4	+2.2	1.4	0.0	-2.3	2.0	2.0	4.0

Table VII.6 Changes in soil pH over 7 years in long-term trials under normal management

Trial	Average change in soil pH in unlimed plots	Average change in soil pH due to sulphate of ammonia
Rubare II	-0.8	-0.13 [*]
Rubare I	-0.4	-0.12
Abi I	-0.6	-0.20 [*]
Abi II	-0.7	-0.28 [*]
Kakumiro I	-0.6	-0.18 [*]
Kachwekano II	-0.5	-0.31 ^{**}
Kakumiro II	-0.5	-0.16 [*]
Kawanda II	-0.2	-0.38 [*]
Kachwekano I	-0.5	-0.48 ^{**}
Namulonge I	-0.8	-0.25 [*]
Namulonge II	-0.3	-0.46 [*]
Kyembogo II	-0.7	-0.20
Kyembogo I	-0.4	-0.13
Bulindi II	-0.5	-0.28 [*]
Bukalasa II	-0.6	-0.38 ^{**}
Bulindi I	-0.3	-0.29 ^{**}
Kawanda I	-0.3	-0.24
Bukalasa I	-0.5	-0.38
Mean	-0.5	-0.27

VII.7. Linear relationships between soil extractable P, and soil pH and organic matter, in different seasons at groundnut trial locations
- simple correlation coefficients

Map No.	Location	Year	No. of trials	Linear correlation of extractable P with	
				pH	O.M.
2	Terego	66	23	0.509 [*]	0.446 [*]
		67	15	0.626 [*]	N.S.
		68	16	N.S.	N.S.
10	Pabbo	69	18	0.412 ⁺	0.441 ⁺
		70	19	0.628 ^{**}	0.677 ^{**}
		71	20	0.705 ^{***}	0.750 ^{***}
13	Kitgum	69	19	0.619 ^{**}	N.S.
		70	20	N.S.	N.S.
		71	19	0.496 [*]	0.652 ^{**}
14	Patongo	69	20	N.S.	0.783 ^{***}
		70	19	N.S.	N.S.
		71	20	N.S.	N.S.
19	Dokolo	66	20	0.581 ^{**}	N.S.
		67	20	0.737 ^{***}	0.405 ⁺
		68	19	N.S.	0.680 ^{**}
20	Katakwi	66	29	0.683 ^{***}	0.358 [*]
		67	15	0.528 [*]	N.S.
		68	16	0.489 ⁺	0.642 ^{**}
31	Kamuli	66	20	0.722 ^{***}	0.473 [*]
		67	13	0.572 ⁺	N.S.
		68	19	0.706 ^{***}	N.S.
35	Iganga	65	10	0.583 ⁺	N.S.
		66	24	N.S.	0.631 ^{***}
		67	14	0.573 [*]	N.S.
37	Nakasongola	66	28	0.585 ^{**}	0.531 ^{**}
		67	10	N.S.	N.S.
		68	19	N.S.	N.S.
		69	15	0.841 ^{***}	N.S.

Map No.	Location	Year	No. of trials	Linear correlation of extractable P with	
				pH	O.M.
42	Kiboga	69	12	0.707 [*]	N.S.
		70	19	0.556 [*]	0.699 ^{***}
		71	20	0.460 [*]	0.703 ^{***}
43	Bukomero	66	28	0.452 ⁿ	N.S.
		67	10	N.S.	N.S.
		68	21	0.662 ^{**}	0.608 ^{**}
57	Rakai	66	15	N.S.	N.S.
		67	10	0.543 ⁺	N.S.
		68	19	0.451 ⁺	N.S.
		69	15	0.712 ^{**}	0.485 ⁺

APPENDIX Ia - Average monthly rainfall (mm)

STATION	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
1	10	50	75	125	125	125	150	200	200	150	100	25
2	25	50	100	150	150	125	150	200	175	200	125	50
3	10	25	75	125	125	100	100	150	125	125	75	50
4	10	25	75	100	100	100	100	125	125	125	100	25
5	25	25	75	150	150	100	125	175	150	150	125	50
6	25	25	75	125	125	100	100	125	125	125	100	25
7	10	25	75	150	150	125	125	175	150	150	100	50
8	10	25	75	150	150	150	150	175	150	125	75	25
9	10	25	50	175	175	150	175	175	150	125	75	25
10	25	25	75	175	200	150	150	225	200	175	100	50
11	25	50	100	175	175	150	150	225	200	175	100	50
12	25	50	100	175	175	125	125	200	225	200	150	75
13	10	50	75	150	175	150	175	200	125	100	75	50
14	10	25	100	150	150	150	175	175	150	100	75	50
15	25	25	100	175	175	125	125	250	150	150	100	50
16	25	25	100	200	175	125	150	225	175	150	100	50
17	25	50	75	175	175	125	125	200	175	125	50	50
18	50	50	100	150	150	100	100	175	150	150	100	50
19	25	50	100	150	175	100	100	200	175	125	75	50
20	25	50	75	175	175	100	125	150	125	100	75	50
21	25	50	75	200	200	125	125	175	125	100	75	50
22	25	75	100	200	200	100	125	150	150	125	100	50
23	25	50	100	200	200	125	125	175	125	125	100	50
24	25	50	125	200	200	100	125	125	100	100	100	50
25	25	50	125	200	175	100	125	150	100	100	75	50
26	50	75	125	225	200	125	125	150	125	100	100	50
27	50	75	125	175	175	125	100	150	100	100	75	75
28	50	75	125	225	175	100	100	150	125	125	100	75
29	50	75	100	225	175	100	75	125	100	125	100	75
30	75	75	175	225	200	100	75	100	150	150	150	100

AP EX	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
31	50	75	125	200	150	75	75	125	125	125	125	75
32	50	50	125	225	175	75	100	150	100	125	125	75
33	50	75	125	200	175	100	100	150	125	125	125	75
34	75	100	125	200	125	75	100	100	125	150	150	75
35	50	50	125	200	150	100	100	125	125	125	125	75
36	75	75	150	225	150	75	100	125	175	150	150	100
37	25	50	100	175	125	75	75	100	100	100	100	50
38	50	75	125	200	125	75	75	125	125	125	125	75
39	50	75	125	175	125	75	75	100	125	150	125	100
40	100	100	150	200	175	100	75	100	100	125	150	125
41	100	100	175	200	150	100	100	100	100	150	125	125
42	50	75	100	175	125	50	75	125	150	150	125	75
43	50	50	100	175	125	50	75	100	100	150	125	75
44	50	50	100	125	100	50	50	75	100	125	125	75
45	75	75	125	175	125	75	50	125	125	150	150	100
46	75	75	125	175	125	50	50	100	125	125	150	100
47	50	75	125	175	125	75	50	100	125	125	125	75
48	50	75	125	175	125	50	50	75	100	100	150	100
49	50	75	125	200	125	100	100	150	150	150	125	50
50	50	75	125	175	150	100	100	150	150	150	125	50
51	50	75	100	150	150	100	100	150	150	125	100	50
52	50	75	100	175	125	100	100	150	150	150	125	75
53	25	50	75	125	100	50	50	50	100	150	100	75
54	50	75	100	150	100	50	25	75	100	125	150	100
55	75	75	125	175	100	50	25	75	125	125	125	100
56	100	125	125	150	100	50	50	100	125	150	175	125
57	75	75	125	150	150	25	25	50	75	100	125	100
58	50	50	100	100	75	25	25	75	100	100	100	75
59	50	75	100	175	200	125	150	175	125	100	75	50
60	50	50	100	150	175	100	100	150	100	100	75	50
61	50	75	125	200	200	125	100	100	100	125	100	75
62	25	50	75	200	200	125	175	175	150	125	100	50

PENDIX Ib - Average monthly potential evaporation (mm)

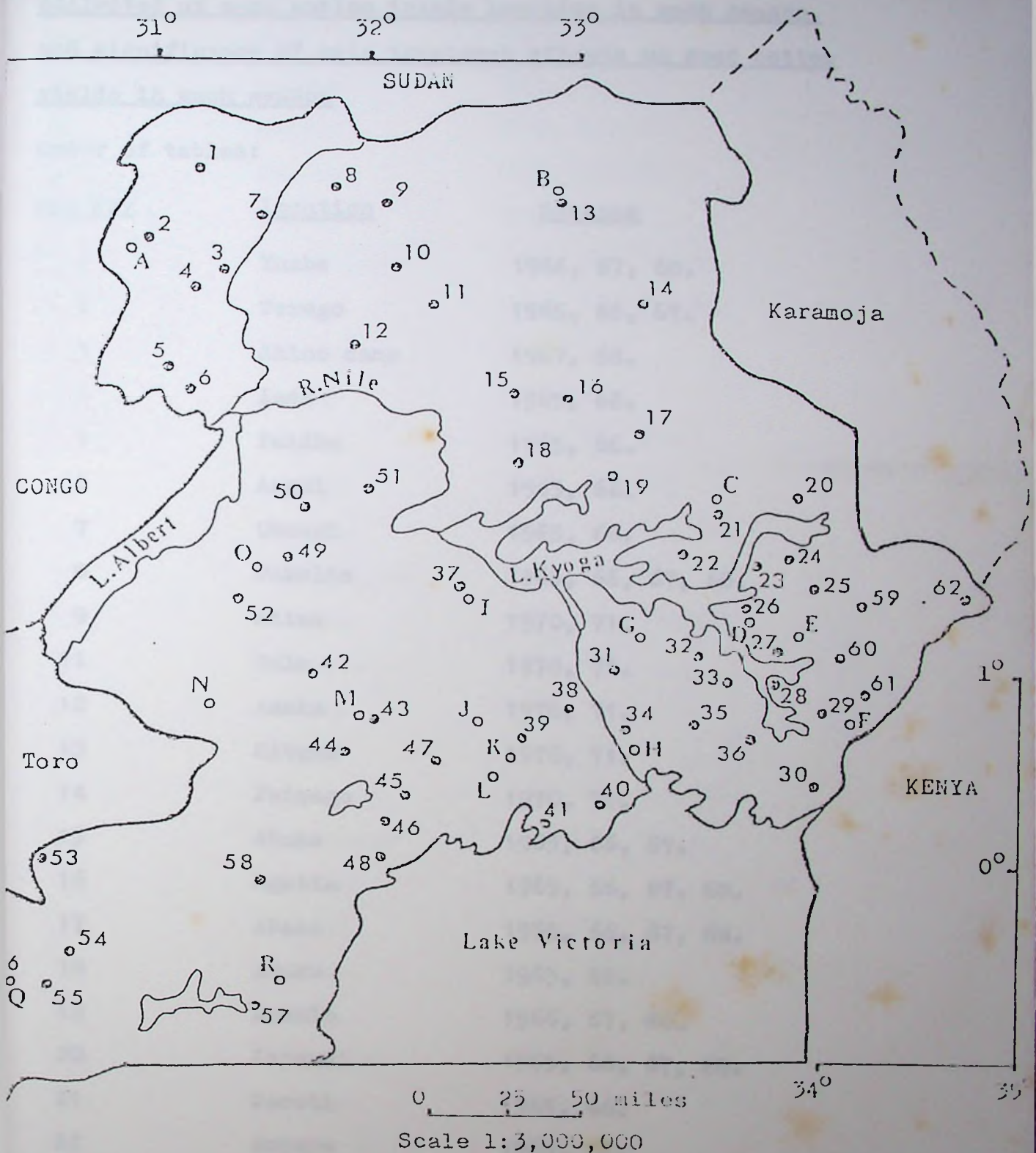
STATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	200	175	175	150	150	150	150	150	175	175	175	175
2	200	175	175	150	150	150	125	125	150	175	175	175
3	200	175	175	175	175	150	150	150	175	175	175	175
4	200	175	175	175	175	150	150	150	175	175	175	175
5	200	175	175	150	150	150	125	125	150	175	175	175
6	200	175	175	150	150	150	125	125	150	175	175	175
7	200	175	175	175	175	150	150	150	175	175	175	175
8	200	200	175	175	175	175	150	175	175	200	175	175
9	200	200	175	175	175	175	150	175	175	200	175	125
10	200	175	175	150	150	150	150	150	175	175	175	175
11	200	175	175	150	150	150	150	150	150	175	175	175
12	200	175	175	150	150	150	150	150	150	175	175	175
13	200	175	175	175	175	175	150	175	175	200	175	200
14	200	175	200	175	175	175	150	175	175	200	175	200
15	200	175	175	150	175	150	150	150	175	175	175	175
16	200	175	200	150	175	150	150	150	175	175	175	175
17	200	175	200	150	175	150	150	150	175	175	175	175
18	200	175	175	150	175	150	150	150	175	175	175	175
19	200	175	200	150	175	150	150	150	175	175	175	175
20	200	175	200	175	175	150	150	150	175	175	175	175
21	200	175	200	175	175	150	150	150	175	175	175	175
22	200	175	175	150	175	150	150	150	175	175	175	175
23	200	175	200	175	150	150	150	150	175	175	175	175
24	200	175	200	175	150	150	150	150	175	175	175	175
25	200	175	200	175	150	150	150	150	175	175	175	175
26	200	175	200	175	150	150	150	150	175	175	175	175
27	200	175	200	175	150	150	150	150	175	175	175	175
28	200	175	200	175	150	150	150	150	175	175	175	175
29	200	175	200	175	150	150	150	150	175	175	175	175
30	200	175	200	175	150	150	150	150	175	175	175	175

MAP KEY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
31	175	150	175	150	150	125	125	125	150	150	150	150
32	175	150	175	150	150	125	150	150	150	150	150	150
33	175	175	175	150	150	150	150	150	150	150	150	150
34	175	150	175	150	150	150	150	150	150	150	150	150
35	175	150	175	150	150	150	150	150	150	150	150	150
36	175	175	175	150	150	150	150	150	150	175	150	175
37	175	150	175	150	150	150	150	150	150	150	150	150
38	150	150	175	150	150	150	125	125	150	150	150	150
39	150	150	175	150	150	125	125	125	150	150	150	150
40	175	150	175	150	150	150	150	150	150	175	150	175
41	175	150	175	150	150	150	150	150	150	175	150	175
42	150	150	175	150	150	150	150	150	150	150	150	150
43	150	150	175	150	150	150	150	150	150	150	150	150
44	150	150	175	150	150	150	150	150	150	150	150	150
45	150	150	150	150	150	125	125	125	150	150	150	150
46	150	150	150	150	150	125	150	150	150	150	150	150
47	150	150	150	150	150	125	125	125	150	150	150	150
48	150	150	150	150	150	150	150	150	150	150	150	150
49	150	150	175	150	150	150	175	175	175	150	150	150
50	175	150	175	150	150	150	125	125	150	150	150	150
51	175	150	175	150	150	150	125	125	150	150	150	150
52	150	150	175	150	150	150	125	125	150	150	150	150
53	150	150	175	150	150	150	150	150	150	150	150	150
54	125	125	150	125	125	125	150	150	150	150	125	125
55	125	125	150	125	125	125	150	150	150	150	125	125
56	125	125	150	125	125	125	150	150	150	150	125	125
57	125	125	150	125	150	125	150	150	150	150	125	125
58	150	150	150	150	150	150	150	150	150	150	150	150
59	175	150	150	150	125	125	125	125	125	150	150	125
60	175	150	150	150	125	125	125	125	150	150	150	150
61	175	150	175	150	125	125	125	125	150	150	150	150
62	175	150	150	150	150	125	125	125	150	150	150	150

APPENDIX Ic - Average daily sunshine (hours/day)

MAP KEY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	9	9	9	8	8	8	7	7	8	8	9	9
2	9	8	9	8	8	8	7	7	8	8	8	8
3	10	9	9	8	9	9	7	8	8	8	9	9
4	9	8	9	8	8	8	7	7	8	8	9	9
5	9	8	9	8	8	8	7	7	8	8	8	8
6	9	8	9	8	8	8	7	7	8	8	8	8
7	10	9	9	8	9	9	7	8	8	8	9	9
8	10	9	9	8	9	9	7	8	8	8	9	9
9	10	9	9	8	9	9	7	8	8	9	9	9
10	9	9	9	8	9	9	7	8	8	9	9	9
11	9	9	9	8	8	9	7	8	8	9	9	9
12	9	9	9	8	8	8	7	7	8	8	9	8
13	10	9	9	8	9	9	7	8	9	9	9	9
14	10	9	9	8	9	9	7	8	9	9	9	9
15	9	9	9	8	8	9	7	8	9	9	9	8
16	10	9	9	8	9	9	7	8	9	9	9	8
17	9	9	9	8	9	9	7	8	9	9	9	9
18	9	8	8	8	8	9	7	8	8	9	9	8
19	9	8	8	8	8	9	7	8	9	9	9	8
20	9	9	9	8	8	8	7	7	8	9	9	9
21	9	9	9	8	8	8	7	7	8	9	9	9
22	9	9	8	8	8	8	7	7	8	9	9	9
23	9	9	8	8	8	8	7	7	8	8	8	9
24	9	9	8	8	8	8	7	7	8	8	8	9
25	9	8	8	8	8	8	7	7	8	8	8	8
26	9	8	8	8	8	8	7	7	8	8	8	8
27	9	8	8	8	8	8	7	7	8	8	7	8
28	9	8	8	8	8	8	7	7	8	8	7	8
29	9	8	8	8	8	8	7	7	8	8	7	8
30	8	8	8	7	7	7	7	6	7	7	7	8

1 Distribution of experimental centres in Uganda



Districts omitted from investigation



Centre for trials on private farms (for key see overleaf)



Departmental station (for key see overleaf)

APPENDIX II : COTTON

Mean values and standard deviations of all data collected at each cotton trials location in each season, and significance of main treatment effects on seed cotton yields in each season

Order of tables:

<u>Map key</u>	<u>Location</u>	<u>Seasons</u>
1	Yumbe	1966, 67, 68.
2	Terego	1965, 66, 67.
3	Rhino camp	1967, 68.
4	Inde	1965, 66.
5	Paidha	1965, 66.
6	Angal	1965, 66.
7	Obongi	1965, 66.
8	Pakelle	1965, 66, 67, 68.
9	Atiak	1970, 71.
11	Gulu	1970, 71.
12	Anaka	1970, 71.
13	Kitgum	1970, 71.
14	Patongo	1970, 71.
15	Aboke	1965, 66, 67.
16	Ngetta	1965, 66, 67, 68.
17	Abako	1965, 66, 67, 68.
18	Aduku	1965, 66.
19	Dokolo	1966, 67, 68.
20	Katakwi	1965, 66, 67, 68.
21	Soroti	1965, 66.
22	Serere	1965, 66.
23	Ngora	1966.

Map keyLocationSeasons

24	Kumi	1965, 66.
26	Pallisa	1965, 66, 67.
27	Budaka	1965, 66, 67.
28	Bunyole	1965, 66, 67.
29	Budama	1965, 66.
30	Samia Bugwe	1965, 66, 67, 68.
31	Kamuli	1965, 66, 67, 68.
32	Bulamogi	1970, 71.
33	Busiki	1970, 71.
34	Eugoma	1965, 66, 67.
35	Iganga	1965, 66, 67.
36	Bugiri	1965, 66, 67, 68.
37	Nakasongola	1966, 67, 68.
38	Kayunga	1965, 66, 67, 68.
39	Kalagala	1965, 66.
40	Buikwe	1966.
42	Kiboga	1970, 71.
43	Bukomero	1965, 66, 67, 68.
44	Kalangalo	1966, 70, 71.
45	Kakindu	1971.
46	Kiriri	1966, 70, 71.
47	Kakiri	1965, 66.
48	Nkozi	1971.
49	Bwijanga	1966, 67.
50	Masindi	1968.
51	Kiryandongo	1970, 71.
57	Rakai	1966.

<u>Map key</u>	<u>Location</u>	<u>Seasons</u>
59	North Bugisu	1965, 66, 67, 68.
60	Central Bugisu	1965, 66, 67.
61	South Bugisu	1965, 66, 67, 68.

Key to tables:

Figure in brackets after location identity = map key.

Reps = No. of trials.

M	=	0-8" Soil organic matter (%).
H	=	" " pH
XTRP	=	" " extractable P (p.p.m.).
	=	" " total N (%).
I	=	" " nitrogen index (p.p.m. N).
XERCA	=	" " extractable Ca (mg/100g).
XTRMG	=	" " " Mg "
XTRK	=	" " " K "
CLAY	=	" " clay (%).
SILT	=	" " silt (%).
LEAFN	=	Cotton leaf N (%).
LEAFP	=	" " P "
LEAFS	=	" " S "
LEAFCA	=	" " Ca "
LEAFMG	=	" " Mg "
LEAFK	=	" " K "
REST	=	Rest score
CROPTYEAR	=	Cropping year
PRAYS	=	No. of DDT sprays applied.
P	=	Month of planting (Jan=1, etc.).

= Seed cotton yield in absence of fertilizers (lbs/acre).

= " " " " presence of N1 " " .

= " " " " " " N2 " " .

= " " " " " " P1 " " .

= " " " " " " N1+P1 " " .

= " " " " " " N2+P1 " " .

= " " " " " " P2 " " .

= " " " " " " N1+P2 " " .

= " " " " " " N2+P2 " " .

= Linear yield response to N.

= Quadratic " " " N.

= Linear " " " P.

= Quadratic " " " P.

= Interaction between N and P.

= Yield coefficient of variation.

(n.s.=not significant, .

* =signif. at 5%
level,

** =signif. at 1%
level.)

COTTON

YUMBE (1)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.6807	0.5328	30
PH	5.9600	0.2932	30
EXTRP	6.7635	6.6170	30
N	0.0891	0.0160	30
NI	55.6432	9.5472	30
EXTRCA	107.8453	44.9489	30
EXTRMG	19.1279	6.3029	30
EXTRK	31.4810	9.8602	30
CLAY	15.4667	5.2963	30
SILT	8.2000	2.6990	30
LEAFN	4.1500	0.3665	30
LEAFP	0.4230	0.0985	30
LEAFS	0.5557	0.0873	30
REST	2.9667	3.3060	30
CROPYEAR	3.2667	1.7006	30
SPRAYS	1.1233	1.4794	30
MP	5.5323	0.5074	30
CY	1457.8223	303.6667	30
N1	1760.8333	440.7253	30
N2	1872.5000	465.8569	30
P1	1766.5000	461.3806	30
N1P1	2017.5000	507.0024	30
N2P1	2108.0000	442.6384	30
P2	1745.5000	441.5112	30
N1P2	2073.5000	470.9690	30
N2P2	2375.8223	550.6077	30
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	*		
NP	* *		
C.V	13.0		

COTTON
YUMBE (1)
1967

VARIABLE	CASES	MEAN	STD DEV
QM	30	2.3367	0.8294
PH	30	6.4200	0.2658
EXTRP	30	9.1000	5.8625
LEAFN	0	*****	*****
REST	30	1.7333	3.6382
CROPYEAR	30	4.2333	1.5241
SPRAYS	30	3.4667	1.2243
MP	30	5.7667	0.6261
CY	30	670.9666	139.5972
N1	30	854.0000	157.5117
N2	30	903.5000	147.5258
P1	30	795.5000	132.6795
N1P1	30	971.5000	154.0622
N2P1	30	1028.0000	146.0467
P2	30	809.0000	156.6230
N1P2	30	1006.5000	140.3365
N2P2	30	1177.5000	212.5186
N ₁		**	
N _q		**	
P ₁		**	
P _q		ns	
NP		*	
C.V.		9.9	

COTTON
YUMBE (1)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.3133	0.7785	30
PH	6.2200	0.2760	30
NI	46.4861	11.7923	30
EXTRP	7.3333	5.2479	30
EXTRCA	93.9667	47.2612	30
EXTRK	27.4000	7.9116	30
LEAFN	3.8500	0.3589	30
LEAFP	0.0	0.0	30
LEAFCA	0.0	0.0	30
LEAFMC	0.0	0.0	30
LEAFK	0.0	0.0	30
REST	1.8233	3.2386	30
CROPYEAR	3.9233	1.5522	30
SPRAYS	1.3333	1.9179	30
MP	5.6667	0.4795	30
CY	2139.6233	386.6909	30
N1	2740.5000	449.6384	30
N2	2887.0000	380.1174	30
P1	2562.5000	398.4451	30
N1P1	2893.5000	346.9717	30
N2P1	3040.5000	395.7734	30
P2	2704.0000	350.6282	30
N1P2	2949.5000	390.6831	30
N2P2	3446.0000	392.5259	30
N ₁	* *		
N _q	*		
P ₁	* *		
P _q	ns		
NP	* *		
C.V.	7.8		

COTTON
TEREGO (2)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.4140	0.5966	20
PH	5.4350	0.2084	20
EXTRP	5.5095	8.5574	20
N	0.0852	0.0219	20
N1	34.7649	7.8715	20
EXTRCA	80.8541	38.3141	20
EXTRMG	13.7820	4.9498	20
EXTRK	23.6631	5.2460	20
CLAY	14.5500	5.5486	20
SILT	7.7000	2.1783	20
LEAFN	0.0	0.0	20
REST	4.5500	3.2032	20
CRCPYEAR	2.4000	1.3917	20
SPRAYS	1.0000	1.7770	20
MP	5.3500	0.4894	20
CY	601.5000	227.8827	20
N1	788.3999	275.6660	20
N2	1018.2000	380.2224	20
P1	671.7000	275.7009	20
N1P1	844.7998	310.6035	20
N2P1	947.0999	334.8135	20
P2	725.7000	276.5518	20
N1P2	871.7998	326.4817	20
N2P2	981.0000	323.6331	20
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	20.0		

COTTON
TEREGO (2)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.6193	0.7956	30
PH	5.8800	0.2605	30
EXTRP	11.5657	11.4702	30
LEAFN	4.0000	0.3824	30
REST	4.8333	3.7240	30
CROPYEAR	2.3333	1.7087	30
SPRAYS	0.4000	0.9685	30
MP	6.3667	0.5561	30
CY	519.9666	262.1692	30
N1	687.7666	276.1140	30
N2	740.0999	313.7534	30
P1	534.2332	260.7783	30
N1P1	731.7666	247.8639	30
N2P1	755.5667	318.2485	30
P2	573.9666	242.2068	30
N1P2	728.5667	258.0806	30
N2P2	787.9331	310.7878	30
N ₁	* *		
N _q	* *		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	21.3		

COTTON

TEREGO (2)

1967

VARIABLE	CASES	MEAN	STD DEV
CM	28	2.3750	0.7422
PH	28	5.6428	0.3085
EXTRP	28	8.0000	4.3801
LEAFN	28	3.9964	0.3746
REST	28	7.0357	3.2143
CROPYEAR	28	1.6429	1.0616
SPRAYS	28	1.4286	1.9518
MP	28	6.2857	0.4601
CY	28	912.5356	266.2317
N1	28	980.8928	266.7488
N2	28	1037.6785	287.8074
P1	28	861.9641	265.8462
N1P1	28	1043.5713	338.8545
N2P1	28	1112.6785	286.8794
P2	28	924.6428	274.2292
N1P2	28	1088.5713	318.5215
N2P2	28	1243.3928	418.6140
N ₁		**	
N _q		*	
P ₁		**	
P _q		ns	
NP		**	
C.V.		13.2	

COTTON

RHINO CAMP (3)

1967

VARIABLE	CASES	MEAN	STC DEV
OM	27	9.9407	0.3411
PH	27	6.3815	0.2221
EXTRP	27	11.2963	5.9667
LEAFN	0	*****	*****
REST	27	4.8889	2.9000
CROPYEAR	27	2.0000	1.4412
SPRAYS	27	1.3333	1.9215
MP	27	6.4444	0.5064
CY	27	663.8518	146.3772
N1	27	818.3333	209.3536
N2	27	841.6665	234.9809
P1	27	617.2222	145.2344
N1P1	27	844.4443	209.0432
N2P1	27	899.4443	215.1479
P2	27	656.6665	146.7542
N1P2	27	861.6665	228.5594
N2P2	27	857.7776	202.4481
N ₁		* *	
N _q		* *	
P ₁		*	
P _q		ns.	
NP		ns	
C.V.		14.6	

COTTON
RHINO CAMP (3)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.0828	0.3392	29
PH	6.2138	0.3303	29
NI	22.0689	8.1592	29
EXTRP	8.0690	5.8672	29
EXTRCA	41.8621	30.2238	29
EXTRK	13.4483	4.7704	29
LEAFN	3.9241	0.3113	29
LEAFP	0.4352	0.1309	29
LEAFCA	1.3897	0.4083	29
LEAFMC	0.5048	0.1059	29
LEAFK	1.8586	0.2163	29
REST	6.3103	2.0547	29
CROPPYEAR	1.3793	0.7752	29
SPRAYS	1.3793	1.9349	29
MP	6.4138	0.5012	29
CY	692.1377	196.6910	29
N1	1032.4136	259.2800	29
N2	1106.8965	324.7539	29
P1	755.6895	229.3305	29
N1P1	1042.2412	277.4124	29
N2P1	1189.1277	338.8938	29
P2	799.6550	223.2116	29
N1P2	1155.0000	235.6365	29
N2P2	1200.5171	320.0454	29
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	19.3		

COTTON
INDE (4)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.0814	1.1794	29
PH	5.8310	0.2830	29
EXTRP	16.6656	31.7237	29
N	0.0577	0.0305	29
NI	29.6068	9.0072	29
EXTRCA	81.0541	83.2722	29
EXTRMC	20.8344	16.2836	29
EXTRK	30.7239	15.3487	29
CLAY	10.9655	6.9974	29
SILT	5.3793	2.1557	29
LEAFN	0.0	0.0	29
REST	5.9310	2.9390	29
CROPYEAR	2.0690	1.1317	29
SPRAYS	0.0345	0.1857	29
MP	6.6207	0.6219	29
CY	683.7930	265.3323	29
N1	827.5862	249.5550	29
N2	904.6550	291.4973	29
P1	804.8274	291.1709	29
N1P1	849.3103	223.4739	29
N2P1	952.2412	361.0610	29
P2	751.0344	221.7600	29
N1P2	852.4482	235.3077	29
N2P2	1076.8965	415.8914	29
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	17.5		

COTTON
INDE (4)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	1.5379	0.5339	28
PH	6.1536	0.4032	28
EXTRP	7.8241	10.2338	28
LEAFN	3.8678	0.4406	28
REST	5.2500	3.3292	28
CROPYEAR	2.2143	1.2578	28
SPRAYS	0.0	0.0	28
MP	6.5000	0.5092	28
CY	825.1785	322.8005	28
N1	986.7856	335.9373	28
N2	1075.3569	390.0100	28
P1	893.3928	345.2363	28
N1P1	1137.3213	436.5188	28
N2P1	1131.9641	435.6865	28
P2	925.1785	317.9097	28
N1P2	1075.1785	324.6021	28
N2P2	1222.5000	364.3806	28
N ₁	**		
N _q	*		
P ₁	**		
P _q	ns		
NP	ns		
C.V.	16.8		

COTTON
PAIDHA (5)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	3.3924	0.6645	29
PH	5.7621	0.1990	29
EXTRP	7.9831	9.8040	29
N	0.1054	0.0157	29
NI	41.0137	7.3562	29
EXTRCA	154.2756	55.8380	29
EXTRMG	33.9889	14.2923	29
EXTRK	39.8799	10.9770	29
CLAY	21.8621	6.5012	29
SILT	10.1724	3.4751	29
LEAFN	0.0	0.0	29
REST	3.7241	3.0107	29
CRCPYEAR	2.7931	1.4238	29
SPRAYS	0.0690	0.3714	29
MP	6.7241	0.4549	29
CY	535.3792	206.3534	29
N1	611.8965	248.1450	29
N2	713.9653	332.9258	29
P1	664.6550	244.9093	29
N1P1	815.0000	375.5710	29
N2P1	846.7241	268.6413	29
P2	661.5515	265.6904	29
N1P2	815.6895	257.2402	29
N2P2	906.2068	311.2131	29
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	*		
NP	ns		
C.V.	25.9		

COTTON
PAIDHA (5)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.0675	1.1442	24
PH	5.9833	0.1737	24
EXTRP	11.5265	13.7537	24
LEAFN	4.1083	0.3021	24
REST	7.9167	2.9770	24
CROPYEAR	1.4583	1.0206	24
SPRAYS	0.0833	0.4082	24
MP	6.7083	0.4643	24
CY	435.2083	159.8675	24
N1	691.6665	229.6155	24
N2	755.6250	259.6125	24
P1	540.0000	239.5512	24
V1P1	696.2915	212.1647	24
N2P1	863.1250	304.2090	24
P2	528.1250	208.3153	24
N1P2	744.3750	261.1907	24
V2P2	872.5000	295.2219	24
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	*		
NP	ns		
C.V.	18.2		

COTTON
ANGAL (6)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.8213	1.2572	22
PH	5.9182	0.2856	22
EXTRP	5.7893	9.7243	22
N	0.0228	0.0283	22
NI	36.6544	2.9169	22
EXTRCA	115.1956	24.9674	22
EXTRMC	34.1072	23.4335	22
EXTRK	33.2713	10.1379	22
CLAY	16.8636	7.4597	22
SILT	8.5000	6.4715	22
LEAFN	0.0	0.0	22
REST	3.4091	4.0551	22
CROPYEAR	3.2727	1.8305	22
SPRAYS	0.3626	1.1770	22
MP	6.5455	0.6710	22
CY	702.2727	231.3456	22
N1	818.8635	287.2900	22
N2	843.4189	278.3599	22
P1	748.6362	223.7729	22
N1P1	891.1362	268.5139	22
N2P1	961.3635	329.5732	22
P2	813.4099	262.1960	22
N1P2	930.6816	324.2042	22
N2P2	998.1816	265.8291	22
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	15.5		

COTTON

ANGAL (6)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.5973	0.9735	30
PH	6.2500	0.2584	30
EXTRP	18.4057	21.1585	30
LEAFN	3.7467	0.2316	30
REST	3.6000	4.2879	30
CROPYEAR	3.2667	1.7798	30
SPRAYS	0.1333	0.7303	30
MP	6.3667	0.7649	30
CY	726.5000	211.4244	30
N1	839.0000	269.7388	30
N2	911.0000	274.7788	30
P1	718.0000	197.1461	30
N1P1	953.0000	241.9530	30
N2P1	997.0000	249.1874	30
P2	763.1665	202.7630	30
N1P2	905.5000	212.6574	30
N2P2	985.5000	235.9252	30
N ₁	* *		
N _q	*		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	18.0		

COTTON
OBONGI (7)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.2425	0.3053	24
PH	6.2000	0.2227	24
EXTRP	16.3715	20.4537	24
N	0.0438	0.0112	24
NI	21.6874	4.9616	24
EXTRPCA	36.7101	25.9530	24
EXTRMG	8.8600	4.0243	24
EXTRK	19.2938	3.9781	24
CLAY	4.4583	2.9779	24
SILT	4.5417	2.3215	24
LEAFN	0.0	0.0	24
REST	2.2500	3.0681	24
CROPYEAR	3.5417	1.7189	24
SPRAYS	0.0	0.0	24
MP	6.8333	0.3807	24
CY	856.8750	327.7771	24
N1	1013.1250	351.5005	24
N2	1041.8750	271.3354	24
P1	896.2500	279.8284	24
N1P1	1185.0000	325.4607	24
N2P1	1120.6250	326.6152	24
P2	920.6250	236.5417	24
N1P2	1008.1250	222.7449	24
N2P2	1242.5000	341.4119	24
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	ns		
NP	* *		
C.V.	18.6		

COTTON
OBONGI (7)
1966

VARIABLE	MEAN	.STANDARD DEV	CASES
OM	1.0822	0.2197	27
PH	6.2518	0.2156	27
EXTRP	7.0992	5.5466	27
LEAFN	4.0222	0.4518	27
REST	2.2963	3.1963	27
CROPYEAR	3.4444	1.8879	27
SPRAYS	0.0	0.0	27
MP	6.0370	0.1925	27
CY	809.0000	234.7188	27
N1	977.7776	263.9695	27
N2	1020.5554	291.0510	27
P1	873.8887	226.4006	27
N1P1	1032.2222	243.2599	27
N2P1	1099.4443	256.2102	27
P2	831.1111	245.9205	27
N1P2	1038.8887	263.8586	27
N2P2	1163.8887	377.8545	27
N _l	* *		
N _q	*		
P _l	* *		
P _q	ns		
NP	* *		
C.V.	17.5		

COTTON
PAKELLE (8)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.9956	0.4809	23
PH	5.8870	0.3571	23
EXTRP	6.3013	5.7739	23
N	0.0680	0.0140	23
NI	38.9391	11.9960	23
EXTRCA	57.8241	21.3660	23
EXTRMC	16.9043	5.4251	23
EXTRK	24.7850	3.9681	23
CLAY	8.4348	4.0220	23
SILT	8.3913	2.9192	23
LEAFN	0.0	0.0	23
REST	4.1739	2.7741	23
CROPYEAR	2.6087	1.2099	23
SPRAYS	0.1304	0.3444	23
MP	5.8696	0.5481	23
CY	756.5217	212.4131	23
N1	970.4346	284.6162	23
N2	1048.6956	309.6565	23
P1	1040.2173	276.0869	23
N1P1	1119.4780	252.2466	23
N2P1	1395.0000	354.9617	23
P2	742.1738	160.4030	23
N1P2	1318.0435	315.5898	23
N2P2	1575.6521	348.6973	23
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	* *		
NP	* *		
C.V.	14.7		

COTTON
PAKELLE (8)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.1537	0.7214	30
PH	5.9067	0.2639	30
EXTRP	7.3762	6.6826	30
LEAFN	3.8600	0.3287	30
REST	7.6000	2.7990	30
CROPYEAR	1.4333	0.8976	30
SPRAYS	0.4333	1.0063	30
MP	6.3667	0.8503	30
CY	852.0000	148.4076	30
N1	1181.5000	176.2756	30
N2	1090.5000	243.9435	30
P1	985.0000	151.3015	30
V1P1	1164.0000	237.2835	30
N2P1	1396.5000	197.0863	30
P2	884.0000	143.2220	30
N1P2	1242.5000	165.0714	30
V2P2	1508.0000	222.6077	30
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	* *		
NP	* *		
C.V.	11.9		

TON
ELLE (8)
7

RIABLE	CASES	MEAN	STD DEV
	23	2.5565	0.5204
	23	6.2565	0.4021
TRP	23	12.6087	7.3592
AFN	23	3.9609	0.6521
ST	23	8.1739	3.2704
OPYEAR	23	1.4348	0.9451
WAYS	23	1.5652	1.9960
	23	7.0435	0.7057
	23	538.6956	201.8611
	23	776.0869	223.6424
	23	815.8694	256.1106
	23	555.0000	178.7456
P1	23	740.8694	228.8200
P1	23	911.7390	254.5170
	23	623.9128	207.0688
P2	23	853.6956	194.6796
P2	23	1021.7390	260.7485

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15.8

COTTON
PAKELLE (8)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.2409	0.7372	22
PH	6.0545	0.1921	22
NI	62.2393	134.3552	22
EXTRP	7.0455	5.0566	22
EXTRCA	90.9545	38.1906	22
EXTRK	21.7273	5.2024	22
LEAFN	3.6136	0.5348	22
LEAFP	0.4586	0.1394	22
LEAFCA	2.0045	0.3722	22
LEAFMG	0.5023	0.1094	22
LEAFK	2.0182	0.3875	22
REST	7.8636	2.6553	22
CROPYEAR	1.6364	1.3988	22
SPRAYS	1.0909	1.8234	22
MP	6.3182	0.4767	22
CY	681.0000	229.4180	22
N1	816.1362	230.5589	22
N2	936.1362	307.5703	22
P1	691.3635	188.5988	22
N1P1	826.3635	209.4335	22
N2P1	932.7271	263.9651	22
P2	752.0454	264.1956	22
N1P2	886.3635	293.3887	22
N2P2	1018.6362	300.2803	22
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	*		
NP	ns		
C.V.	17.5		

COTTON
 ATIAK (9)
 1970

VARIABLE	MEAN	STANDARD DEV	CASES
UM	2.5150	0.5081	20
PH	6.0350	0.2642	20
EXTRP	3.5500	1.1910	20
LEAFN	0.0	0.0	20
REST	3.7000	4.5895	20
CROPYEAR	3.4000	1.8468	20
SPRAYS	4.0000	0.0	20
MP	4.0000	0.0	20
CY	423.8999	170.7577	20
N1	575.3999	228.8618	20
N2	567.3999	244.7917	20
P1	587.7000	212.7518	20
N1P1	646.5000	232.8180	20
N2P1	654.2998	210.9092	20
P2	586.5000	184.8595	20
N1P2	651.2998	245.0198	20
N2P2	715.7998	252.8565	20
N ₁	* *		
N _q	*		
P ₁	* *		
P _q	* *		
NP	ns		
C.V.	17.0		

COTTON
 ATIAX (9)
 1971

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.5111	0.5999	18
PH	6.2611	0.1915	18
EXTRP	6.5556	5.1589	18
LEAFN	0.0	0.0	18
REST	3.1667	3.7456	18
CRCPYEAR	3.4444	1.7226	18
SPRAYS	4.0000	0.0	18
MP	5.0000	0.0	18
CY	548.3887	162.6025	18
N1	759.6665	193.6271	18
N2	754.7776	239.9649	18
P1	687.5554	147.0760	18
N1P1	757.6665	234.3646	18
N2P1	786.6665	249.0830	18
P2	701.0000	211.6049	18
N1P2	806.6665	216.7264	18
N2P2	864.6665	231.9767	18
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	20.0		

COTTON
GULU (11)
1970

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.4150	1.3406	20
PH	5.7300	0.3045	20
EXTPP	16.6500	19.3996	20
LEAFN	3.9250	0.3042	20
REST	5.1000	3.4012	20
CROPYEAR	2.2500	1.4464	20
SPRAYS	4.0000	0.0	20
MP	5.2500	0.4443	20
CY	1035.7500	214.6645	20
N1	1192.0000	294.4480	20
N2	1249.5000	367.1992	20
P1	1146.7500	275.3599	20
N1P1	1258.5000	338.2517	20
N2P1	1322.2500	398.5757	20
P2	1174.7500	286.0005	20
N1P2	1387.5000	457.2029	20
N2P2	1432.5000	418.0354	20
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	9.3		

COTTON
GULU (11)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
DM	3.1200	0.7270	20
PH	5.6550	0.2395	20
EXTRP	11.4000	10.4750	20
LEAFN	3.9950	0.4752	20
REST	7.0500	3.3003	20
CROPYEAR	1.7500	1.2927	20
SPRAYS	4.0000	0.0	20
MP	6.0000	0.7255	20
CY	1054.8499	216.0702	20
N1	1299.7500	311.4338	20
N2	1328.2500	381.9758	20
P1	1193.2500	288.6716	20
N1P1	1323.7500	334.0227	20
N2P1	1384.5000	364.4148	20
P2	1278.7500	284.0991	20
N1P2	1403.2500	387.2700	20
N2P2	1551.5000	426.5898	20
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	*		
C.V.	9.0		

COTTON

ANAKA (12)

1970

VARIABLE	MEAN	STANDARD DEV	CASES
DM	3.3850	0.7929	20
PH	5.5850	0.1462	20
EXTM	13.6000	12.0455	20
LEAFI.	0.0	0.0	20
REST	5.4000	3.9390	20
CROPYEAR	2.4000	1.5355	20
SPRAYS	4.0000	0.0	20
MP	5.1000	0.6407	20
CY	757.2998	249.0396	20
N1	773.2500	248.0981	20
N2	793.7500	258.0537	20
P1	798.2500	235.2787	20
N1P1	823.5000	274.0884	20
N2P1	786.0000	263.7612	20
P2	803.2500	266.6223	20
N1P2	829.5000	290.7842	20
N2P2	875.2500	296.7166	20
N ₁	ns		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	10.0		

COTTON
 ANAKA (12)
 1971

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.0600	1.1028	20
PH	5.8750	0.2693	20
EXTRP	10.3000	12.7242	20
LEAFN	0.0	0.0	20
REST	7.0000	3.9337	20
CROPYEAR	1.9500	1.3169	20
SPRAYS	4.0000	0.0	20
MP	5.7500	0.4443	20
CY	1060.0498	141.5463	20
N1	1168.5000	217.4145	20
N2	1245.7500	226.5717	20
P1	1100.2500	158.6151	20
N1P1	1146.0000	201.5038	20
N2P1	1240.5000	219.1121	20
P2	1146.7500	186.9962	20
N1P2	1191.0000	165.0620	20
N2P2	1238.2500	206.9569	20
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	9.6		

COTTON
KITGUM. (13)
1970

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.0278	0.4861	18
PH	6.2722	0.2586	18
EXTRP	5.7222	3.8010	18
LEAFH	0.0	0.0	18
REST	6.2222	3.5572	18
CROPYEAR	1.8889	1.3235	18
SPRAYS	4.0000	0.0	18
MP	5.6667	0.4851	18
CY	550.6665	138.4297	18
N1	655.8333	209.9248	18
N2	670.0000	250.1000	18
P1	547.2222	176.6455	18
N1P1	651.6665	237.2949	18
N2P1	675.2776	232.3062	18
P2	610.0000	164.5582	18
N1P2	658.8887	208.8312	18
N2P2	815.8333	266.4541	18
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	* *		
C.V.	17.3		

COTTON
KITGUM (13)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.0579	0.5092	19
PH	6.5210	0.2486	19
EXTRF	7.3684	5.8234	19
LEAFN	0.0	0.0	19
REST	5.6842	2.2669	19
CROPYEAR	1.8947	1.2425	19
SPRAYS	4.0000	0.0	19
MP	5.6316	0.4956	19
CY	928.2104	185.0670	19
N1	1014.4736	230.1767	19
N2	986.8420	190.2349	19
P1	956.8420	185.2422	19
N1P1	1024.7368	235.6928	19
N2P1	1065.7893	267.6030	19
P2	1001.0525	229.5580	19
N1P2	1031.8420	211.5173	19
N2P2	1076.0525	300.2073	19
N ₁	**		
N _q	ns		
P ₁	**		
P _q	ns		
KP	ns		
C.V.	11.9		

COTTON
PATONGO (14)
1970

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.9789	1.2533	19
PH	5.9579	0.2590	19
EXTRP	6.6316	3.0950	19
LEAFN	0.0	0.0	19
REST	6.0000	2.5166	19
CROPYEAR	1.5789	1.0174	19
SPRAYS	4.0000	0.0	19
MP	5.3158	0.4776	19
CY	604.6313	183.5240	19
N1	683.6841	231.9654	19
N2	695.5261	255.1573	19
P1	578.6841	166.4570	19
N1P1	709.7368	217.7760	19
N2P1	830.5261	252.0521	19
P2	638.6841	151.3537	19
N1P2	765.2629	170.7620	19
N2P2	853.9473	263.2729	19
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	*		
C.V.	15.4		

COTTON
PATONGO (14)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.5950	0.7884	20
PH	5.7200	0.1705	20
EXTRP	5.9000	7.2902	20
LEAFN	0.0	0.0	20
REST	5.0500	3.6487	20
CRUPYEAR	2.2000	1.5079	20
SPRAYS	4.0000	0.0	20
MP	5.8000	0.4104	20
CY	399.9500	114.8644	20
N1	438.0000	162.3301	20
N2	401.2500	176.2117	20
P1	429.0000	132.5121	20
N1P1	461.2500	155.7231	20
N2P1	514.5000	204.6365	20
P2	403.5000	140.9565	20
N1P2	449.2500	152.9300	20
N2P2	488.2500	167.5622	20
N _l	* *		
N _q	ns		
P _l	* *		
P _q	* *		
MP	ns		
C.V.	17.7		

COTTON
ABOKE (15)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.6785	1.2322	26
PH	5.7346	0.2814	26
EXTRP	8.6532	7.6250	26
N	0.1389	0.0362	26
NI	67.9576	15.6893	26
EXTRCA	159.5128	68.5564	26
EXTRMC	30.5630	9.3176	26
EXTRK	35.7627	9.1615	26
CLAY	19.8077	5.1070	26
SILT	9.0000	3.1623	26
LEAFN	0.0	0.0	26
REST	3.0769	3.6213	26
CROPYEAR	3.3462	1.5986	26
SPRAYS	3.3462	0.8918	26
MP	5.4231	0.5138	26
CY	543.2690	226.3095	26
N1	1185.3000	284.4109	26
N2	1340.1921	309.8530	26
P1	1229.4229	246.7789	26
N1P1	1261.7307	296.6262	26
N2P1	1375.9614	301.0129	26
P2	1201.1538	231.9843	26
N1P2	1243.2690	267.3267	26
N2P2	1509.8076	315.4626	26
N _l	* *		
N _q	*		
P _l	* *		
P _q	* *		
NP	* * (-ve)		
C.V.	9.1		

COTTON
ABOKE (15)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	5.0895	2.0971	19
PH	6.0105	0.3943	19
EXTRP	18.1500	10.4057	19
LEAFN	4.4579	0.4926	19
REST	3.4211	4.1809	19
CROPYEAR	3.3684	1.8016	19
SPRAYS	3.3684	0.8307	19
MP	5.4211	0.5073	19
CY	608.6841	279.9248	19
N1	858.1577	333.9751	19
N2	949.7368	357.9819	19
P1	756.3157	283.3423	19
N1P1	834.4736	346.3455	19
N2P1	939.4736	350.5420	19
P2	794.2104	311.0657	19
N1P2	804.4736	346.8145	19
N2P2	1017.6313	384.1943	19
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	* * (-ve)		
C.V.	13.7		

OTTON
BOKE (15)
67

RIABLE	CASES	MEAN	STD DEV
	26	3.3885	1.1497
	26	5.8961	0.2974
TRP	26	15.1538	10.4334
AFN	26	4.1115	0.4599
ST	26	3.0769	4.1945
OPYEAR	26	3.5769	1.7475
WAYS	26	3.3846	0.7524
	26	5.6538	0.6895
	26	743.3459	195.7671
	26	995.7690	289.2183
	26	1241.3459	332.6248
	26	969.8076	277.2976
P1	26	1000.3845	283.0415
P1	26	1250.0000	315.0435
	26	977.3076	259.4836
P2	26	1067.8845	338.7202
P2	26	1305.5769	369.6318

		ns	

		ns	
		ns	
7.		12.7	

COTTON
 NGETTA (16)
 1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.0464	0.9902	22
PH	5.7182	0.2684	22
EXTRP	12.0269	15.5796	22
N	0.1168	0.0262	22
NI	59.6317	8.8371	22
EXTRCA	133.2231	61.4181	22
EXTRMG	25.1850	12.6697	22
EXTRK	27.7079	7.9988	22
CLAY	22.9545	5.4553	22
SILT	10.3182	4.7448	22
LEAFN	0.0	0.0	22
REST	4.8636	2.8502	22
CROPYEAR	2.1818	1.2587	22
SPRAYS	1.9545	1.6755	22
MP	4.7273	0.5505	22
CY	898.7271	294.3711	22
N1	1139.0908	367.9739	22
N2	1118.4543	456.5352	22
P1	924.0000	294.2170	22
N1P1	1105.3635	333.0251	22
N2P1	1164.0000	411.7325	22
P2	941.6362	293.2847	22
N1P2	1173.5454	368.9211	22
N2P2	1175.7271	403.5610	22
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	17.6		

COTTON
 NGETTA (16)
 1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	3.5696	0.8375	27
PH	5.7630	0.2238	27
EXTRP	7.5267	7.7481	27
LEAFH	3.9593	0.4782	27
REST	6.4074	3.1164	27
CROPYEAR	2.0000	1.5191	27
SPRAYS	2.1111	1.6251	27
MP	5.4444	1.1547	27
CY	572.6665	189.6370	27
N1	758.6665	253.2776	27
N2	788.0740	264.3206	27
P1	576.0000	206.7641	27
N1P1	725.1111	230.8349	27
N2P1	760.4443	220.2753	27
P2	619.7776	220.9866	27
N1P2	749.7776	223.9100	27
N2P2	892.0000	269.7119	27
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	* *		
NP	*		
C.V.	15.0		

TON
TTA (16)
7

ABLE	CASES	MEAN	STD DEV
	25	3.0240	0.9116
	25	5.8320	0.3945
RP	25	7.2400	5.7538
EN	19	3.7105	0.6289
	25	4.8000	3.0822
YEAR	25	2.0800	1.4411
AYS	25	3.0400	1.5133
	25	5.7200	1.0214
	25	711.2400	320.7405
	25	756.4800	340.4563
	25	801.5999	357.4487
	25	702.9600	340.1516
	25	804.7200	368.2068
	25	859.4399	331.2983
	25	726.9600	331.5991
	25	752.8799	355.7629
	25	927.3599	365.1299

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16.3

COTTON
NGETTA (16)
1963

VARIABLE	MEAN	STANDARD DEV	CASES
OM	3.2636	0.8465	11
PH	5.8545	0.3298	11
NI	64.3123	37.4395	11
EXTRP	10.2727	6.7096	11
EXTRCA	92.7273	38.9181	11
EXTRK	20.2727	8.4035	11
LEAFN	4.2909	0.4826	11
LEAFP	0.4564	0.1124	11
LEAFCA	2.1273	0.5694	11
LEAFMG	0.5309	0.1642	11
LEAFK	1.9182	0.5793	11
REST	4.2727	2.6492	11
CROPPYEAR	2.4545	0.9342	11
SPRAYS	4.0000	0.0	11
MP	5.3636	0.5045	11
CY	934.3635	346.7676	11
N1	1193.4543	429.1191	11
N2	1395.2727	457.6094	11
P1	943.6262	398.7908	11
N1P1	1177.6362	375.5835	11
N2P1	1265.4543	491.6436	11
P2	1016.1816	395.3381	11
N1P2	1250.9089	407.0911	11
N2P2	1274.5454	367.6802	11
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	20.3		

COTTON
 ABAKO (17)
 1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.9881	0.6183	27
PH	5.7536	0.2276	27
EXTRP	6.8200	15.4471	27
N	0.0922	0.0154	27
NI	46.3110	7.6102	27
EXTRCA	90.3067	47.4498	27
EXTRMG	18.8933	5.4286	27
EXTRK	27.8655	5.5749	27
CLAY	17.8518	3.1829	27
SILT	8.4815	3.2743	27
LEAFN	0.0	0.0	27
REST	2.4074	4.0407	27
CROPYEAR	3.9630	1.7863	27
SPRAYS	3.7778	0.6990	27
MP	4.9259	0.6156	27
CY	855.0000	248.7458	27
N1	958.3333	305.4658	27
N2	941.1111	267.5034	27
P1	968.8887	273.8240	27
N1P1	1090.0000	332.4763	27
N2P1	1163.8837	289.3428	27
P2	949.4443	286.7925	27
N1P2	1148.8887	272.4270	27
N2P2	1293.8887	300.0327	27
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	* *		
C.V.	17.8		

COTTON

ABAKO (17)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.9273	0.6230	30
PH	5.8700	0.2628	30
EXTRP	5.1390	4.4070	30
LEAFN	4.1600	0.3927	30
REST	3.7667	4.1992	30
CROPYEAR	3.1333	1.7953	30
SPRAYS	3.8667	0.7303	30
MP	5.2000	0.8469	30
CY	1172.5000	165.7251	30
V1	1258.0000	217.9971	30
N2	1405.5000	159.8637	30
P1	1193.3333	194.0665	30
N1P1	1260.5000	239.4292	30
V2P1	1441.0000	211.4671	30
P2	1250.5000	193.4699	30
N1P2	1339.0000	212.5990	30
N2P2	1581.3333	204.5901	30
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	*		
NP	ns		
C.V.	9.1		

TTON
AKO (17)
67

RIABLE	CASES	MEAN	STD DEV
	25	1.8680	0.5375
	25	5.7440	0.2740
TRP	25	6.4000	21.1798
AFN	19	3.6842	0.3096
ST	25	3.2800	3.7696
OPYEAR	25	3.1200	2.0067
WAYS	25	4.0000	0.0
	25	5.2800	0.7916
	25	872.3999	177.8220
	25	925.3999	176.5201
	25	1117.2000	228.8435
	25	947.3999	232.7688
P1	25	976.2000	171.8953
P1	25	1111.2000	269.5762
	25	928.7998	170.0314
P2	25	996.5999	162.6571
P2	25	1107.5999	243.3612
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		* *	
		* *	
		ns	
		ns	
V.		10.5	

COTTON

ABAKO (17)

1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.1176	0.3592	17
PH	5.9118	0.2977	17
NI	50.3507	17.6400	17
EXTRP	4.6471	2.4223	17
EXTRCA	71.2941	24.1552	17
EXTRK	21.0000	6.2948	17
LEAFN	3.5176	0.3128	17
LEAFP	0.3329	0.0754	17
LEAFCA	1.7294	0.2568	17
LEAFMG	0.3788	0.0655	17
LEAFK	1.7294	0.2055	17
REST	5.2941	3.8530	17
CROPYEAR	2.2941	1.4476	17
SPRAYS	4.0000	0.0	17
MP	5.2353	0.4372	17
CY	923.1763	139.3177	17
N1	1077.0586	202.3289	17
N2	1222.9412	153.6262	17
P1	1037.6470	179.0782	17
N1P1	1091.4705	193.8066	17
N2P1	1258.2351	233.3988	17
P2	1059.7058	196.2881	17
N1P2	1099.4116	216.7695	17
N2P2	1334.4116	208.5546	17
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	8.8		

COTTON
ADUKU (18)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.7086	1.1829	28
PH	5.2679	0.2294	28
EXTRP	16.2977	16.7248	28
N	0.1371	0.0316	28
NI	67.9713	20.1204	28
EXTRCA	133.1118	57.4573	28
EXTRMG	22.1556	10.1269	28
EXTRK	37.6275	12.8287	28
CLAY	20.9286	5.9250	28
SILT	8.0357	2.2523	28
LEAFN	0.0	0.0	28
REST	8.0357	2.9998	28
CRCPYEAR	1.3571	0.9512	28
SPRAYS	2.4286	1.3992	28
MP	5.3214	0.6118	28
CY	817.9285	314.9941	28
N1	880.5000	308.6331	28
N2	944.3569	373.9935	28
P1	839.3569	308.7830	28
N1P1	903.4285	352.1665	28
N2P1	951.2141	391.0124	28
P2	855.7856	314.6889	28
N1P2	921.0000	314.2661	28
N2P2	904.2356	397.4026	28
N ₁	***		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	16.7		

COTTON

ADUKU (18)

1966

VARIABLE	CASES	MEAN	STD DEV
OM	29	4.3048	1.1729
PH	29	6.0448	0.3101
EXTRP	29	21.1471	15.6801
LEAFN	29	4.4250	0.4266
REST	29	7.1724	2.5783
CROPYEAR	29	1.4138	0.7800
SPRAYS	29	1.5517	1.3780
MP	29	5.6207	0.6219
CY	29	752.4827	216.4663
N1	29	876.1377	239.2381
N2	29	877.6550	255.7264
P1	29	778.1377	206.5568
N1P1	29	840.6206	243.7176
N2P1	29	892.1377	232.2068
P2	29	840.2068	252.6443
N1P2	29	977.8621	238.9632
N2P2	29	955.6550	257.7151

N₁ * *

N_q ns

P₁ * *

P_q ns

NP ns

C.V. 14.1

COTTON
DOKOLO (19)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	3.7759	0.7842	29
PH	5.7793	0.1740	29
EXTRP	10.7102	7.5178	29
N	0.1045	0.0215	29
NI	60.7620	15.4058	29
EXTRCA	123.6076	34.6631	29
EXTRMG	23.8344	5.2831	29
EXTRK	26.1156	5.1162	29
CLAY	16.0345	4.4600	29
SILT	7.8621	2.1502	29
LEAFN	4.0759	0.7863	29
REST	6.7241	3.1384	29
CROPYEAR	1.7586	0.9876	29
SPRAYS	2.9310	0.9975	29
MP	5.5172	1.0563	29
CY	900.0000	323.7739	29
N1	1098.2756	302.4707	29
N2	1277.0688	382.0603	29
P1	1066.0344	399.1196	29
N1P1	1220.1724	342.4082	29
N2P1	1270.3447	381.3740	29
P2	1053.1033	373.1150	29
N1P2	1153.9653	338.1494	29
N2P2	1401.7241	469.1194	29
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	18.7		

PTON
KOLO (19)
57

VARIABLE	CASES	MEAN	STD DEV
	28	2.9964	0.5929
	28	5.7857	0.2190
TRP	28	8.3214	8.1379
AFN	0	*****	*****
EST	28	4.2500	3.2956
OPYEAR	28	2.3571	1.6603
PRAYS	28	1.0357	1.6439
	28	5.3929	0.5670
	28	715.1069	217.8044
	28	906.4285	259.2751
	28	955.1785	241.8006
	28	865.1785	279.1350
P1	28	867.8569	271.1597
P1	28	1008.2141	306.3271
	28	804.1069	242.5347
P2	28	1021.0713	384.4233
P2	28	1023.2141	276.3818

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V. 18.4

COTTON

DOKOLO (19)

1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	3.4583	0.9170	12
PH	5.8417	0.1505	12
NI	44.9541	10.1120	12
EXTRP	6.8233	5.4076	12
EXTRCA	118.0000	42.7360	12
EXTRK	20.4167	4.6604	12
LEAFN	3.3917	0.3872	12
LEAFP	0.3550	0.1328	12
LEAFCA	1.6417	0.2234	12
LEAFMC	0.3250	0.0507	12
LEAFK	1.4417	0.1881	12
REST	3.9167	4.1222	12
CROPYEAR	2.8233	1.8007	12
SPRAYS	4.0000	0.0	12
MP	5.4167	0.5149	12
CY	862.7500	220.2765	12
N1	1160.0000	197.7947	12
N2	1286.2500	327.8291	12
P1	1043.7500	230.2976	12
N1P1	1135.0000	293.4045	12
N2P1	1266.2500	239.5268	12
P2	930.0000	180.4540	12
N1P2	1177.5000	226.2639	12
N2P2	1353.7500	290.7993	12
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	12.5		

COTTON

KATAKWI (20)

1965

VARIABLE	MEAN	STANDARD DEV	CASES
JM	0.9560	0.3230	25
PH	5.7200	0.2887	25
EXTRP	7.0656	10.1526	25
N	0.0346	0.0094	25
VI	34.6079	10.7069	25
EXTRCA	23.4183	20.5479	25
EXTRMG	9.0672	3.2065	25
EXTRK	16.5178	3.3164	25
CLAY	6.7200	3.5768	25
SILT	4.3600	1.9339	25
LEAFN	3.9640	0.7767	25
LEAFP	0.3520	0.0913	25
LEAFS	0.3428	0.0703	25
LEAFCA	1.9680	0.3036	25
LEAFMG	0.4776	0.1324	25
LEAFK	1.8196	0.3294	25
REST	2.7600	3.2949	25
CROPYEAR	3.2000	1.8257	25
SPRAYS	1.4400	1.2610	25
MP	4.5200	0.5860	25
CY	573.1199	220.3937	25
N1	683.7598	261.8291	25
N2	728.8799	188.0705	25
P1	612.4800	239.9058	25
N1P1	741.0798	241.3458	25
N2P1	791.0398	328.5356	25
P2	632.6399	200.5598	25
N1P2	773.7598	235.7593	25
N2P2	828.9600	331.4453	25
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	21.8		

COTTON
KATAKWI (20)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
JM	0.9904	0.3200	27
PH	6.0037	0.2994	27
EXTRP	7.2258	8.1510	27
LEAFN	3.4630	0.3564	27
REST	4.5926	3.0288	27
CROPYEAR	2.0370	1.5059	27
SPRAYS	1.3333	1.4676	27
MP	4.6296	0.6877	27
CY	464.3704	172.4798	27
N1	615.7776	193.9534	27
N2	655.5554	213.5671	27
P1	542.0000	168.7977	27
N1P1	631.1111	211.1837	27
N2P1	775.5554	337.5676	27
P2	519.3333	164.2523	27
V1P2	775.3333	299.8750	27
N2P2	867.1851	282.5823	27
N ₁	* *		
N _q	*		
P ₁	* *		
P _q	ns		
NP	* *		
C.V.	18.8		

COTTON
KATAKWI (20)
1967

VARIABLE	CASES	MEAN	STD DEV
OM	22	1.1327	0.3470
PH	22	5.9591	0.3900
EXTRP	22	7.0524	10.8292
LEAFN	22	3.5227	0.3677
REST	22	1.9545	2.9355
CROPYEAR	22	3.6818	1.6150
SPRAYS	22	1.6818	1.9368
MP	22	5.0455	1.2902
CY	22	404.8635	184.6139
N1	22	634.8181	210.9028
N2	22	687.8181	202.8588
P1	22	439.9089	178.0317
N1P1	22	690.2727	222.5707
N2P1	22	777.2727	240.2339
P2	22	546.2727	250.8649
N1P2	22	698.0908	284.2178
N2P2	22	907.3635	204.9632
N ₁		* *	
N _q		*	
P ₁		* *	
P _q		ns	
MP		*	
C.V.		18.1	

COTTON
KATAKWI (20)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.0273	0.4174	11
PH	5.9818	0.4168	11
NI	17.8148	7.2115	11
EXTRP	7.5455	5.0865	11
EXTRCA	39.1818	17.7247	11
EXTRK	14.7273	4.9212	11
LEAFN	2.9000	0.2864	11
LEAFP	0.2964	0.0683	11
LEAFCA	1.3273	0.2054	11
LEAFMG	0.2755	0.0565	11
LEAFK	1.2455	0.1508	11
REST	3.3636	2.9419	11
CRCPYEAR	2.5455	1.7529	11
SPRAYS	4.0000	0.0	11
MP	4.8182	0.4045	11
CY	597.8181	121.0165	11
N1	973.6362	267.4961	11
N2	1126.3635	392.9343	11
P1	595.0908	198.3240	11
N1P1	927.2727	401.8420	11
N2P1	1158.5454	269.4722	11
P2	654.0000	192.3936	11
N1P2	1047.2727	285.8843	11
N2P2	1174.3635	299.3523	11
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	*		
NP	ns		
C.V.	20.8		

COTTON

SOROTI (21)

1965

VARIABLE	MEAN	STANDARD DEV	CASES
JM	1.7300	0.6423	24
PH	5.3542	0.2781	24
EXTRP	1.9791	3.8977	24
N	0.0534	0.0166	24
NI	34.0083	8.5273	24
EXTRCA	32.4235	23.1590	24
EXTRMG	10.3550	3.9004	24
EXTRK	17.7914	2.9058	24
CLAY	11.2917	4.7592	24
SILT	7.2083	3.7646	24
LEAFN	3.9500	0.5341	24
LEAFP	0.3092	0.0761	24
LEAFS	0.3604	0.0524	24
LEAFCA	2.1883	0.4988	24
LEAFMG	0.5867	0.2044	24
LEAFK	1.6042	0.3885	24
REST	4.0417	3.7933	24
CROPYEAR	2.7917	1.6934	24
SPRAYS	1.9167	1.3486	24
MP	4.6667	0.4816	24
CY	572.5000	203.1151	24
V1	735.5000	263.5251	24
N2	715.5000	249.1411	24
P1	698.7500	187.5210	24
N1P1	851.0000	272.3372	24
V2P1	907.0000	299.6843	24
P2	723.0000	226.9544	24
N1P2	879.5000	192.5192	24
N2P2	927.2500	236.1002	24
N ₁	* *		
N _q	*		
P ₁	* *		
P _q	*		
NP	ns		
C.V.	19.0		

COTTON
SOROTI (21)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	1.7527	0.5809	30
PH	5.7300	0.2521	30
EXTRP	4.2982	5.1490	30
LEAFM	3.9167	0.5253	30
REST	5.4333	3.6168	30
CROPYEAR	2.2000	1.2148	30
SPRAYS	1.2667	1.9815	30
MP	5.7333	1.5298	30
CY	474.8333	190.7811	30
V1	500.0000	213.0566	30
N2	496.1665	222.8216	30
P1	498.0000	236.1020	30
N1P1	545.0000	261.8699	30
V2P1	541.0000	267.7473	30
P2	581.0000	305.1526	30
N1P2	572.5000	303.4734	30
N2P2	687.5000	341.9631	30
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	25.6		

COTTON
SERERE (22)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.4676	0.7563	29
PH	5.6655	0.3362	29
EXTRP	4.1503	6.0083	29
N	0.0678	0.0148	29
NI	40.1275	13.0931	29
EXTRCA	59.4689	23.8792	29
EXTRMG	14.6358	4.0177	29
EXTRK	18.8494	2.1543	29
CLAY	14.2069	6.5758	29
SILT	8.2759	4.0961	29
LEAFN	3.9552	0.4413	29
LEAFP	0.3059	0.0812	29
LEAFS	0.3572	0.0625	29
LEAFCA	2.6000	0.5237	29
LEAFMG	0.3083	0.1636	29
LEAFK	2.5165	0.5054	29
REST	4.2069	3.7738	29
CROPYEAR	2.6897	1.7749	29
SPRAYS	2.2414	0.7395	29
MP	4.7241	0.4549	29
CY	720.2068	191.9370	29
N1	928.9653	290.5017	29
N2	941.7930	315.3491	29
P1	766.5515	221.9292	29
N1P1	996.4136	285.5049	29
N2P1	1103.5862	339.3640	29
P2	778.1377	254.7155	29
N1P2	969.9309	297.5259	29
N2P2	1126.3447	293.8667	29
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	*		
NP	ns		
C.V.	14.9		

COTTON
SERERE (22)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.5314	0.7868	28
PH	5.6786	0.2515	28
EXTRP	7.5951	7.6818	28
LEAFH	3.6929	0.4914	28
REST	8.3929	2.7126	28
CROPYEAR	1.2143	0.7868	28
SPRAYS	1.2857	1.1501	28
MP	4.6071	0.6289	28
CY	633.2141	211.0039	28
N1	800.8928	272.7124	28
N2	864.1069	343.5413	28
P1	702.8569	301.6541	28
N1P1	857.1428	286.6675	28
N2P1	913.3928	408.2744	28
P2	711.2500	322.0493	28
N1P2	894.6428	350.7180	28
N2P2	999.8213	410.0066	28
N ₁	* *		
N _q	*		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	17.2		

COTTON
NGORA (23)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.4440	0.3094	30
PH	5.7233	0.3546	30
EXTRP	4.9110	5.3577	30
N	0.0502	0.0123	30
NI	44.1799	10.9757	30
EXTRCA	36.1779	23.0275	30
EXTRMG	16.6219	3.4951	30
EXTRK	18.6901	3.3564	30
CLAY	13.2000	5.5174	30
SILT	4.7000	2.3657	30
LEAFN	3.7733	0.5193	30
REST	2.7000	3.1748	30
CROPYEAR	3.1333	1.8520	30
SPRAYS	1.3333	0.8743	30
MP	4.3000	0.5350	30
CY	533.3999	208.2003	30
N1	621.7998	255.0337	30
N2	679.7998	333.4263	30
P1	562.5999	233.6561	30
N1P1	746.5999	342.0242	30
N2P1	761.3999	334.4592	30
P2	595.5999	241.9524	30
N1P2	734.2000	371.6565	30
N2P2	812.3999	355.0881	30
N ₁	* *		
N _q	*		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	20.0		

COTTON
KUMI (24)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.8964	0.3179	28
PH	5.6500	0.2285	28
EXTRP	3.1521	2.2406	28
N	0.0552	0.0097	28
NI	27.8678	8.0122	28
EXTRCA	43.9891	20.7886	28
EXTRMG	13.6800	3.6844	28
EXTRK	18.4058	3.0259	28
CLAY	13.5714	5.5473	28
SILT	6.2500	1.9173	28
LEAFN	3.9857	0.3472	28
LEAFP	0.2611	0.0566	28
LEAFS	0.3179	0.0363	28
LEAFCA	2.1964	0.3002	28
LEAFMG	0.3146	0.1043	28
LEAFK	2.2118	0.3708	28
REST	4.5000	3.8055	28
CROPYEAR	2.5714	1.7305	28
SPRAYS	1.5714	1.5258	28
MP	4.6429	0.7800	28
CY	673.6428	263.7222	28
N1	795.6428	347.1526	28
N2	816.2141	369.8511	28
P1	758.1428	351.4128	28
N1P1	897.8569	366.7917	28
N2P1	958.7141	353.3608	28
P2	777.6428	279.9067	28
N1P2	958.0713	368.3828	28
N2P2	984.0000	390.0107	28
N ₁	* *		
N _q	*		
P ₁	* *		
P _q	ns		
MF	ns		
C.V.	17.7		

COTTON
KUMI (24)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	1.8233	0.4472	24
PH	6.0042	0.3470	24
EXTRP	6.2184	6.7381	24
LEAFN	4.1792	0.4634	24
REST	4.7500	3.8022	24
CROPYEAR	2.4583	1.7932	24
SPRAYS	1.3750	1.6632	24
MP	5.0417	1.1971	24
CY	461.7500	259.2102	24
N1	611.2500	287.5393	24
N2	651.2915	350.3982	24
P1	533.0000	273.3423	24
N1P1	631.5833	284.5640	24
N2P1	666.0000	311.6484	24
P2	577.0000	266.8638	24
N1P2	693.7500	269.4333	24
N2P2	772.0000	315.7036	24
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	19.1		

COTTON
PALLISA (26)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.9038	0.7295	26
PH	5.3692	0.3792	26
EXTRP	3.4575	6.0639	26
N	0.0622	0.0190	26
NI	35.5499	12.8616	26
EXTRCA	40.4179	33.8356	26
EXTRMC	14.5061	6.1063	26
EXTRK	24.4901	7.7554	26
CLAY	17.1923	7.6630	26
SILT	7.3846	2.5152	26
LEAFM	4.0769	0.4511	26
LEAFP	0.3504	0.0939	26
LEAFS	0.4431	0.1546	26
REST	5.0000	3.6332	26
CRCPYEAR	2.3077	1.6916	26
SPRAYS	2.5010	1.3138	26
MP	5.5769	0.9454	26
CY	697.3459	342.7773	26
N1	840.4614	320.2129	26
N2	867.0000	321.3948	26
P1	810.2307	312.0615	26
N1P1	870.6921	350.3445	26
N2P1	1004.7690	414.3042	26
P2	796.1538	368.5603	26
N1P2	902.5282	410.8596	26
N2P2	1023.9229	419.9839	26
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	*		
NP	ns		
C.V.	17.1		

COTTON

PALLISA (26)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
JM	2.2618	0.5968	22
PH	5.4500	0.2841	22
EXTRP	3.8461	5.8182	22
LEAFN	4.0000	0.3353	22
REST	3.9091	3.3934	22
CROPYEAR	2.4545	1.8186	22
SPRAYS	0.2727	0.7673	22
MP	5.3636	0.5811	22
CY	521.1816	182.7814	22
N1	663.0000	256.8962	22
N2	760.0908	275.3433	22
P1	552.8181	176.5217	22
N1P1	670.9089	271.8105	22
N2P1	814.3635	289.2363	22
P2	577.3635	210.2402	22
N1P2	764.4543	217.8948	22
N2P2	846.8181	309.3467	22
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	18.6		

ON
ISA (26)

ABLE	CASES	MEAN	STD DEV
	28	1.9171	0.5164
	28	5.8500	0.4749
P	28	6.0836	7.0742
N	28	3.6429	0.4068
	23	4.7143	3.3539
YEAR	28	2.0714	1.7623
YS	28	2.2143	0.8325
	28	6.0000	0.4714
	28	378.7500	142.6737
	28	427.9285	153.8492
	28	495.5713	182.0256
	28	415.5000	157.5024
	28	451.9285	203.0574
	28	526.5000	209.6958
	28	412.5000	162.2970
	28	470.2856	184.9918
	28	522.8569	205.4922
		* *	
		ns	
		* *	
		ns	
		ns	
		16.2	

COTTON
BUDAKA (27)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.3564	1.1168	28
PH	5.7929	0.2748	28
EXTRP	8.6944	10.9947	28
N	0.0727	0.0283	28
VI	36.5642	8.5921	28
EXTRCA	73.6582	44.7871	28
EXTRMG	16.4485	8.3665	28
EXTRK	27.2310	8.7014	28
CLAY	16.2500	8.2400	28
SILT	7.9643	3.3276	28
LEAFN	4.1500	0.4212	28
LEAFP	0.3643	0.0939	28
LEAFS	0.4125	0.0659	28
LEAFCA	2.6446	0.4697	28
LEAFMG	0.4500	0.1099	28
LEAFK	2.6696	0.4459	28
REST	6.3571	3.1295	28
CROPYEAR	1.6429	1.2828	28
SPRAYS	2.1071	1.1969	28
MP	5.2857	0.9759	28
CY	663.4285	286.0881	28
N1	798.0000	339.0215	28
N2	928.7141	476.4646	28
P1	710.3569	288.5247	28
N1P1	854.1428	341.7063	28
N2P1	974.3569	430.0537	28
P2	705.6428	293.2727	28
N1P2	791.2500	369.9216	28
N2P2	955.2856	441.4863	28
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	*		
NP	ns		
C.V.	17.2		

COTTON
BUDAKA (27)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.3167	1.2979	24
PH	5.9833	0.4040	24
EXTRP	11.7759	11.9033	24
LEAFN	4.2292	0.3263	24
REST	6.6667	2.9587	24
CROPYEAR	1.6667	1.0495	24
SPRAYS	1.5000	1.7446	24
MP	5.5833	0.9743	24
CY	598.2500	214.0893	24
V1	737.5000	335.5894	24
N2	893.0000	442.2031	24
P1	592.7500	245.1490	24
N1P1	713.5000	327.6838	24
V2P1	925.2500	418.2405	24
P2	582.7500	253.5685	24
N1P2	756.0000	344.7961	24
N2P2	937.2500	417.8953	24
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	18.6		

COTTON

BUDAKA (27)

1967

VARIABLE	CASES	MEAN	STD DEV
UM	27	1.9244	1.0572
PH	27	5.8437	0.3190
EXTRP	27	6.0067	7.0649
LEAFN	27	3.7593	0.4263
REST	27	4.9630	3.4915
CROPYEAR	27	2.2222	1.5771
SPRAYS	27	2.8519	1.4598
MP	27	5.3704	0.6293
CY	27	309.8887	189.3460
N1	27	443.7776	216.1062
N2	27	586.0000	290.3794
P1	27	421.5554	197.7130
N1P1	27	463.5554	187.8861
N2P1	27	591.9629	295.2874
P2	27	475.3333	220.7138
N1P2	27	516.2222	213.6702
N2P2	27	573.3333	245.2072
N ₁		✖ ✖	
H _q		✖	
P ₁		✖	
P _q		ns	
NP		ns	
C.V.		19.5	

COTTON
BUNYOLE (28)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.7400	1.0250	11
PH	5.7364	0.4456	11
EXTRP	20.2854	32.0238	11
N	0.0551	0.0262	11
N1	43.5000	0.0	11
EXTRCA	66.5009	67.9518	11
EXTRMG	7.2872	8.0066	11
EXTRK	22.0693	7.5634	11
CLAY	8.9091	6.7743	11
SILT	7.6264	3.8800	11
LEAFN	4.0000	0.2758	11
LEAFP	0.3918	0.0976	11
LEAFS	0.5073	0.1616	11
REST	7.0909	3.0481	11
CRCPYEAR	1.3636	1.2060	11
SPRAYS	0.3636	0.9244	11
MP	5.0909	0.9439	11
CY	645.8181	293.1816	11
N1	693.8181	220.0000	11
N2	800.1816	352.3105	11
P1	782.7271	322.5786	11
N1P1	786.5454	314.2471	11
N2P1	772.9089	378.6072	11
P2	778.9089	445.0269	11
N1P2	890.7271	397.6182	11
N2P2	713.6362	325.3696	11
N ₁	ns		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	24.7		

COTTON
BUNYOLE (28)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.1833	0.3520	24
PH	6.1458	0.3683	24
EXTRP	14.3053	13.3958	24
LEAFN	4.1458	0.3489	24
REST	8.4583	2.6040	24
CROPYEAR	1.3750	0.9237	24
SPRAYS	0.1667	0.8165	24
MP	5.9167	0.8297	24
CY	531.7500	244.6046	24
N1	689.0000	305.7656	24
N2	710.0000	313.8389	24
P1	584.7500	248.3650	24
V1P1	718.2500	299.2822	24
N2P1	776.5000	354.8147	24
P2	619.7500	233.5848	24
N1P2	675.7500	323.7766	24
V2P2	774.7500	312.2876	24
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	27.8		

COTTON

BUNYOLE (28)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	28	1.3543	0.7841
PH	28	5.9571	0.3260
EXTRP	28	12.4807	11.1735
LEAFN	28	4.0607	0.5065
REST	28	8.2857	2.3231
CROPYEAR	28	1.0714	0.3780
SPRAYS	28	2.1071	1.7071
MP	28	6.0357	0.7927
CY	28	456.0713	210.4289
N1	28	643.7141	305.5090
N2	28	642.4285	298.7751
P1	28	525.6428	204.2375
N1P1	28	616.9285	288.7681
N2P1	28	634.0713	302.5718
P2	28	542.1428	243.6185
N1P2	28	655.5000	276.4758
N2P2	28	615.2141	272.6489
N _l		* *	
N _q		*	
P _l		ns	
P _q		ns	
NP		ns	
C.V.		21.9	

COTTON
BUDAMA (29)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
DM	1.5528	0.6621	25
PH	5.9320	0.4625	25
EXTRP	27.3974	33.3020	25
N	0.0570	0.0195	25
NI	43.3719	10.3101	25
EXTRCA	63.9039	39.4359	25
EXTRMG	10.2336	4.4540	25
EXTRK	21.1887	5.2324	25
CLAY	7.8000	9.0967	25
SILT	6.4000	2.5166	25
LEAFN	4.0360	0.2928	25
LEAFP	0.4800	0.1271	25
LEAFS	0.5196	0.1013	25
LEAFCA	2.4220	0.5941	25
LEAFMG	0.4280	0.1081	25
LEAFK	2.2240	0.4029	25
REST	4.8000	3.4761	25
CROPYEAR	2.2400	1.5885	25
SPRAYS	1.2800	1.1733	25
MP	6.0400	1.0198	25
CY	898.2000	307.2642	25
N1	975.5999	326.4116	25
V2	1018.2000	325.9211	25
P1	838.7998	302.2393	25
N1P1	1057.7998	304.2224	25
N2P1	1021.7998	334.8589	25
P2	876.5999	276.4536	25
N1P2	993.5999	357.8379	25
N2P2	1107.5999	401.4812	25
N ₁	✱ ✱		
N _q	✱		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	17.7		

COTTON
 BUDAMA (29)
 1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	1.4193	0.5993	27
PH	5.9333	0.3419	27
EXTRP	11.7542	10.0063	27
LEAFN	4.0333	0.2975	27
REST	4.5926	4.0312	27
CROPYEAR	2.6667	1.6871	27
SPKAYS	1.1852	1.4421	27
MP	6.0370	0.8540	27
CY	683.8887	269.8801	27
N1	771.1111	340.0542	27
V2	831.6665	328.1931	27
P1	682.2222	339.7266	27
N1P1	821.6665	312.3862	27
N2P1	900.0000	390.0872	27
P2	713.8887	336.0874	27
N1P2	842.3333	351.7375	27
N2P2	813.8887	368.0242	27
N _l	* *		
N _q	ns		
P _l	ns		
P _q	ns		
NP	ns		
C.V.	21.0		

COTTON
SAMIA BUGWE (30)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.0145	1.0047	22
PH	5.4636	0.2888	22
EXTRP	6.0614	7.1302	22
N	0.1268	0.0294	22
NI	67.2272	14.1058	22
EXTRCA	111.7844	41.0368	22
EXTRMG	15.8836	6.4866	22
EXTRK	30.7602	8.0241	22
CLAY	22.9091	8.5407	22
SILT	10.8182	4.2047	22
LEAFN	4.2682	0.4684	22
LEAFP	0.2991	0.0923	22
LEAFS	0.3723	0.0856	22
REST	5.7727	4.4178	22
CROPEAR	2.3182	1.7289	22
SPRAYS	1.0455	0.9501	22
MP	6.2727	0.9847	22
CY	499.0908	313.6938	22
N1	532.5000	448.3958	22
N2	552.2727	397.0686	22
P1	559.0908	369.4063	22
N1P1	606.8181	392.8120	22
N2P1	630.5454	425.8657	22
P2	605.4543	321.5991	22
N1P2	640.2271	431.6841	22
N2P2	694.0908	451.2644	22
N ₁	**		
N _q	ns		
P ₁	**		
P _q	ns		
NP	ns		
C.V.	25.9		

COTTON

SAMIA BUGWE (30)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	3.8167	1.6368	18
PH	5.7833	0.3092	18
EXTRP	7.5662	5.1969	18
LEAFN	4.3833	0.2936	18
REST	6.5556	3.8839	18
CROPYEAR	2.0556	1.4337	18
SPRAYS	0.1111	0.3234	18
MP	6.2222	1.0603	18
CY	581.6665	358.8420	18
N1	636.6665	358.2021	18
N2	664.1665	416.5129	18
P1	599.1665	350.5552	18
N1P1	681.6665	388.6477	18
N2P1	721.6665	434.1284	18
P2	679.1665	397.2896	18
N1P2	745.0000	435.6841	18
N2P2	721.6665	444.8496	18
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	17.1		

COTTON

SANIA BUGWE (30)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	20	3.3140	1.3270
PF	20	5.7850	0.4716
EXTRP	20	4.8255	7.1971
LEAFN	20	4.0450	0.5356
REST	20	6.1000	4.0249
CROPYEAR	20	2.0500	1.5720
SPRAYS	20	2.5000	1.3955
MP	20	6.2000	0.6959
CY	20	576.6499	336.6721
N1	20	569.2500	293.2722
N2	20	524.2500	301.7502
P1	20	604.5000	340.6685
N1P1	20	636.7500	376.8262
N2P1	20	659.2500	303.8232
P2	20	690.2500	357.8645
N1P2	20	645.7500	319.7749
N2P2	20	665.2500	371.1519
N ₁		ns	
N _q		ns	
P ₁		*	
P _q		ns	
NP		ns	
C.V.		21.9	

COTTON

SAMIA BUGWE (30)

1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.2800	1.4463	15
PH	5.8067	0.2219	15
NI	86.8134	19.6071	15
EXTRP	5.6667	4.7610	15
EXTRCA	128.8667	77.5950	15
EXTRK	22.4667	9.6723	15
LEAFN	3.8333	0.3755	15
LEAFP	0.2780	0.0699	15
LEAFCA	1.8267	0.2840	15
LEAFMG	0.4667	0.1170	15
LEAFK	1.3267	0.3693	15
REST	6.5233	3.6814	15
CROPYEAR	1.7223	1.3345	15
SPRAYS	4.0000	0.0	15
MP	6.1333	0.3519	15
CY	661.5999	317.2136	15
N1	756.0000	396.9253	15
N2	785.0000	464.4004	15
P1	822.0000	385.9070	15
N1P1	818.0000	380.2715	15
N2P1	877.0000	452.9143	15
P2	873.0000	383.6516	15
N1P2	945.0000	431.1033	15
N2P2	895.0000	430.5313	15
N ₁	*		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	18.0		

COTTON
KAMULI (31)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	5.0133	1.1991	18
PH	5.8722	0.3269	18
EXTRP	20.6287	18.7918	18
N	0.1576	0.0343	18
NI	89.6166	22.3340	18
EXTRCA	198.3074	93.8441	18
EXTRMG	28.5799	10.5791	18
EXTRK	47.0947	12.7462	18
CLAY	24.1111	4.7760	18
SILT	9.5556	2.4307	18
LEAFN	4.0444	0.3185	18
LEAFP	0.4506	0.1227	18
LEAFS	0.5472	0.0714	18
REST	6.0000	3.8195	18
CROPYEAR	2.0556	1.3921	18
SPRAYS	0.1667	0.5145	18
MP	6.1111	0.9003	18
CY	589.1665	309.7163	18
N1	528.3333	360.4246	18
N2	533.3333	387.3855	18
P1	525.0000	313.3782	18
N1P1	510.0000	340.3845	18
N2P1	465.0000	265.9998	18
P2	525.8333	308.4602	18
N1P2	472.5000	297.2188	18
N2P2	536.7222	435.0347	18
N ₁	ns		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	27.3		

COTTON
KAMULI (31)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.7096	1.0498	27
PH	5.9074	0.2556	27
EXTRP	9.3950	5.6295	27
LEAFN	4.0555	0.2424	27
REST	6.0000	3.0509	27
CROPYEAR	1.8519	0.9885	27
SPRAYS	0.3704	0.9667	27
MP	6.2222	0.6980	27
CY	1375.0000	472.7490	27
N1	1352.7776	455.7495	27
N2	1423.3333	436.2554	27
P1	1508.8887	512.2192	27
V1P1	1541.1111	490.5825	27
N2P1	1538.8887	466.7305	27
P2	1458.3333	468.9883	27
N1P2	1553.7036	436.6021	27
V2P2	1667.7776	538.2637	27
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	14.8		

COTTON

KAMULI (31)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	20	3.7400	1.0718
PH	20	5.8350	0.2853
EXTRP	20	7.0912	6.0163
LEAFN	14	4.1857	0.2853
REST	20	8.0000	2.3396
CROPYEAR	20	1.1500	0.3663
SPRAYS	20	0.7500	0.9665
MP	20	6.4000	0.7539
CY	20	434.7500	127.5081
N1	20	460.5000	192.0999
N2	20	498.0000	201.5754
P1	20	525.7500	184.8988
N1P1	20	498.0000	197.4802
N2P1	20	559.2500	192.8476
P2	20	555.7500	191.5675
N1P2	20	520.2500	210.0218
N2P2	20	592.2500	211.7439
N ₁		#	
N _q		ns	
P ₁		* *	
P _q		ns	
NP		ns	
C.V.		19.7	

COTTON
KAMULI (31)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.0389	1.0036	18
PH	5.9222	0.3405	18
NI	74.4027	18.6178	18
EXTRP	7.1667	5.8737	18
EXTRCA	126.6667	46.8916	18
EXTRK	23.0555	10.1429	18
LEAFN	4.1611	0.3501	18
LEAFP	0.3650	0.0742	18
LEAFCA	1.9222	0.3021	18
LEAFMG	0.4067	0.1055	18
LEAFK	1.5944	0.2043	18
REST	7.2778	2.6303	18
CRCPYEAR	1.4444	0.8556	18
SPRAYS	4.0000	0.0	18
MP	6.2222	0.4278	18
CY	603.5000	223.1629	18
N1	652.5000	274.6294	18
N2	766.6665	270.9243	18
P1	628.3333	277.9175	18
N1P1	700.0000	218.7666	18
N2P1	791.6665	241.8435	18
P2	618.3333	208.4538	18
N1P2	772.5000	278.1252	18
N2P2	795.0000	210.2521	18
N ₁	**		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	20.7		

COTTON
BULAMOGI (32)
1970

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.3500	1.0065	24
PH	5.8875	0.5766	24
EXTRP	10.6250	14.6044	24
LEAFN	3.8042	0.4458	24
REST	6.5000	3.0787	24
CROPYEAR	1.8750	1.1539	24
SPRAYS	4.0000	0.0	24
MP	6.5000	0.8847	24
CY	703.7083	238.7248	24
N1	810.6250	234.5774	24
N2	891.8750	312.0178	24
P1	831.2500	312.6750	24
N1P1	881.8750	251.3864	24
N2P1	984.3750	274.2336	24
P2	797.5000	277.8096	24
N1P2	956.9165	253.6152	24
N2P2	998.7500	235.7995	24
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	15.2		

COTTON
BULAMOGI (32)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.2917	0.8949	24
PH	6.1728	0.4006	24
EXTRP	9.1667	5.9758	24
LEAFH	3.6917	0.2781	24
REST	6.7917	3.7530	24
CROPYEAR	1.8750	1.3290	24
SPRAYS	4.0000	0.0	24
MP	6.2917	0.8587	24
CY	751.8750	259.3127	24
N1	940.0000	371.2258	24
N2	1027.5000	423.3826	24
P1	811.8750	292.8821	24
N1P1	956.2500	329.5698	24
N2P1	1095.6250	320.9050	24
P2	824.3750	294.3528	24
N1P2	971.2500	282.4377	24
N2P2	1094.3750	327.8101	24
N ₁	* *		
N _q	ns		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	16.1		

COTTON
 BUSIKI (33)
 1970

VARIABLE	MEAN	STANDARD DEV	CASES
OM	1.5542	0.7175	24
PH	5.9625	0.2429	24
EXTFP	5.5000	3.2571	24
LEAFH	3.3833	0.3371	24
REST	6.7083	2.9559	24
CROPYLAR	1.7500	1.1516	24
SPRAYS	4.0000	0.0	24
MP	6.6250	0.7109	24
CY	667.7083	213.6646	24
N1	849.3750	186.5028	24
N2	900.0000	213.2775	24
P1	759.3750	232.5398	24
N1P1	966.2500	222.3479	24
N2P1	1069.3750	289.4551	24
P2	746.8750	236.4678	24
N1P2	956.2500	223.8540	24
N2P2	1089.3750	270.6421	24
N ₁	* *		
N _q	ns		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	14.6		

COTTON
BUSIKI (33)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.2696	0.6526	23
PH	6.1348	0.2370	23
EXTRP	6.3043	5.1649	23
LEAFN	3.4956	0.2122	23
REST	7.0435	2.7876	23
CROPYEAR	1.3913	0.9409	23
SPRAYS	4.0000	0.0	23
MP	6.3478	0.9821	23
CY	771.9563	191.7395	23
N1	991.9563	225.4676	23
N2	990.0000	245.5998	23
P1	839.3477	190.7296	23
N1P1	1005.0000	245.0989	23
N2P1	1145.8694	199.9545	23
P2	828.9128	213.1520	23
N1P2	942.3911	228.3219	23
N2P2	1102.8259	300.7603	23
N ₁	**		
N _q	ns		
P ₁	*		
P _q	**		
NP	ns		
C.V.	12.7		

COTTON
KAGOMA (34)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
JM	6.0984	1.3024	25
PH	6.0320	0.2358	25
EXTRP	22.2332	22.2190	25
N	0.2050	0.0366	25
NI	115.9279	18.4461	25
EXTRCA	240.2786	78.6161	25
EXTRMG	36.6431	16.7951	25
EXTRK	59.5085	27.0711	25
CLAY	19.8800	11.4066	25
SILT	9.7600	2.7276	25
LEAFN	4.3240	0.3004	25
LEAFP	0.4028	0.0781	25
LEAFS	0.5612	0.0933	25
LEAFCA	2.8720	0.5038	25
LEAFMG	0.3356	0.0973	25
LEAFK	2.7640	0.4015	25
REST	5.8400	3.6819	25
CROPYEAR	2.1600	1.4341	25
SPRAYS	0.1600	0.3742	25
MP	6.3200	0.9452	25
CY	821.3999	274.5200	25
V1	870.5999	289.0962	25
N2	828.3999	307.5427	25
P1	890.5999	277.0835	25
N1P1	901.2000	305.2932	25
N2P1	853.2000	271.1184	25
P2	956.0000	292.7251	25
N1P2	868.2000	307.6912	25
N2P2	911.7998	361.4802	25
N ₁	ns		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	18.6		

COTTON
KAGOMA (34)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	6.2100	1.8024	26
PH	6.1846	0.2839	26
EXTRP	14.6711	12.3643	26
LEAFN	4.6231	0.3216	26
REST	3.5385	1.8597	26
CROPYEAR	1.8462	1.3474	26
SPRAYS	0.1154	0.4315	26
MP	6.1538	0.5435	26
CY	1009.6152	312.1638	26
N1	1052.3076	314.1707	26
N2	1165.3845	297.6096	26
P1	1062.1152	305.7935	26
N1P1	1091.5383	251.0420	26
N2P1	1178.6538	351.4775	26
P2	1069.0383	252.0533	26
N1P2	1147.5000	346.4238	26
N2P2	1163.6538	300.0020	26
N ₁	*		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	18.9		

COTTON

KAGOMA (34)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	28	5.6057	0.9556
PH	28	6.0893	0.2440
EXTRP	28	13.7938	11.3208
LEAFN	28	4.1143	0.2691
REST	28	4.6071	3.6549
CROPYEAR	28	2.3571	1.5920
SPRAYS	28	1.5000	1.5753
MP	28	6.6071	0.8751
CY	28	857.7141	228.0494
N1	28	940.1785	265.9878
N2	28	942.3213	319.2954
P1	28	927.3213	263.3750
N1P1	28	913.2141	329.5364
N2P1	28	945.5356	310.9504
P2	28	954.1069	266.3730
N1P2	28	975.0000	303.0940
N2P2	28	994.2856	253.7295
N ₁		*	
N _q		ns	
P ₁		*	
P _q		ns	
MP		ns	
C.V.		16.2	

COTTON
IGANGA (35)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
DM	3.9600	1.2325	23
PH	5.6522	0.2794	23
EXTRP	21.8028	25.4950	23
V	0.1290	0.0376	23
NI	65.0565	20.4552	23
EXTRCA	149.8447	66.2321	23
EXTRMG	23.0243	8.4782	23
EXTRK	41.1092	21.2150	23
CLAY	19.0000	7.4590	23
SILT	9.1304	3.4019	23
LEAFN	4.0217	0.3753	23
LEAFP	0.4852	0.1407	23
LEAFS	0.5730	0.1180	23
LEAFCA	2.8609	0.6170	23
LEAFMG	0.4170	0.1271	23
LEAFK	2.5739	0.5835	23
REST	5.6957	3.4303	23
CROPYEAR	2.1739	1.2304	23
SPRAYS	0.5652	0.8435	23
MP	6.5217	0.7903	23
CY	640.1738	379.8845	23
N1	664.4346	462.9524	23
N2	711.3911	423.4834	23
P1	668.7390	455.8857	23
V1P1	676.1738	368.1328	23
N2P1	697.0435	420.8120	23
P2	675.3911	435.8796	23
N1P2	759.3911	470.0850	23
V2P2	721.8259	401.2239	23
N ₁	ns		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	21.9		

COTTON
IGANGA (35)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
JM	3.2208	1.0495	25
PH	5.9080	0.2272	25
EXTRP	14.7776	12.7805	25
LEAFN	3.6440	0.3097	25
REST	7.1600	3.1316	25
CROPYEAR	1.6800	1.0296	25
SPRAYS	0.9600	1.2741	25
MP	5.6800	0.6904	25
CY	616.5598	277.6433	25
N1	730.3198	378.9333	25
N2	830.3999	370.1763	25
P1	660.0000	274.3213	25
N1P1	788.6399	383.5581	25
N2P1	780.7200	332.1758	25
P2	735.3599	291.8496	25
N1P2	783.8398	320.7192	25
N2P2	827.7598	347.1992	25
N ₁	* *		
N _q	ns		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	19.6		

COTTON
IGANGA (35)
1967

VARIABLE	CASES	MEAN	STD DEV
GM	24	3.5542	1.0174
PH	24	5.7500	0.2147
EXTRP	24	8.4628	10.0277
LEAFN	17	4.1882	0.4076
REST	24	7.6250	2.9313
CROPYEAR	24	1.3333	0.9168
SPRAYS	24	2.2917	1.3981
MP	24	6.0417	0.7506
CY	24	750.3750	272.0547
N1	24	780.0000	249.9544
N2	24	810.0000	315.3035
P1	24	736.0000	262.2549
N1P1	24	774.7500	253.9694
N2P1	24	889.2500	303.3413
P2	24	740.2500	294.7087
N1P2	24	778.0000	259.5190
N2P2	24	847.7500	286.4753
N ₁		* *	
N _q		ns	
P ₁		ns	
P _q		ns	
NP		ns	
C.V.		16.1	

COTTON
BUGIRI (36)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
DM	5.0208	1.9972	24
PH	5.7250	0.2739	24
EXTRP	28.8580	21.5704	24
N	0.1514	0.0616	24
NI	89.5559	0.0	24
EXTRCA	198.4315	0.4138	24
EXTRMG	28.5599	0.0760	24
EXTRK	47.1499	0.0677	24
CLAY	24.0000	0.0	24
SILT	10.0000	0.0	24
LEAFN	3.9000	0.3190	24
LEAFP	0.4733	0.0943	24
LEAFS	0.5175	0.0988	24
REST	7.5417	3.3098	24
CROPYEAR	1.4167	1.1765	24
SPRAYS	0.6667	0.9631	24
MP	5.7083	0.9991	24
CY	713.1250	297.9380	24
N1	821.2500	302.7981	24
N2	815.0000	338.7944	24
P1	780.6250	311.9412	24
N1P1	800.0000	310.3420	24
N2P1	905.6250	396.3396	24
P2	776.2500	288.7087	24
N1P2	854.3750	327.0950	24
N2P2	1064.3750	392.3359	24
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	* *		
C.V.	19.5		

COTTON
BUGIRI (36)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	5.6400	1.3354	25
PH	6.0120	0.4400	25
EXTRP	18.0608	12.5790	25
LEAFN	4.0000	0.3096	25
REST	6.8400	3.3749	25
CROPYEAR	1.7200	1.2754	25
SPRAYS	0.1200	0.3317	25
MP	6.0000	0.7638	25
CY	676.5598	297.2742	25
N1	661.5999	288.1643	25
N2	707.7598	401.3560	25
P1	648.4800	304.4663	25
V1P1	658.5598	310.3091	25
N2P1	658.5598	396.5234	25
P2	644.3999	292.5474	25
N1P2	697.4399	356.5386	25
V2P2	808.7998	507.1968	25
N ₁	*		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	25.8		

COTTON
BUGIRI (36)
1967

VARIABLE	CASES	MEAN	STD DEV
OM	20	3.2070	1.2933
PH	20	5.8700	0.3420
EXTRP	20	17.6077	14.8135
LEAFN	15	4.1267	0.3240
REST	20	8.8500	1.6944
CROPYEAR	20	1.2000	0.4104
SPRAYS	20	1.9000	0.7881
MP	20	6.1000	0.7182
CY	20	514.7000	229.9899
N1	20	596.2500	246.5652
N2	20	643.5000	321.0471
P1	20	563.2500	193.4743
N1P1	20	639.7500	285.8203
N2P1	20	672.0000	344.2129
P2	20	576.0000	192.1184
N1P2	20	612.7500	252.8442
N2P2	20	667.5000	275.6641
N ₁		* *	
N _q		ns	
P ₁		ns	
P _q		ns	
NP		ns	
C.V.		22.5	

COTTON
BUGIRI (36)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.4167	1.0711	18
PH	6.0167	0.2550	18
NI	149.7808	92.6709	18
EXTRP	8.8333	3.9445	18
EXTRCA	94.7778	39.9302	18
EXTRK	28.6667	9.5263	18
LEAFN	3.8500	0.3682	18
LEAFP	0.2894	0.0610	18
LEAFCA	2.1000	0.2196	18
LEAFMG	0.3672	0.0615	18
LEAFK	2.0278	0.9467	18
REST	5.9444	3.0577	18
CROPYEAR	1.5000	1.0432	18
SPRAYS	4.0000	0.0	18
MP	6.0000	0.0	18
CY	881.1665	318.4370	18
N1	876.6665	284.6616	18
N2	1060.8333	395.4849	18
P1	1016.6665	382.7883	18
N1P1	1025.8333	372.9675	18
N2P1	1122.5000	414.6165	18
P2	916.6665	351.7390	18
N1P2	986.6665	305.2695	18
N2P2	1114.1665	399.1506	18
N ₁	* *		
N _q	ns		
P ₁	*		
P _q	* *		
NP	ns		
C.V.	17.1		

COTTON

NAKASONGOLA (37)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.3081	0.8724	27
PH	6.0037	0.2667	27
EXTRP	4.6925	3.6493	27
N	0.0863	0.0284	27
NI	48.9221	12.7753	27
EXTRCA	68.7333	40.1454	27
EXTRMG	19.2355	6.5207	27
EXTRK	28.5026	13.6060	27
CLAY	13.5926	6.9959	27
SILT	7.2593	3.3003	27
LEAFN	3.6741	0.4101	27
REST	5.8148	3.1749	27
CRCPYEAR	1.8148	1.1448	27
SPRAYS	1.9259	1.1743	27
MP	5.2593	0.5257	27
CY	568.8887	231.1066	27
N1	687.7776	318.2717	27
N2	662.7776	291.0405	27
P1	586.6665	182.4987	27
N1P1	713.3333	295.6511	27
N2P1	774.4443	272.2070	27
P2	621.6665	276.9094	27
N1P2	709.4443	263.5061	27
N2P2	849.6294	309.9766	27
N ₁	**		
N _q	ns		
P ₁	**		
P _q	ns		
NP	ns		
C.V.	24.6		

COTTON

NAKASONGOLA (37)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	23	2.6652	0.7240
PH	23	6.5652	0.3010
EXTRP	23	9.0000	4.1887
LEAFN	23	3.9522	0.4631
REST	23	6.1739	2.6051
CROPYEAR	23	1.8696	0.8689
SPRAYS	23	2.6087	1.4690
MP	23	5.7826	0.8505
CY	23	678.2173	225.1998
N1	23	778.0435	300.9294
N2	23	812.6086	369.5771
P1	23	665.8694	230.6452
N1P1	23	838.6956	300.8821
N2P1	23	950.8694	343.7429
P2	23	731.0869	262.5571
N1P2	23	918.9128	266.1521
N2P2	23	914.3477	300.2192
N ₁		*	
N _q		ns	
P ₁		*	
P _q		ns	
NP		ns	
C.V.		22.2	

COTTON

NAKASONGOLA (37)

1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.9273	0.9022	18
PH	6.2880	0.2349	18
NI	52.6554	11.0723	18
EXTRP	10.7778	7.2644	18
EXTRCA	111.8333	37.5315	18
EXTRK	35.7222	11.3646	18
LEAFN	4.1778	0.5048	18
LEAFP	0.3911	0.0669	18
LEAFCA	2.0722	0.3528	18
LEAFMG	0.4083	0.0216	18
LEAFK	2.0222	0.2557	18
REST	6.2778	3.8318	18
CROPYEAR	1.9444	1.4337	18
SPRAYS	4.0000	0.0	18
MP	5.5000	0.5145	18
CY	836.9443	231.7639	18
N1	975.8233	249.9675	18
N2	1125.0000	339.6826	18
P1	866.6665	275.9419	18
N1P1	1035.8333	300.8127	18
N2P1	1194.1665	377.4936	18
P2	925.0000	275.9639	18
N1P2	1083.3333	254.0125	18
N2P2	1146.6665	331.2861	18
N ₁	* *		
N _q	ns		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	16.1		

COTTON
KAYUNGA (38)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	6.7200	1.6078	25
PH	6.1960	0.3049	25
EXTRP	23.4500	27.2509	25
N	0.2200	0.0496	25
NI	85.7719	24.1255	25
EXTRCA	289.6797	47.8030	25
EXTRMC	37.5887	11.1601	25
EXTRK	53.1836	19.8644	25
CLAY	16.0800	5.1310	25
SILT	11.5200	2.1040	25
LEAFN	4.3040	0.2669	25
LEAFP	0.3512	0.0579	25
LEAFS	0.4968	0.1127	25
REST	5.0800	3.2265	25
CROPYEAR	2.2400	1.2675	25
SPRAYS	0.0800	0.2769	25
MP	6.3600	0.4899	25
CY	1135.7998	267.2576	25
N1	1138.2000	308.7366	25
N2	1206.0000	284.6997	25
P1	1101.5999	249.4621	25
N1P1	1173.5999	289.5730	25
N2P1	1150.2000	274.4983	25
P2	1050.5999	254.6103	25
N1P2	1213.7998	281.9844	25
N2P2	1177.7998	249.8373	25
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	15.1		

COTTON
KAYUNGA (38)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	5.3215	1.1150	26
PH	6.1577	0.2831	26
EXTRP	15.3452	14.7893	26
LEAFN	4.0615	0.2639	26
REST	4.0769	2.7118	26
CRUPYEAR	2.6538	1.1642	26
SPRAYS	0.0	0.0	26
MP	6.3846	0.5711	26
CY	1029.2307	329.9995	26
V1	1097.3076	351.8462	26
N2	1093.8459	386.9609	26
P1	1056.3459	305.6501	26
N1P1	1114.0383	293.8918	26
V2P1	1186.9229	298.1208	26
P2	1012.5000	263.7341	26
N1P2	1135.3845	291.4075	26
V2P2	1161.3459	362.2444	26
N _l	* *		
N _q	ns		
P _l	ns		
P _q	ns		
NP	ns		
C.V.	14.7		

COTTON

KAYUNGA (38)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	21	4.6333	1.4633
PH	21	6.3429	0.2421
EXTRP	21	27.7619	16.0340
LEAFN	21	4.6905	0.4888
REST	21	5.1429	4.0285
CROPYEAR	21	2.3810	1.7742
SPRAYS	21	2.1429	2.0071
MP	21	6.5238	0.5118
CY	21	953.9521	339.4053
N1	21	1008.5713	363.9417
N2	21	1032.8569	352.6208
P1	21	1001.4285	328.2864
N1P1	21	1069.2856	306.8640
N2P1	21	982.8569	369.2119
P2	21	1007.8569	335.6985
N1P2	21	1106.4285	346.5244
N2P2	21	1063.5713	342.5410
N ₁		ns	
N _q		*	
P ₁		*	
P _q		ns	
NP		ns	
C.V.		17.2	

COTTON
KAYUNGA (38)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.1000	1.3872	15
PH	6.1800	0.2800	15
NI	82.9052	17.3636	15
EXTRP	27.2000	18.4205	15
EXTRCA	166.1333	66.3723	15
EXTRK	31.3333	8.1299	15
LEAFN	4.5800	0.4196	15
LEAFP	0.4233	0.0541	15
LEAFCA	2.2133	0.4794	15
LEAFMG	0.5000	0.1278	15
LEAFK	1.9267	0.3369	15
REST	6.3333	2.1997	15
CROPYEAR	1.8667	1.3558	15
SPRAYS	4.0000	0.0	15
MP	6.4667	0.5164	15
CY	1079.2666	214.1455	15
N1	1246.3333	282.3816	15
N2	1231.0000	340.8508	15
P1	1080.0000	229.7352	15
N1P1	1300.0000	285.3748	15
N2P1	1297.0000	312.9434	15
P2	1150.0000	224.1387	15
N1P2	1304.0000	288.5015	15
N2P2	1295.0000	281.2886	15
N ₁	* *		
N _q	* *		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	12.8		

COTTON
KALAGALA (39)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.5661	0.8648	23
PH	5.8565	0.1903	23
EXTRP	10.9294	11.0962	23
V	0.1327	0.0237	23
NI	55.6825	10.8725	23
EXTRCA	164.0632	47.3999	23
EXTRMG	38.0504	15.2846	23
EXTRK	33.1412	9.8206	23
CLAY	17.6087	5.8910	23
SILT	11.7391	3.6831	23
LEAFN	4.2174	0.4707	23
LEAFP	0.3448	0.0923	23
LEAFS	0.4352	0.1150	23
LEAFCA	2.5696	0.6144	23
LEAFMG	0.5265	0.0921	23
LEAFK	2.6696	0.5213	23
REST	7.6087	3.6895	23
CROPYEAR	1.7826	1.3803	23
SPRAYS	0.2174	0.5184	23
MP	6.8696	0.4577	23
CY	921.5217	297.2881	23
N1	913.6956	328.8469	23
N2	1006.3042	340.2490	23
P1	924.7825	344.4836	23
V1P1	958.6956	359.1697	23
N2P1	1036.3042	297.4253	23
P2	969.7825	354.2036	23
N1P2	999.7825	291.4065	23
V2P2	1035.6521	359.8423	23
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	17.8		

COTTON
KALAGALA (39)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	5.0016	1.1679	25
PH	5.9040	0.2282	25
EXTRP	9.2373	8.0803	25
LEAFN	4.3840	0.2897	25
REST	7.9200	3.3407	25
CROPYEAR	1.6400	1.1136	25
SPRAYS	0.0	0.0	25
MP	6.2400	0.5228	25
CY	774.5999	335.9087	25
V1	746.3999	342.7993	25
N2	742.2000	359.7166	25
P1	743.3999	345.4639	25
N1P1	828.0000	304.8965	25
V2P1	868.7998	296.3813	25
P2	821.3999	365.4338	25
N1P2	880.2000	277.6914	25
N2P2	937.2000	295.0864	25
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
c.v.	19.4		

COTTON
BUIKWE (40)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	3.6067	1.3235	12
PH	5.5083	0.2576	12
EXTRP	5.4831	3.0834	12
N	0.1345	0.0559	12
NI	75.2249	11.8043	12
EXTRCA	74.5339	45.5406	12
EXTRMG	21.7600	7.2338	12
EXTRK	23.7459	8.6379	12
CLAY	17.3333	5.1050	12
SILT	7.2500	3.0189	12
LEAFN	4.1417	0.1312	12
REST	5.5000	2.6458	12
CROPYEAR	2.0833	0.7930	12
SPRAYS	0.0	0.0	12
MP	6.0833	0.2887	12
CY	890.0000	453.9072	12
N1	1037.5000	450.7190	12
N2	956.2500	319.3608	12
P1	1080.0000	361.8135	12
N1P1	1130.0000	484.7627	12
N2P1	1076.2500	342.0154	12
P2	945.0000	355.0798	12
N1P2	1083.7500	412.8408	12
N2P2	1045.0000	354.8687	12
N ₁	*		
N _q	ns		
P ₁	ns		
P _q	*		
NP	ns		
C.V.	19.5		

COTTON
KIBOGA (42)
1970

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.3550	1.1422	20
PH	6.0400	0.2564	20
EXTSP	13.8500	14.3830	20
LEAFN	3.7400	0.2703	20
REST	7.5000	3.5169	20
CROPYEAR	1.7000	1.2607	20
SPRAYS	4.0000	0.0	20
MP	6.6000	0.5026	20
CY	871.2998	177.5343	20
N1	967.5000	202.0985	20
N2	984.7500	159.0630	20
P1	920.2500	199.0736	20
N1P1	1002.7998	158.3467	20
N2P1	1069.5000	174.0514	20
P2	939.7500	243.9758	20
N1P2	963.0000	186.5902	20
N2P2	1081.5000	150.0680	20
N ₁	* *		
N _q	ns		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	13.5		

COTTON
KIBOGA (42)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
OM	5.6000	2.4118	20
PH	6.3400	0.2981	20
EXTRP	16.9000	12.4938	20
LEAFN	4.0100	0.3906	20
REST	9.1500	2.3458	20
CROPYEAR	1.2500	0.9105	20
SPRAYS	4.0000	0.0	20
MP	6.5000	0.5130	20
CY	1149.2000	286.9424	20
N1	1292.2500	282.5269	20
N2	1308.7500	211.0565	20
P1	1205.2500	416.8926	20
N1P1	1338.7500	269.8584	20
N2P1	1390.5000	330.3955	20
P2	1203.0000	396.8782	20
N1P2	1387.5000	336.7283	20
N2P2	1459.0000	393.2812	20
N _l	* *		
N _q	ns		
P _l	* *		
P _q	ns		
NP	ns		
C.V.	15.2		

COTTON
 BUKOMERO (43)
 1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.0414	1.4020	28
PH	5.8464	0.3049	28
EXTRP	27.2753	48.2845	28
N	0.1211	0.0359	28
NI	80.3213	26.0742	28
EXTRCA	129.9434	74.0961	28
EXTRMG	30.8271	12.8297	28
EXTRK	34.6149	14.2342	28
CLAY	20.5000	6.7192	28
SILT	9.3571	2.7784	28
LEAFN	4.2500	0.3085	28
LEAFP	0.3657	0.0833	28
LEAFS	0.4168	0.0848	28
REST	8.0357	2.5016	28
CROPYEAR	1.5000	0.6939	28
SPRAYS	0.4643	0.8812	28
MP	6.6071	0.5670	28
CY	1142.1428	424.9307	28
N1	1172.6785	327.8950	28
N2	1248.7500	367.8652	28
P1	1173.2141	289.0012	28
N1P1	1180.7141	310.0728	28
N2P1	1270.7141	371.8135	28
P2	1120.7141	329.4106	28
N1P2	1245.0000	365.4629	28
N2P2	1231.6069	363.8508	28
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	14.6		

COTTON
 BUKOMERO (43)
 1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	3.5917	0.8565	29
PH	5.9828	0.4045	29
EXTRP	24.2427	27.8102	29
LEAFN	4.1241	0.2474	29
REST	5.0000	3.7129	29
CROPYEAR	2.5862	1.5473	29
SPRAYS	0.3103	0.7123	29
MP	6.6552	0.5526	29
CY	1188.1033	331.5847	29
N1	1230.0000	300.9602	29
V2	1384.1377	341.8345	29
P1	1287.9309	323.4968	29
N1P1	1349.4827	335.1526	29
N2P1	1388.2756	299.2322	29
P2	1242.4136	325.0906	29
N1P2	1382.5862	290.8557	29
N2P2	1398.1033	353.1545	29
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	12.3		

COTTON

BUKOMERO (43)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	18	2.6167	0.7816
PH	18	5.9278	0.3802
EXTRP	18	11.0000	7.0711
LEAFN	18	4.2278	0.3122
REST	18	6.7222	4.0556
CROPYEAR	18	2.1111	1.6410
SPRAYS	18	2.5556	1.6529
MP	18	6.6667	0.4851
CY	18	864.8887	219.4354
N1	18	961.6665	208.6016
N2	18	960.8333	184.9653
P1	18	887.5000	198.9477
N1P1	18	1014.1665	243.6198
N2P1	18	1006.6665	232.1460
P2	18	948.6111	251.5706
N1P2	18	1071.6665	194.7547
N2P2	18	1074.1665	214.9911
N ₁		* *	
N _q		ns	
P ₁		* *	
P _q		ns	
MP		ns	
C.V.		12.7	

COTTON
 BUKOMERO (43)
 1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	2.8000	0.7698	20
PH	6.1050	0.3678	20
NI	56.8165	10.6648	20
EXTRP	14.1500	8.0412	20
EXTRCA	103.0000	49.4645	20
EXTRK	30.0000	13.9019	20
LEAFN	4.3600	0.2644	20
LEAFP	0.4015	0.0990	20
LEAFCA	2.3700	0.2387	20
LEAFMC	0.7200	0.1051	20
LEAFK	2.3050	0.3900	20
REST	7.8000	3.4274	20
CROPYEAR	1.6500	1.1821	20
SPRAYS	4.0000	0.0	20
MP	6.6500	0.4894	20
CY	1361.0999	403.0659	20
N1	1566.0000	458.6101	20
N2	1659.0000	583.5959	20
P1	1530.7500	509.1257	20
N1P1	1759.5000	470.0771	20
N2P1	1756.5000	498.0845	20
P2	1593.0000	550.6948	20
N1P2	1753.5000	518.0129	20
N2P2	1680.7500	509.4045	20
N ₁	* *		
N _q	*		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	15.9		

COTTON

KALANGALO (44)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
DN	6.4557	1.6832	14
PH	6.0500	0.3323	14
EXTRP	23.0919	13.4880	14
N	6.1789	0.0378	14
NI	84.8571	22.3120	14
EXTACA	167.1030	46.7946	14
EXTRPC	30.6771	10.1491	14
EXTRK	31.8622	18.9095	14
CLAY	15.7857	3.9648	14
SILT	13.1429	5.8554	14
LEAFN	0.0	0.0	14
REST	7.6429	3.0027	14
CROPYEAR	1.5714	0.8516	14
SPRAYS	0.0	0.0	14
MP	7.0714	0.6157	14
CY	1343.5713	395.2329	14
N1	1528.5713	441.2888	14
N2	1767.8569	562.4133	14
P1	1365.0000	525.2795	14
N1P1	1425.0000	492.2124	14
N2P1	1659.5713	586.0396	14
P2	1257.8569	495.5369	14
N1P2	1407.8569	617.0029	14
N2P2	1633.7141	558.9746	14
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	19.1		

COTTON
KALANGALO (44)
1970

VARIABLE	MEAN	STANDARD DEV	CASES
OM	5.0667	0.9854	15
PH	6.1200	0.2112	15
EXTRP	11.2667	7.0859	15
LEAFH	4.0800	0.3212	15
REST	8.3333	2.9439	15
CROPYEAR	1.4667	0.9155	15
SPRAYS	4.0000	0.0	15
MP	6.5333	0.5164	15
CY	933.2666	125.8505	15
N1	992.0000	147.8271	15
N2	1064.0000	178.0858	15
P1	968.0000	93.4203	15
N1P1	1049.0000	154.1592	15
N2P1	1075.0000	123.7786	15
P2	917.0000	108.2955	15
N1P2	1028.0000	142.8511	15
N2P2	1125.0000	125.6298	15
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	7.4		

COTTON
KALANGALO (44)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.9312	1.5032	16
PH	5.9187	0.1601	16
EXTRP	19.6875	10.1042	16
LEAFN	4.2062	0.5170	16
REST	7.3750	3.9812	16
CRCPYEAR	1.9375	1.5692	16
SPRAYS	4.0000	0.0	16
MP	6.3125	0.4787	16
CY	906.1875	110.1233	16
N1	974.0625	188.9023	16
N2	1032.1875	203.8535	16
P1	950.6250	184.3536	16
N1P1	1051.8750	161.3543	16
N2P1	988.1250	141.6554	16
P2	952.5000	135.2775	16
N1P2	1010.6250	176.1125	16
N2P2	1019.0625	145.1679	16
N ₁	* *		
N _q	*		
P ₁	ns		
P _q	*		
NP	ns		
C.V.	8.1		

COTTON
KAKINDU (45)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.0750	1.0914	12
PH	6.0917	0.3605	12
EXTRP	18.6667	17.0685	12
LEAFN	4.2833	0.2369	12
REST	8.9167	1.4434	12
CROPYEAR	1.0833	0.2887	12
SPRAYS	3.9167	0.2887	12
MP	7.3333	0.6513	12
CY	935.2500	281.8213	12
N1	944.4165	243.5081	12
N2	951.4165	464.1855	12
P1	936.6665	294.1450	12
N1P1	982.9165	364.7795	12
N2P1	1024.0823	282.5427	12
P2	1118.1665	439.2695	12
N1P2	966.4165	311.0642	12
N2P2	949.4165	304.5798	12
N ₁	ns		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	21.4		

COTTON
KIRIRI (46)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	6.2928	1.6228	14
PH	6.3429	0.1990	14
EXTRP	31.5800	24.3754	14
N	0.1844	0.2466	14
NI	100.1429	31.1914	14
EXTRCA	195.4498	48.8565	14
EXTRMC	39.6571	11.6836	14
EXTRK	26.2859	10.7352	14
CLAY	12.0000	4.2062	14
SILT	7.4226	1.3986	14
LEAFN	0.0	0.0	14
REST	6.2857	4.1031	14
CRCPYEAR	2.2143	1.4769	14
SPRAYS	0.0	0.0	14
MP	7.9286	0.7301	14
CY	1555.7141	474.4600	14
N1	1791.4285	650.0044	14
N2	1824.2856	565.1650	14
P1	1847.1428	582.2330	14
N1P1	1902.8569	315.2395	14
N2P1	1885.7141	405.3821	14
P2	1722.8569	564.0447	14
N1P2	2014.2856	738.1238	14
N2P2	2370.0000	728.6978	14
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	ns		
C.V.	20.5		

COTTON
KIRIRI (46)
1970

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.4944	0.9680	18
PH	5.7944	0.1798	18
EXTRP	14.1667	6.2615	18
LEAFH	4.5889	0.3530	18
REST	8.8333	2.6173	18
CROPYEAR	1.3333	0.9701	18
SPRAYS	4.0000	0.0	18
MP	7.3889	0.6077	18
CY	825.0000	360.0735	18
N1	1031.6665	436.9746	18
N2	1064.1665	436.9109	18
P1	876.6665	360.6326	18
N1P1	1029.1665	379.6865	18
N2P1	1012.5000	356.0527	18
P2	964.1665	351.2844	18
N1P2	1078.3333	425.1924	18
N2P2	1108.3333	451.3738	18
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	18.9		

COTTON
KIRIRI (46)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.6789	0.8626	19
PH	5.9263	0.2183	19
EXTRP	16.2632	14.3946	19
LEAFN	4.8263	0.4215	19
REST	8.8947	2.2827	19
CROPYEAR	1.0000	0.0	19
SPRAYS	4.1053	0.3153	19
MP	6.7368	0.5620	19
CY.	763.1577	244.8164	19
N1	866.8420	251.9229	19
N2	898.4209	268.6958	19
P1	855.0000	297.0688	19
N1P1	850.2629	300.8342	19
N2P1	945.0000	248.5478	19
P2	948.1577	293.8782	19
N1P2	930.7893	349.9451	19
N2P2	975.7893	327.6243	19
N _l	*		
N _q	ns		
P _l	*		
P _q	ns		
NP	ns		
C.V.	19.8		

COTTON
KAKIRI (47)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.4492	0.7437	24
PH	5.7625	0.1884	24
EXTRP	18.9009	23.6506	24
N	0.1402	0.0219	24
NI	69.2166	15.6123	24
EXTRCA	144.1760	26.2591	24
EXTRMG	25.1749	6.8322	24
EXTRK	38.2458	8.1143	24
CLAY	17.0000	3.7764	24
SILT	11.2083	4.5586	24
LEAFN	4.6625	0.4312	24
LEAFP	0.3579	0.0589	24
LEAFS	0.4729	0.0978	24
LEAFCA	2.4458	0.4118	24
LEAFMG	0.4471	0.1163	24
LEAFK	2.7021	0.5266	24
REST	8.8750	1.8252	24
CROPYEAR	1.2500	0.4423	24
SPRAYS	0.0	0.0	24
MP	6.7917	0.5882	24
CY	1211.8750	319.0854	24
N1	1180.6250	301.8665	24
N2	1161.2500	272.6257	24
P1	1274.3750	332.7563	24
N1P1	1293.1250	212.7256	24
N2P1	1249.3750	255.9918	24
P2	1144.3750	291.8486	24
N1P2	1328.1250	334.3831	24
N2P2	1233.7500	267.6765	24
N ₁	ns		
N _q	*		
P ₁	ns		
P _q	*		
NP	* (-ve)		
C.V.	14.6		

COTTON
KAKLRI (47)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.3053	0.6328	15
PH	6.0333	0.3178	15
EXTRP	14.6295	7.1769	15
LEAFN	4.3933	0.2940	15
REST	8.7333	1.8696	15
CROPYEAR	1.2667	0.4577	15
SPRAYS	0.0	0.0	15
MP	6.8667	0.8338	15
CY	867.0000	236.5060	15
N1	997.0000	333.0476	15
N2	959.0000	279.3882	15
P1	939.0000	318.5918	15
N1P1	980.0000	258.6089	15
N2P1	1051.0000	282.3040	15
P2	981.0000	325.8242	15
N1P2	1031.0000	322.3857	15
N2P2	961.6665	263.2466	15
N _l	ns		
N _q	ns		
P _l	ns		
P _q	ns		
NP	ns		
C.V.	16.9		

COTTON
NKOZI (48)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
DM	3.7133	1.2649	15
PH	6.0333	0.3793	15
EXTRP	21.0667	19.3629	15
LEAFN	4.2267	0.3012	15
REST	8.6000	1.9198	15
CROPEAR	1.3333	0.4880	15
SPRAYS	4.0000	0.0	15
MP	6.6667	1.0465	15
CY	871.3999	361.7051	15
N1	1007.7998	368.3742	15
N2	1059.7322	355.7847	15
P1	1019.0667	451.4419	15
N1P1	1086.5332	503.6619	15
N2P1	1155.8665	540.8701	15
P2	1013.4666	345.0879	15
N1P2	1252.5559	460.6702	15
N2P2	1087.9331	441.0103	15
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	28.5		

COTTON

BwIJANGA (49)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	8.1765	1.0124	17
PH	6.0941	0.1955	17
EXTRP	22.9967	32.9459	17
N	0.2426	0.0227	17
NI	144.0000	0.0	17
EXTRCA	267.1636	45.5556	17
EXTRMG	56.8658	7.9790	17
EXTRK	49.1736	16.1463	17
CLAY	13.0000	0.0	17
SILT	9.0000	0.0	17
LEAFN	0.0	0.0	17
REST	4.2353	2.6346	17
CRCPYEAR	2.5294	1.2307	17
SPRAYS	1.1176	1.6912	17
MP	6.3235	0.3930	17
CY	624.7058	240.0552	17
N1	753.5293	277.5269	17
N2	875.2939	316.2893	17
P1	735.2939	291.1531	17
N1P1	814.7058	393.9745	17
N2P1	853.8235	270.2864	17
P2	708.5293	322.1741	17
N1P2	852.3528	355.2512	17
N2P2	903.5293	332.9075	17
N ₁	* *		
N _q	ns		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	19.7		

COTTON

BWIJANGA (49)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	16	7.7500	1.3760
PH	16	6.1937	0.3336
EXTRP	16	17.5625	11.2129
LEAFN	5	4.4200	0.2168
REST	16	5.9375	1.9822
CROPYEAR	16	2.0625	0.5737
SPRAYS	16	1.2500	1.9149
MP	16	6.4375	0.6292
CY	16	821.0000	275.8599
N1	16	844.6875	314.9626
N2	16	977.8125	301.6563
P1	16	862.5000	227.0242
N1P1	16	883.1250	240.9279
N2P1	16	1009.6875	291.9783
P2	16	869.0625	235.9959
N1P2	16	837.1875	281.2766
N2P2	16	1003.1250	304.7556
N ₁		* *	
N _q		* *	
P ₁		ns	
P _q		ns	
NP		ns	
C.V.		16.4	

COTTON
MASINDI (50)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	6.6714	1.1317	14
PH	6.3214	0.3534	14
NI	188.6959	107.6712	14
EXTRP	12.3571	7.5407	14
EXTRCA	228.2857	58.7949	14
EXTRK	37.0000	13.9007	14
LEAFN	0.0	0.0	14
LEAFP	0.0	0.0	14
LEAFCA	0.0	0.0	14
LEAFMG	0.0	0.0	14
LEAFK	0.0	0.0	14
REST	6.8571	1.4064	14
CROPYEAR	1.5714	0.5136	14
SPRAYS	4.0000	0.0	14
MP	6.5000	0.5189	14
CY	1011.1428	202.2603	14
N1	1169.9285	207.8846	14
N2	1168.9285	263.6723	14
P1	966.4285	236.1994	14
N1P1	1204.2856	275.2295	14
N2P1	1188.2141	173.1553	14
P2	1038.2141	296.5286	14
N1P2	1170.0000	235.4857	14
N2P2	1220.3569	167.1996	14
N ₁	* *		
N _q	*		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	14.9		

COTTON

KIRYANDONGO (51)

1970

VARIABLE	MEAN	STANDARD DEV	CASES
DM	4.0118	1.2277	17
PH	6.2941	0.2047	17
EXTRP	16.0588	8.6853	17
LEAFN	0.0	0.0	17
REST	7.8235	2.8774	17
CROPYEAR	1.4706	0.7998	17
SPRAYS	4.0000	0.0	17
MP	6.4706	0.5145	17
CY	1222.2351	237.1181	17
N1	1257.3528	275.9854	17
N2	1303.8235	225.2155	17
P1	1217.6470	274.4028	17
N1P1	1325.2939	265.8494	17
N2P1	1453.2351	221.9331	17
P2	1235.2939	218.4605	17
N1P2	1277.6470	317.4097	17
N2P2	1438.2351	279.6621	17
N ₁	**		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	11.1		

COTTON
KIRYANDONGO (51)
1971

VARIABLE	MEAN	STANDARD DEV	CASES
DM	5.1450	1.4923	20
PH	6.4750	0.2260	20
EXTRP	18.3000	12.7820	20
LEAFN	0.0	0.0	20
REST	7.3000	3.4198	20
CROPYEAR	1.6500	1.2680	20
SPRAYS	3.9500	0.2236	20
MP	6.7000	0.4702	20
CY	949.8499	233.9878	20
N1	1114.5000	322.3792	20
N2	1203.7500	279.5166	20
P1	1017.7500	241.6836	20
N1P1	1124.2500	390.5289	20
N2P1	1228.5000	285.0964	20
P2	1032.0000	276.1814	20
N1P2	1082.2500	243.8792	20
N2P2	1240.5000	238.6171	20
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	15.7		

COTTON
RAKAI (57)
1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	6.4143	2.4003	14
PH	5.9000	0.6026	14
EXTRP	94.0263	100.3075	14
N	5.2379	0.0748	14
NI	107.4070	35.6945	14
EXTRCA	236.5054	145.2525	14
EXTRMG	42.2299	16.7598	14
EXTRK	49.5836	26.2227	14
CLAY	21.2857	5.6218	14
SILT	26.0714	9.3846	14
LEAFN	0.0	0.0	14
REST	3.6429	3.0027	14
CROPYEAR	2.8571	1.1673	14
SPRAYS	0.0	0.0	14
NP	6.8571	0.5345	14
CY	1285.7141	593.3694	14
N1	1519.2856	820.1177	14
N2	1485.0000	696.3171	14
P1	1351.4285	806.1370	14
N1P1	1431.4285	679.7327	14
N2P1	1503.5713	846.1938	14
P2	1440.0000	727.0796	14
N1P2	1487.1428	767.5374	14
N2P2	1630.7141	867.9368	14
N ₁	✖ ✖		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	✖		
C.V.	15.8		

COTTON
NORTH BUGISU (59)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	6.4505	3.8627	19
PH	5.6105	0.2258	19
EXTRP	150.7648	159.0387	19
N	0.1538	0.0806	19
NI	45.0368	16.6150	19
EXTRCA	372.8120	269.2817	19
EXTRMG	79.3820	69.5475	19
EXTRK	63.4993	38.0621	19
CLAY	25.2632	10.0931	19
SILT	10.9474	4.4531	19
LEAFN	4.3316	0.4854	19
LEAFP	0.3968	0.0771	19
LEAFS	0.3726	0.0981	19
REST	3.2105	3.3430	19
CROPYEAR	3.0526	1.7787	19
SPRAYS	0.6842	1.0569	19
MP	6.4211	0.7685	19
CY	570.7893	489.1951	19
N1	596.0525	575.2139	19
N2	693.9473	600.9233	19
P1	592.8945	592.9241	19
N1P1	621.3157	563.9661	19
N2P1	712.8945	663.7456	19
P2	528.1577	444.2290	19
N1P2	659.2104	536.5679	19
N2P2	702.6313	588.1169	19
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	55.2		

COTTON

NORTH EUGISU (59)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	9.0533	3.5902	24
PH	5.7625	0.2411	24
EXTFP	236.2661	156.5415	24
LEAFH	3.6417	0.3562	24
REST	8.1667	8.0091	24
CROPYEAR	2.2917	1.6545	24
SPRAYS	0.9583	1.0417	24
MP	5.0833	1.1001	24
CY	666.2500	399.1953	24
N1	747.5000	392.6160	24
N2	791.2500	481.6719	24
P1	693.1250	398.8291	24
N1P1	763.1250	464.3420	24
N2P1	727.5000	428.9878	24
P2	693.7500	441.1577	24
N1P2	775.0000	422.8694	24
N2P2	811.2500	445.0566	24
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	18.0		

COTTON

NORTH BUGISU (59)

1967

VARIABLE	CASES	MEAN	STD DEV
OM	23	8.1861	2.7233
PH	23	5.7348	0.1898
EXTRP	23	103.7503	145.8217
LEAFN	23	3.6478	0.4348
REST	23	5.0435	3.5094
CROPYEAR	23	2.1304	1.3586
SPRAYS	23	2.6957	1.3959
MP	23	5.9130	0.7928
CY	23	513.8694	374.7346
N1	23	543.2607	364.6001
N2	23	599.3477	394.8601
P1	23	549.1304	386.2249
N1P1	23	566.0869	372.6257
N2P1	23	575.2173	399.9333
P2	23	530.8694	366.9429
N1P2	23	571.3042	393.5222
N2P2	23	585.6521	394.7043
N ₁		* *	
N _q		ns	
P ₁		ns	
P _q		ns	
NP		ns	
C.V.		22.6	

COTTON

NORTH BUGISU (59)

1968

VARIABLE	MEAN	STANDARD DEV	CASES
OM	7.7900	3.0005	20
PH	5.9850	0.2622	20
NI	78.4953	22.9679	20
EXTRP	276.0498	237.7600	20
EXTRCA	400.8499	145.2687	20
EXTRK	49.4500	21.1199	20
LEAFN	3.4350	0.3423	20
LEAFP	0.5515	0.2985	20
LEAFCA	2.0100	0.4412	20
LEAFMG	0.4790	0.1215	20
LEAFK	1.9000	0.3146	20
REST	3.6500	3.8289	20
CROPYEAR	3.0000	1.7168	20
SPRAYS	3.0000	0.0	20
MP	6.1500	0.5871	20
CY	1042.7500	296.5967	20
N1	1194.0000	325.7495	20
N2	1373.2500	356.8420	20
P1	1014.7500	282.6519	20
N1P1	1183.5000	350.7644	20
N2P1	1434.7500	368.1372	20
P2	1098.7500	300.1106	20
N1P2	1214.2500	416.5288	20
N2P2	1421.2500	270.8223	20
N ₁	* *		
N _q	ns		
P ₁	ns		
P _q	ns		
NP	ns		
C.V.	13.2		

COTTON
CENTRAL BUGISU (60)
1965

VARIABLE	MEAN	STANDARD DEV	CASES
OM	4.5508	1.4211	13
PH	5.6231	0.3396	13
EXTRP	22.3661	15.1247	13
N	0.1239	0.0298	13
NI	64.9691	16.2437	13
EXTRCA	217.3559	91.1120	13
EXTRMG	14.1138	7.3337	13
EXTRK	29.5555	14.0332	13
CLAY	19.7692	6.8087	13
SILT	13.9231	6.3700	13
LEAFN	4.1846	0.6122	13
LEAFP	0.4800	0.1034	13
LEAFS	0.4638	0.1020	13
REST	5.1538	2.9957	13
CROPYEAR	1.9231	1.1152	13
SPRAYS	0.5385	0.6602	13
NP	6.0000	1.1547	13
CY	576.9229	395.0449	13
N1	552.6921	380.5510	13
N2	604.6152	331.2129	13
P1	610.3845	394.7493	13
N1P1	609.2307	421.4055	13
N2P1	660.0000	452.9485	13
P2	598.8459	398.7227	13
N1P2	640.3845	381.1194	13
N2P2	690.0000	447.4929	13
N ₁	*		
N _q	ns		
P ₁	*		
P _q	ns		
NP	ns		
C.V.	19.6		

COTTON

CENTRAL BUGISU (60)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
OM	3.5000	1.8163	23
PH	5.5304	0.2868	23
EXTRP	13.7546	17.2282	23
LEAFH	3.8130	0.3969	23
REST	5.6522	2.7404	23
CROPYEAR	1.9130	1.1246	23
SPRAYS	0.0	0.0	23
MP	5.9130	0.7928	23
CY	444.1304	313.2124	23
N1	513.2607	315.0510	23
V2	627.3911	404.0811	23
P1	478.2607	273.5771	23
N1P1	598.6956	346.4763	23
N2P1	598.6956	341.6609	23
P2	480.6521	291.6501	23
N1P2	575.2173	342.8770	23
N2P2	671.0869	341.2808	23
N _l	* *		
N _q	ns		
P _l	* *		
P _q	ns		
NP	ns		
C.V.	18.5		

COTTON

CENTRAL BUGISU (60)

1967

VARIABLE	CASES	MEAN	STD DEV
DM	22	3.4091	1.5895
PH	22	5.8545	0.2365
EXTRP	22	13.2317	12.1032
LEAFN	22	3.7727	0.5400
REST	22	5.9091	3.3793
CROPYEAR	22	1.8182	1.4019
SPRAYS	22	1.2273	1.5097
MP	22	6.2727	0.7025
CY	22	457.0000	170.9809
N1	22	525.0000	207.5366
N2	22	535.2271	237.3696
P1	22	486.1362	213.0729
N1P1	22	543.4089	228.9389
N2P1	22	531.1362	196.3779
P2	22	439.7727	188.0001
N1P2	22	512.7271	206.6907
N2P2	22	568.6362	212.3804
N _l		* *	
N _q		ns	
P _l		ns	
P _q		ns	
NP		ns	
C.V.		20.7	

COTTON

SOUTH BUGISU (61)

1965

VARIABLE	MEAN	STAND
DM	3.2967	
PH	5.5055	
EXTRP	54.4249	
N	0.1062	
NI	45.7944	
EXTRCA	107.0390	
EXTRMG	21.2466	
EXTRK	33.6238	
CLAY	15.2222	
SILT	11.0000	
LEAFN	4.1833	
LEAFP	0.4378	
LEAFS	0.4167	
REST	6.7222	
CROPYEAR	1.6111	
SPRAYS	0.3333	
MP	6.9444	
CY	329.1665	2
N1	468.3233	3
N2	506.6665	3
P1	371.6665	2
N1P1	503.3233	3
N2P1	501.6665	3
P2	387.5000	2
N1P2	465.0000	3
N2P2	527.5000	3
N ₁	* *	
N _q	*	
P ₁	ns	
P _q	ns	
NP	ns	
C.V.	26.3	

COTTON

SOUTH EGLISJ (61)

1966

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.8569	1.1291	26
PH	5.2385	1.2483	26
EXTRP	22.4154	16.0271	26
LEAFH	3.8500	0.3755	26
REST	6.2308	3.5023	26
CROPYLR	2.0000	1.3266	26
SPRAYS	0.0	0.0	26
MP	6.4231	1.1375	26
CY	439.0383	226.3980	26
N1	524.4229	260.2395	26
N2	548.0769	256.3281	26
P1	504.8076	247.4571	26
N1P1	506.7307	226.8434	26
N2P1	554.4229	263.4019	26
P2	469.6152	269.8589	26
N1P2	574.0383	255.3900	26
N2P2	626.5383	273.8164	26
N ₁	* *		
N _q	ns		
P ₁	* *		
P _q	ns		
NP	*		
C.V.	19.4		

COTTON
SOUTH BUGISU (61)
1967

VARIABLE	CASES	MEAN	STD DEV
UM	22	2.7109	0.9642
PH	22	5.9273	0.2549
EXTRP	22	8.9761	12.7377
LEAFN	14	4.0071	0.4582
REST	22	6.3636	3.4163
CROPYEAR	22	1.5909	1.4027
SPRAYS	22	1.0909	1.4111
MP	22	6.1364	0.6396
CY	22	379.0000	249.8563
N1	22	446.3635	308.6230
N2	22	456.1362	353.4119
P1	22	449.0908	316.6965
N1P1	22	518.1816	345.0073
N2P1	22	505.9089	349.9546
P2	22	463.6816	299.2749
N1P2	22	502.5000	317.1777
N2P2	22	508.6362	362.1340
N ₁		* *	
N _q		ns	
P ₁		* *	
P _q		ns	
NP		ns	
C.V.		19.7	

COTTON
SOUTH BUGISU (61)
1968

VARIABLE	MEAN	STANDARD DEV	CASES
DM	2.9250	1.0194	20
PH	5.9500	0.2647	20
NI	60.9403	23.0997	20
EXTRP	15.1000	15.7577	20
EXTRCA	126.4500	65.8399	20
EXTRK	28.3500	11.2497	20
LEAFN	3.7300	0.4194	20
LEAFP	0.3595	0.1568	20
LEAFCA	1.9500	0.2189	20
LEAFMG	0.3900	0.0800	20
LEAFK	1.9200	0.2628	20
REST	4.8500	4.4636	20
CROPYEAR	2.7000	1.9762	20
SPRAYS	4.0000	0.0	20
MP	6.5000	0.5130	20
CY	661.3499	226.2212	20
N1	822.0000	291.8203	20
N2	841.5000	267.7051	20
P1	793.5000	231.4037	20
N1P1	924.5000	301.7520	20
N2P1	927.0000	209.3016	20
P2	703.5000	184.9261	20
N1P2	963.0000	334.8286	20
N2P2	903.0000	252.4845	20
N ₁	* *		
N _q	* *		
P ₁	* *		
P _q	* *		
NP	ns		
C.V.	18.4		

APPENDIX III : GROUNDNUTS

Mean values and standard deviations (in brackets)

All data (other than yield results) collected at each
groundnut trials location in each season.

Table 1 : Management (U = unimproved, I = improved).

0-8" Soil organic matter (%).

" " pH.

" " extractable P (p.p.m.).

" " median P (p.p.m.).

" " acid-soluble P (p.p.m.).

" " organic P (p.p.m.).

Table 2 : " " extractable Ca (mg/100g).

" " " K " .

Rest score.

Cropping year.

0-8" Soil silt (%).

" " clay " .

Table 3 : Median planting month (Jan=1, etc.).

0-8" Soil organic S (p.p.m.).

Groundnut leaf P (%).

" " S " .

" " Ca " .

" " K " .

Location	Year (Management)	No. of trials	Soil C.N. %	Soil pH	Soil crdr. P.p.p.m.	Soil median P.p.p.m.	Soil acid-sol. P.p.p.m.	Soil organic P.p.p.m.
Forego	66(U)	23	2.52(.72)	5.69(.30)	16.8(18.6)	11	97(70)	142(70)
	66(U)	15	2.24(.62)	5.81(.29)	4.4(7.8)	2	58(52)	97(51)
	67(I)	10	3.31(.89)	5.96(.31)	22.2(14.8)	13		
	68(I)	16	2.24(.82)	5.91(.20)	8.9(9.8)	4		
Paidha	66(U)	22	4.48(1.40)	5.56(.28)	5.1(2.2)	5	68(31)	206(73)
Pakelle	68(I)	19	1.89(.48)	6.24(.27)	5.0(2.0)	5		
Pabbo	69(I)	18	2.14(.56)	5.77(.26)	10.7(9.1)	7		
	70(I)	19	2.49(.71)	5.56(.14)	11.7(9.8)	8		
	71(I)	20	2.83(1.09)	5.64(.29)	12.2(10.3)	9		
Mitgum	69(I)	19	1.56(.35)	6.52(.23)	6.2(3.3)	5		
	70(I)	20	1.98(.34)	6.43(.24)	9.6(9.1)	5		
	71(I)	19	1.87(.31)	6.27(.26)	4.9(4.3)	3		
Patongo	69(I)	20	2.66(.94)	6.12(.25)	13.4(18.6)	5		
	70(I)	19	2.91(1.01)	6.11(.22)	7.9(9.8)	5		
	71(I)	20	2.72(1.23)	6.04(.27)	5.2(4.5)	4		
Dokolo	66(U)	20	3.40(.56)	5.70(.26)	6.4(4.5)	4	87(51)	195(43)
	67(U)	20	3.46(.52)	5.80(.90)	7.3(11.2)	3	101(60)	189(50)
	67(I)	10	4.08(.75)	5.87(.18)	9.9(8.4)	5		
	68(I)	19	3.35(.62)	5.96(.16)	9.6(10.1)	6		
Katakwi	66(U)	29	1.06(.36)	5.92(.26)	5.7(6.5)	4	38(19)	64(25)
	67(U)	15	0.90(.24)	6.05(.37)	8.2(12.8)	2	51(33)	71(39)
	67(I)	10	0.95(.38)	5.97(.52)	15.4(18.7)	4		
	68(I)	16	0.89(.38)	5.73(.42)	3.4(1.9)	3		
Soroti	66(U)	22	1.66(.52)	5.47(.22)	4.5(4.1)	3	44(25)	99(34)
Serere	65(U)	28	2.44(.74)	5.40(.24)	3.5(5.6)	2	54(45)	139(46)
	66(U)	29	2.46(.60)	5.55(.32)	5.2(4.1)	4	55(19)	129(28)
Ikyora	66(U)	29	1.70(.54)	5.62(.27)	7.5(12.6)	3	69(39)	131(51)

Map No.	Location	Year (Management)	No. of trials	Soil O.M. %	Soil pH	Soil extr. P.p.p.m.	Soil median P.p.p.m.	Soil acid-sol. P.p.p.m.	Soil organic P.p.p.m.
24	Kumi	G5(U)	30	2.12(.46)	5.71(.31)	4.6(7.4)	1	84(50)	157(90)
		G6(U)	29	1.66(.40)	5.84(.31)	4.4(5.0)	2	55(36)	109(42)
25	Bukedoa	G9(I)	15	2.28(.59)	5.69(.24)	3.1(2.9)	2		
		70(I)	27	1.31(.42)	5.61(.22)	2.4(1.2)	2		
26	Pallisa	G9(I)	17	1.76(.57)	5.64(.48)	8.4(14.4)	2		
28	Bunyole	G9(I)	17	0.91(.32)	6.56(.28)	10.7(8.3)	8		
		71(I)	16	1.36(.55)	6.08(.33)	8.9(6.9)	7		
31	Kamuli	G6(U)	20	4.06(1.40)	5.86(.33)	10.2(12.7)	5	101(59)	285(83)
		G7(U)	13	4.22(.96)	6.00(.32)	4.8(4.6)	4	94(28)	250(54)
		G7(I)	10	4.16(1.33)	6.27(.36)	19.6(15.7)	11		
		G9(I)	19	3.85(1.56)	6.02(.33)	8.8(6.3)	6		
32	Bulanogi	70(I)	23	1.71(.54)	5.80(.42)	5.3(4.3)	3		
		71(I)	23	2.24(.95)	6.06(.53)	6.3(4.2)	5		
33	Busiki	70(I)	25	1.32(.56)	5.93(.37)	11.7(10.1)	6		
		71(I)	23	1.48(.59)	5.95(.40)	6.3(5.0)	4		
34	Kagoma	G6(U)	19	5.16(1.00)	6.14(.34)	23.3(23.9)	12	139(62)	334(38)
		G7(U)	11	5.56(.98)	6.25(.25)	20.9(15.7)	18	173(69)	300(62)
		G7(I)	10	4.79(1.60)	6.16(.30)	23.9(15.2)	17		
35	Iganga	G5(U)	10	3.06(.94)	5.94(.26)	10.6(11.5)	6	95(75)	234(99)
		G6(U)	24	3.46(1.14)	5.83(.26)	12.3(12.7)	7	96(75)	214(78)
		G7(U)	14	3.16(.88)	5.99(.40)	13.6(15.4)	8	135(83)	244(98)
		G7(I)	10	3.25(1.47)	6.13(.21)	21.4(16.1)	11		
36	Bugiri	G6(U)	20	5.08(1.28)	5.85(.29)	14.4(15.1)	7	169(95)	402(122)
		G9(I)	11	3.44(1.16)	5.95(.22)	18.7(11.2)	17		
37	Nakasongola	G6(U)	28	2.50(1.08)	5.86(.20)	5.9(4.7)	4	46(29)	129(66)
		G7(U)	10	3.12(.76)	6.15(.14)	6.4(5.6)	5	65(20)	160(55)
		G9(I)	19	2.25(1.11)	6.27(.19)	7.0(3.4)	6		
		G9(I)	15	3.08(1.03)	6.39(.36)	11.7(9.8)	9		

	Location	Year (Management)	No. of trials	Soil O.M. %	Soil pH	Soil extr. P.p.p.m.	Soil median P.p.p.m.	Soil acid-sol. P.p.p.m.	Soil organic P.p.p.m.
0	Kayunga	72(I)	19	5.67(1.03)	6.23(.25)	10.8(6.6)	9		
1	Kojja	72(I)	21	3.60(.65)	5.76(.27)	31.7(19.1)	33		
2	Kiboya	69(I)	12	4.27(.88)	6.19(.46)	15.3(15.4)	9		
		70(I)	19	3.83(1.14)	6.05(.39)	8.5(5.0)	7		
		71(I)	20	4.79(.99)	6.15(.37)	18.1(15.4)	11		
3	Dutonero	66(U)	28	3.48(1.30)	5.59(.33)	10.2(9.0)	7	92(45)	212(70)
		67(U)	10	3.18(.52)	6.22(.33)	13.8(8.3)	12	100(53)	242(90)
		67(I)	10	4.20(1.16)	6.40(.61)	22.8(15.6)	19		
		68(I)	21	3.06(1.22)	6.08(.42)	14.7(12.1)	13		
51	Kiryun- dongo	71(I)	17	4.64(1.09)	6.32(.23)	12.8(6.7)	12		
54	M. Kasha ml	65(U)	26	4.02(1.44)	5.30(.37)	41.2(70.9)	12	199(246)	203(75)
		68(I)	16	3.23(.97)	5.69(.35)	24.0(16.5)	16		
55	S. Kachari	66(U)	15	3.12(.92)	4.94(.29)	7.6(6.1)	6	117(65)	188(43)
57	Raital	66(U)	15	6.92(1.60)	5.94(.46)	27.0(15.6)	21	181(92)	412(77)
		67(I)	10	5.94(1.65)	5.94(.58)	21.2(12.8)	15		
		68(I)	19	6.04(1.51)	6.33(.31)	24.7(17.4)	22		
		69(I)	15	4.57(.91)	6.25(.40)	31.6(21.4)	20		

Table 2

Location	Year (and Management)	No. of trials	Soil extr. Ca mg/100g	Soil extr. K mg/100g	Rest Score	Cropping Year	Soil % Silt	Soil % Clay
Barogo	66(U)	23	79(42)	21.8(8.3)	4.1(3.2)	2.7(1.6)	6.5(2.7)	13.1(5.6)
	67(U)	15			5.7(3.7)	2.4	8.3(3.2)	11.5(5.8)
	67(I)	10	124(38)	22.3(3.9)	6.9	2.0		
	68(I)	16	82(36)	20.7(7.6)	6.9(2.6)	1.2(0.4)		
Paikwa	66(U)	22	88(44)	21.0(5.4)	7.0(3.7)	1.6(1.4)	12.6(3.2)	21.8(3.8)
Patelle	68(I)	19	71(18)	18.4(3.3)	3.8(3.6)	2.9(1.5)		
Pabbo	69(I)	18	64(20)	16.7(4.1)	3.8(2.4)	2.8(0.9)	7.7(1.9)	14.1(2.3)
	70(I)	19	62(29)	23.5(5.9)	4.5(3.6)	2.8(1.4)		
	71(I)	20	88(66)	28.9(12.2)	3.5(3.3)	3.2(1.4)		
Kibijun	69(I)	19	65(23)	20.2(4.2)	5.0(3.0)	2.0(1.2)		
	70(I)	20	63(25)	30.2(5.4)	6.0	1.8		
	71(I)	19	58(14)	22.7(4.0)	4.7(2.2)	2.0(1.0)		
Patongo	69(I)	20	126(49)	21.7(5.1)	4.7(2.1)	1.9(1.1)		
	70(I)	19	126(59)	25.2(6.7)	2.4	3.3	8.5	22.2
	71(I)	20	103(59)	28.4(9.1)	3.5(2.3)	2.6(1.4)		
Odiolo	66(U)	20	112(36)	21.8(4.8)	2.1(2.6)	3.7	8.0(1.7)	23.1(3.8)
	67(U)	20			1.2(2.6)	2.4(2.2)	8.2(3.0)	21.1(3.0)
	67(I)	10	113(31)	24.3(8.3)	2.1	3.6		
	68(I)	19	127(40)	26.2(10.1)	1.6(2.4)	3.9(1.6)		
Katakwi	66(U)	29	28(21)	14.4(3.5)	3.4(2.8)	2.5(1.7)	5.5(1.8)	4.8(3.3)
	67(U)	15			2.4(2.8)	3.3(1.6)	8.9(3.8)	6.0(5.4)
	67(I)	10	52(24)	14.8(5.6)	3.4	2.9		
	68(I)	16	41(29)	9.3(3.7)	2.8(2.5)	2.7(1.9)		
Soroti	66(U)	22	40(26)	16.0(3.2)	1.5(1.8)	4.0(1.0)	9.0(3.7)	14.1(4.7)
Sorera	65(U)	28	68(35)	14.4(4.1)	3.5(2.7)	2.8(1.4)	11.4(7.1)	16.1(5.2)
	66(U)	29	83(50)	18.5(4.8)	2.7(2.6)	3.2(1.6)	12.3(5.9)	18.4(7.1)
Ngora	66(U)	29	40(30)	16.9(3.6)	1.6(2.3)	3.8(1.6)	5.8(2.7)	13.5(6.1)

Location	Year (and Management)	No. of trials	Soil extr. Ca mg/100g	Soil extr. K mg/100g	Rest Score	Cropping Year	Soil % Silt	Soil % Clay
Kumi	65(U)	30	64(31)	20.2(5.8)	1.8(1.8)	3.7(1.2)	7.0(3.5)	16.1(7.4)
	66(U)	29	52(23)	21.0(4.6)	1.4(2.1)	4.0(1.3)	7.7(3.2)	14.6(6.1)
Bukedea	69(I)	15	69(25)	19.3(5.4)	2.8(2.0)	2.6(1.5)	6.7(3.8)	22.7(3.6)
	70(I)	27	58(14)	12.1(5.0)	2.7	3.2		
Pallisa	69(I)	17	70(33)	15.8(7.7)	3.0(2.3)	2.7(1.4)		
Bunyole	69(I)	17	33(13)	11.4(4.7)	5.6(2.7)	2.0(0.9)		
	71(I)	16	40(19)	12.3(6.1)	3.4	2.5		
Kamuli	66(U)	20	167(101)	25.9(8.3)	4.7(1.9)	2.6(0.9)	10.1(3.5)	25.0(5.8)
	67(U)	13			4.7(2.5)	2.3		
	67(I)	10	185(76)	34.6(20.3)	5.6	2.1		
	68(I)	19	146(67)	29.6(14.6)	4.1(2.7)	2.7(1.2)		
Bulamogi	70(I)	23	68(27)	18.7(6.4)	5.9	2.0	5.6(1.6)	17.8(7.8)
	71(I)	23	77(46)	27.5(10.6)	5.5(1.4)	2.0		
Busiki	70(I)	25	67(35)	15.6(6.7)	4.7	2.3	6.4(2.6)	11.0(8.3)
	71(I)	23	60(29)	20.6(7.9)	5.9	2.0		
Kagoma	66(U)	19	203(74)	37.5(16.0)	2.8(2.8)	3.2(1.5)	11.9(2.2)	21.7(4.9)
	67(U)	11			4.1(2.0)	2.7		
	67(I)	10	160(51)	41.2(21.2)	4.8	2.3		
Iganga	65(U)	10	128(50)	32.5(12.4)	5.8(0.4)	2.0(0)	8.2(3.7)	20.0(7.2)
	66(U)	24	136(55)	21.8(6.8)	3.9(3.0)	2.8(1.5)	9.7(2.7)	23.8(7.4)
	67(U)	14			4.1(2.2)	2.6		
	67(I)	10	145(66)	27.5(7.0)	4.5	2.6		
Bugiri	66(U)	20	184(73)	34.2(12.3)	4.3(2.8)	2.7(1.1)	14.0(6.1)	28.8(9.2)
	68(I)	11	133(52)	25.8(14.3)	5.8	1.9		
Nakasongola	66(U)	28	71(45)	24.3(13.1)	3.0(1.9)	3.0(1.1)	8.6(3.1)	15.2(8.2)
	67(U)	10			4.5(2.6)	2.6		
	68(I)	19	85(42)	27.4(12.8)	4.5(1.9)	2.3(0.9)		
	69(I)	15	146(71)	29.2(12.7)	3.1(2.3)	2.8(1.5)		

Location	Year (and Management)	No. of trials	Soil extr. Ca mg/100g	Soil extr. K mg/100g	Rest Score	Cropping Year	Soil % silt	Soil % clay
Kayunga	72(I)	19	249(56)	31.4(14.5)	4.1(3.3)	2.9(1.4)		
Kojja	72(I)	21	110(46)	20.7(9.1)	7.7(3.1)	1.6	13.1(5.5)	23.8(5.2)
Kiboga	69(I)	12	160(83)	38.0(12.0)	6.4(2.3)	1.8(0.8)		
	70(I)	19	99(44)	32.8(11.2)	4.2	2.6		
	71(I)	20	149(67)	41.4(14.4)	2.7	4.6		
Bukomero	66(U)	28	88(53)	29.2(11.5)	4.0(3.4)	3.1(1.5)	10.9(5.7)	24.4(7.7)
	67(U)	10			2.8(2.5)	3.4		
	67(I)	10	168(95)	36.9(19.4)	5.0	2.5		
	68(I)	21	109(64)	35.7(19.9)	6.6(3.4)	2.0(1.2)		
Kiryandongo	71(I)	17	169(57)	33.9(10.8)	3.3(2.9)	3.1(1.3)		
N. Kashari	65(U)	26	62(51)	37.5(17.1)	8.9(2.6)	1.1(0.6)	10.5(2.4)	17.7(4.1)
	68(I)	16	64(43)	26.1(14.0)	9.8	1.0(0)		
S. Kashari	66(U)	15	26(22)	14.4(5.3)	10.0(0)	1.0(0)	11.4(5.6)	19.1(3.3)
Rakai	66(U)	15	225(80)	29.2(9.8)	2.9(3.3)	3.3(1.3)	28.0(9.6)	31.1(3.8)
	67(I)	10	176(83)	21.6(5.2)	5.4	2.3		
	68(I)	19	204(78)	34.6(18.6)	6.2(3.7)	1.8		
	69(I)	15	176(73)	23.3(7.3)	8.9(2.2)	1.3(0.6)		

Table 3

Location	Year (and Management)	No. of trials	Median Planting Month	Soil organic S p.p.m	Leaf % P	Leaf % S	Leaf % Ca	Leaf % K
Terego	66(U)	23	4	91(18)	.26(.06)	.22(.03)	1.45(.22)	2.65(.43)
	67(U)	15	5	70(15)	.28(.07)	.31(.04)		
	67(I)	10	4		.30(.07)	.30(.04)		
	68(I)	16	4		.28(.05)	.36(.11)		
Paidha	66(U)	22	9	131(29)	.21(.03)	.21(.05)	1.12(.17)	3.01(.51)
Pakelle	68(I)	19	4		.21(.04)	.32(.05)		
Pabbo	69(I)	18	5					
	70(I)	19	4	82(11)	.26(.03)	.23(.02)	1.22(.10)	2.63(.22)
	71(I)	20	4					
Kitgun	69(I)	19	5	68(12)				
	70(I)	20	4					
	71(I)	19	4					
Patongo	69(I)	20	6					
	70(I)	19	4					
	71(I)	20	4					
Dokolo	66(U)	20	4	129(20)	.19(.03)	.22(.02)	1.21(.19)	2.00(.29)
	67(U)	20	4	95(17)	.28(.07)	.28(.05)		
	67(I)	10	4		.24(.03)	.29(.03)		
	68(I)	19	4		.25(.04)	.16(.07)		
Katakwi	66(U)	29	4	44(16)	.19(.04)	.23(.03)	1.28(.21)	1.92(.41)
	67(U)	15	4	36(11)	.22(.05)	.23(.04)		
	67(I)	10	4		.25(.06)	.25(.03)		
	68(I)	16	4		.23(.03)	.23(.03)		
Soroti	66(U)	22	4	79(23)	.20(.06)	.26(.04)	1.35(.24)	2.09(.38)
Serere	65(U)	28	4	102(25)	.16(.03)	.21(.02)		
	66(U)	29	3	109(49)	.23(.05)	.24(.03)	1.27(.17)	1.90(.37)
Ngora	66(U)	29	3		.20(.04)	.24(.03)	1.31(.31)	2.19(.32)

Table 3

Plot No.	Location	Year (and Management)	No. of trials	Median Planting Month	Soil organic S p.p.m	Leaf % P	Leaf % S	Leaf % Ca	Leaf % K
24	Kumi	65(U)	30	4	98(20)	.25(.06)	.24(.04)		
		66(U)	29	3		.22(.05)	.24(.04)	1.06(.17)	2.31(.50)
25	Bukedea	69(I)	15	5	92(14)	.18(.03)	.23(.03)	1.15(.14)	1.63(.35)
		70(I)	27	3		.23(.03)		1.32(.10)	2.12(.47)
26	Pallisa	69(I)	17	4		.18(.03)		1.16(.18)	1.35(.48)
28	Bunyole	69(I)	17	3		.23(.03)		1.14(.11)	1.81(.42)
		71(I)	16	4		.26(.03)		1.18(.09)	2.38(.37)
31	Kamuli	66(U)	20	3	182(50)	.28(.07)	.37(.05)	1.79(.31)	2.68(.56)
		67(U)	13	3	158(33)	.29(.03)	.39(.02)		
		67(I)	10	3		.32(.05)	.40(.04)		
		68(I)	19	3		.26(.03)	.37(.05)		
32	Bulamogi	70(I)	23	3		.30(.04)		1.14(.10)	2.50(.32)
		71(I)	23	3		.22(.02)		1.32(.12)	2.38(.31)
33	Busiki	70(I)	25	3		.36(.03)		1.16(.14)	2.68(.45)
		71(I)	23	3		.24(.03)		1.21(.10)	2.56(.23)
34	Kagoma	66(U)	19	3	208(51)	.30(.05)	.35(.04)	1.86(.38)	3.09(.38)
		67(U)	11	3	181(44)	.32(.05)	.39(.05)		
		67(I)	10	3		.32(.03)	.40(.04)		
35	Iganga	65(U)	10	3	149(48)	.30(.04)			
		66(U)	24	2	154(46)	.32(.07)	.36(.05)	1.66(.22)	3.14(.73)
		67(U)	14	3	110(26)	.33(.06)	.39(.05)		
		67(I)	10	3		.37(.06)	.38(.05)		
36	Bugiri	66(U)	20	3	189(50)	.31(.05)	.35(.05)	1.58(.20)	3.12(.61)
		68(I)	11	3		.31(.04)	.30(.04)		

Map No.	Location	Year (and Management)	No. of trials	Median Planting Month	Soil Organic S P.p.m	Leaf % P	Leaf % S	Leaf % Ca	Leaf % K
37	Matsongola	66(U)	28	3	85(39)				
		67(U)	10	3	102(28)	.32(.06)	.31(.02)		
		68(I)	19	4		.36(.04)	.31(.06)		
		69(I)	15	3					
38	Kayunga	72(I)	19	3		.25(.06)		.88(.21)	2.23(.51)
41	Kojja	72(I)	21	3		.28(.03)		.90(.08)	1.96(.26)
42	Kiboga	69(I)	12	3					
		70(I)	19	3		.43(.06)		1.05(.12)	3.18(.23)
		71(I)	20	4		.37(.06)		1.00(.11)	2.92(.26)
43	Dufonero	66(U)	28	3	133(39)				
		67(U)	10	3	108(20)	.43(.07)	.38(.03)		
		67(I)	10	3		.52(.07)	.38(.02)		
		68(I)	21	3		.38(.06)	.40(.02)		
51	Kiryandongo	71(I)	17	4					
54	N. Kashari	65(U)	26	10	144(50)				
		68(I)	16	10					
55	S. Kashari	66(U)	15	10	123(19)				
57	Rakai	66(U)	15	3	234(46)				
		67(I)	10	3		.53(.11)	.35(.05)		
		68(I)	19	3		.45(.05)	.22(.04)	.92(.12)	2.22(.49)
		69(I)	15	3					

APPENDIX IV : FINGER MILLET

Mean values and standard deviation

All data collected at each millet trials lo
season, and significance of main treatment eff
head yields in each season.

Key to tables:

Reps	=	No. of trials.
OM	=	0-8" Soil organic matter (%).
PH	=	" " pH.
EXTAP	=	" " extractable P (p.p.m.).
TN	=	" " total N (%).
LEAFN	=	Millet leaf N (%).
LEAFP	=	" " P (%).
Y	=	Fresh millet head yield in absence of
Y1	=	" " " " " presence
Y2	=	" " " " " "
Y3	=	" " " " " "
Y1P1	=	" " " " " "
Y2P1	=	" " " " " "
Y3	=	" " " " " "
Y1P2	=	" " " " " "
Y2P2	=	" " " " " "
Y3	=	" " " " " "
L ₁	=	Linear yield response to N.
Q ₁	=	Quadratic " " " N. (n.s. =
L ₁	=	Linear " " " P. * =
Q ₁	=	Quadratic " " " P. ** =
I	=	Interaction between N and P.
C.V.	=	Yield coefficient of variation.

APPENDIX IV - FINGER MILLET

	Terego (2)		Gulu (11)		Kitgum (13)	
Year	1966	1967	1970	1971	1970	1971
Cases	15	20	16	20	16	20
OM	2.90 (.58)	2.60	3.24 (.95)	3.06 (.49)	1.88 (.25)	1.84 (.29)
pH	5.55 (.16)	5.79 (.24)	5.73 (.23)	5.93 (.37)	6.51 (.20)	6.30 (.23)
EXTRP	2.9 (2.0)	4.7 (4.5)	9.6 (7.0)	12.3 (8.4)	6.3 (4.0)	6.7 (5.1)
N	.103 (.018)	.091 (.025)	- -	- -	- -	- -
LEAFN	1.50 (.35)	1.77 (.35)	1.98 (.22)	1.82 (.27)	- -	- -
LEAFP	0.24 (.06)	0.27 (.07)	0.24 (.08)	0.24 (.07)	- -	- -
CY	1076 (469)	1738 (372)	2653 (913)	2667 (962)	1600 (485)	2120 (410)
IN1	1633	2005	3356	3438	1840	3032
IN2	1591	2172	3698	3736	2133	3305
IP1	1396	1824	2978	3198	1700	2549
IN1P1	1837	2175	3487	3661	2196	3409
IN2P1	1812	2563	4015	3894	2584	3638
P2	1523	1908	3295	3498	1573	2563
IN1P2	1758	2281	3649	3718	2371	3469
IN2P2	1873	2460	4296	4396	2529	3585
N _L	..	..	..	..	..	..
N _q	..	.	ns	ns	ns	ns
P _L	..	..	..	..	.	..
P _q	ns	.	ns	ns	.	.
MP	ns	ns	ns	ns	.	ns
C.V.	23.0	15.6	9.0	14.0	21.0	14.0

FINGER MILLET

	Aboke (15)		Ngetta (16)		Abako (17)	
Year	1966	1967	1966	1967	1966	1967
Cases	29	20	19	23	23	28
QM	4.18	4.76	3.00	3.64	2.88	2.76
	(1.27)	(1.76)	(.69)	(.94)	(.48)	(.65)
PH	5.61	6.04	5.66	5.83	5.62	5.93
	(.25)	(.38)	(.33)	(.27)	(.16)	(.13)
EXTRP	16.4	25.4	10.2	12.1	3.9	3.5
	(14.3)	(13.2)	(10.1)	(11.0)	(2.3)	(2.1)
N	.131	.149	.109	.109	.094	.093
	(.024)	(.045)	(.020)	(.021)	(.012)	(.018)
LEAFN	-	2.66	-	2.52	-	-
	-	(.56)	-	(.54)	-	-
LEAFP	-	.26	-	.29	-	-
	-	(.08)	-	(.10)	-	-
CY	2072	2865	2269	2597	1966	3241
	(623)	(533)	(519)	(703)	(722)	(580)
N1	2471	3405	2846	3192	2131	3445
N2	2850	3486	3327	3759	2272	3828
P1	2340	3077	2563	2986	2097	3481
N1P1	2461	3348	3265	3482	2204	3644
N2P1	2098	3684	3694	3889	2395	4033
P2	2528	3258	2678	3103	2186	3672
N1P2	2626	3388	3568	3557	2320	3726
N2P2	2781	3673	4091	4582	2659	4419
N _L	..	..	..	..	..	..
N _q	ns	ns	ns	ns	ns	ns
P _L	..	..	..	..	..	..
P _q	ns	ns	ns	ns	ns	ns
IP	..	ns	ns	ns	ns	ns
C.V.	13.0	10.3	20.1	18.2	19.4	12.3

FINGER MILLET

	Aduku (18)		Pallisa (26)		Budaka (27)	
Year	1965	1966	1965	1966	1965	1966
Cases	25	27	22	23	28	21
CM	4.28	3.20	2.26	2.00	2.30	2.00
	(1.34)	(.62)	(.46)	(.42)	(.66)	(.87)
IPH	5.88	5.68	5.60	5.62	5.35	5.75
	(.36)	(.25)	(.34)	(.48)	(.32)	(.28)
EXTRP	19.7	13.8	10.6	10.8	6.9	8.0
	(30.2)	(11.6)	(14.5)	(13.9)	(10.3)	(7.2)
N	.141	.135	.083	.079	.078	.072
	(.042)	(.031)	(.017)	(.017)	(.022)	(.029)
LEAFN	-	-	1.94	1.73	1.50	1.25
	-	-	(.39)	(.44)	(.31)	(.29)
LEAFP	-	-	.25	.31	.16	.22
	-	-	(.07)	(.09)	(.08)	(.08)
CY	2716	1975	2173	2140	1756	2103
	(1072)	(796)	(1106)	(926)	(738)	(728)
N1	2871	2283	2538	2880	2106	2917
N2	2973	2208	2849	3475	2593	3730
P1	3220	2116	2361	2413	2011	2215
N1P1	3150	2269	2934	3084	2161	3293
N2P1	3106	2470	3472	3574	2774	4072
P2	3137	2210	2129	2409	2258	2352
N1P2	3204	2547	3081	3393	2505	3233
N2P2	3295	2583	3267	4148	3151	4165
N _L	ns	..	..	..	..	..
N _q	ns	ns	ns	ns	*	ns
P _L	..	..	*	..	..	..
P _q	ns	ns	*	ns	ns	ns
NP	ns	ns	ns	ns	ns	ns
C.V.	20.6	20.3	25.3	21.9	25.2	16.9

FINGER MILLET

	(28)	(29)	(30)	(56)		
	Bunyole	Budama	Samia Bugwa	Shema Igara		
Year	1966	1966	1966	1965	1966	1967
Cases	10	21	18	22	14	10
OM	1.56	1.42	3.16	5.36	6.04	4.48
	(.85)	(.60)	(.75)	(1.40)	(1.05)	(.77)
PH	6.09	5.86	5.64	4.57	4.52	5.00
	(.37)	(.32)	(.31)	(.55)	(.33)	(.68)
EXTRP	14.9	10.2	6.5	6.5	7.6	15.8
	(13.3)	(8.2)	(8.0)	(6.7)	(2.1)	(11.4)
N	-	.065	.123	.182	.184	.163
	-	(.021)	(.031)	(.038)	(.028)	(.033)
LEAFN	1.13	1.17	1.72	-	-	-
	(.16)	(.33)	(.33)	-	-	-
LEAFP	.39	.30	.26	-	-	-
	(.17)	(.11)	(.11)	-	-	-
CY	1649	1846	2867	3240	4246	2942
	(934)	(660)	(1035)	(1972)	(2403)	(1150)
IN1	2399	2717	3416	3858	4121	2807
IN2	2693	3444	3547	3691	4594	4362
IP1	1871	1944	3153	3639	4206	3267
IN1P1	2546	3225	3824	3691	4182	3063
IN2P1	2830	3521	4391	4003	4850	4103
IP2	1828	2108	3359	3881	4002	3917
IN1P2	2324	3299	3881	3809	4108	3755
IN2P2	3082	3514	4357	4534	5127	4539
NL	..	..	..	..	..	..
Nq	ns	..	ns	ns	..	.
PL	ns	.	..	..	ns	..
Pq	ns	ns	ns	ns	ns	.
NP	ns	ns	ns	ns	ns	ns
C.V.	30.4	23.3	19.3	25.0	16.8	17.9

APPENDIX V : MAIZE

Mean values and standard deviations (in brackets)

All data collected at each maize trials location in each season, and significance of main treatment effects on maize yields in each season.

Key to tables:

Rep = No. of trials.

S = 0-8" Soil organic matter (%).

pH = " " pH.

TRP = " " extractable P (p.p.m.).

TN = " " total N (%).

MLN = Maize leaf N (%).

MLP = " " P (%).

Y₀ = Dry maize cob yield in absence of fertilizers(lb/acre).

Y_{N1} = " " " " " presence of N1 " " .

Y_{N2} = " " " " " " N2 " " .

Y_{P1} = " " " " " " P1 " " .

Y_{N1+P1} = " " " " " " N1+P1 " " .

Y_{N2+P1} = " " " " " " N2+P1 " " .

Y_{P2} = " " " " " " P2 " " .

Y_{N1+P2} = " " " " " " N1+P2 " " .

Y_{N2+P2} = " " " " " " N2+P2 " " .

Y_N = Linear yield response to N.

Y_{N²} = Quadratic " " " N.

Y_P = Linear " " " P.

Y_{P²} = Quadratic " " " P.

Y_{NP} = Interaction between N and P.

V_y = Yield coefficient of variation.

(n.s. = not signif.,
* = signif. at 5% level,
** = signif. at 1% level)

APPENDIX V - MAIZE

	(38) Kayunga			(39) Kalagala	
Year	1966	1967	1968	1965	1966
Days	19(U)	10(U)	11(I)	16(U)	11(U)
CM	6.06	6.72	5.76	4.90	4.02
	(1.39)	(1.11)	(1.10)	(0.75)	(0.76)
PH	6.19	5.95	6.55	5.85	5.97
	(.27)	(.18)	(.39)	(.29)	(.29)
EXTRP	24.1	16.0	30.1	11.9	9.7
	(14.6)	(7.5)	(16.3)	(11.1)	(7.4)
N	0.211	0.227	-	0.144	0.134
	(.047)	(.030)	-	(.023)	(.021)
LEAFN	-	2.20	1.80	1.83	-
	-	(.18)	(.28)	(.31)	
LEAFP	-	0.28	0.24	0.20	-
	-	(.04)	(.04)	(.03)	-
CY	3058	4599	5900	2255	2991
	(1815)	(676)	(1078)	(1311)	(767)
M1	3413	4670	6550	2563	3079
M2	2641	5226	7167	2389	3704
F1	2835	4853	6511	2270	2925
M1P1	3467	4833	6966	2593	3247
M1P2	3565	5085	7488	2687	3631
F2	2886	4763	6573	2616	3037
M1P2	3242	5193	7177	2558	3330
M2P2	3536	5175	7317	2698	3633
M _L	**	ns	**	ns	**
M _q	ns	ns	ns	ns	ns
P _L	ns	ns	**	*	ns
P _q	ns	ns	ns	ns	ns
Np	ns	ns	ns	ns	ns
C.V.	18.2	16.3	10.4	21.0	17.4

	(44) Kalangalo			(45) Kakindu	(46) Kiriri	
Year	1966	1970	1971	1971	1966	1967
Cases	26(U)	11(U)	14(I)	14(I)	16(U)	8(I)
OM	6.34	5.26	6.60	4.00	5.10	4.26
	(1.76)	(1.49)	(1.03)	(1.08)	(1.51)	(0.75)
pH	5.94	5.93	6.03	6.11	5.80	5.79
	(.23)	(.39)	(.23)	(.17)	(.23)	(.19)
EXTRP	27.4	11.8	12.6	23.0	23.1	13.2
	(25.6)	(10.0)	(9.1)	(11.7)	(18.3)	(9.1)
N	0.203	-	-	-	0.176	-
	(.056)	-	-	-	(.043)	-
LEAFN	-	2.15	1.92	1.91	-	1.83
	-	(.23)	(.39)	(.23)	-	(.20)
LEAFP	-	0.27	0.21	0.19	-	0.22
	-	(.04)	(.05)	(.02)	-	(.03)
CY	3757	3207	4185	5125	3521	5441
	(1487)	(1138)	(847)	(2838)	(1670)	(1365)
N1	4288	3461	4267	5844	4594	6518
N2	4392	3415	4640	6727	4916	5610
P1	3759	3072	4311	5111	3581	5108
N1P1	4119	3821	4819	6340	4151	6300
N1P2	4791	3212	4921	6597	5168	6398
P2	3803	3741	4162	6495	4106	5303
N1P2	4249	3741	4635	6776	4612	6735
N2P2	4712	3738	5107	7291	5269	6045
N _L	..	..	..	..	..	..
N _q	ns	ns	ns	ns	ns	..
PL	ns	*	ns	..	ns	ns
P _q	ns	ns	ns	ns	ns	ns
NP	ns	ns	ns	ns	ns	ns
C.V.	19.6	15.5	13.0	19.0	26.8	15.9

Maize

	(47) Kakiri	(49) Bwajanga	(59) North Bugisu			
	1966	1967	1966	1967	1967	1968
ses	18(U)	11(U)	21(U)	7(U)	10(I)	20(I)
	4.00	7.14	6.86	8.18	8.40	8.08
	(0.97)	(1.10)	(2.58)	(1.26)	(1.48)	(2.37)
	5.55	6.05	5.74	5.80	5.93	5.90
	(.19)	(.22)	(.18)	(.22)	(.24)	(.18)
NTP	11.1	11.6	232.9	182.4	177.4	186.9
	(8.8)	(8.9)	(214.0)	(93.3)	(127.5)	(169.3)
	0.177	0.217	0.172	0.183	-	-
	(.056)	(.039)	(.062)	(.058)	-	-
NFTI	-	2.05	1.77	2.04	1.69	1.54
	-	(.34)	(.32)	(.35)	(.29)	(.25)
FIP	-	0.23	0.31	0.31	0.28	0.30
	-	(.03)	(.04)	(.04)	(.04)	(.06)
	2025	3903	3058	3403	5667	3470
	(897)	(1325)	(872)	(1172)	(1358)	(1167)
	2431	3959	3281	4386	6981	4301
	2629	5247	3758	5205	8189	5456
	2078	4166	3024	4001	5505	3510
1	2533	4181	3575	4260	7371	4266
2	2865	4953	4049	4629	8264	5229
	1989	4219	3165	3853	5984	3229
2	2526	4777	3704	3857	6871	4334
2	2856	5140	3916	4877	7700	5555
	..	..	..	..	..	..
	ns	.	ns	ns	ns	ns
	ns	.	.	ns	ns	ns
	ns	ns	ns	ns	ns	ns
	ns	ns	ns	ns	ns	ns
	21.1	14.6	16.6	18.6	18.0	19.3

	(58) Sembabule	(60) C. Bugisu	(61) South Bugisu		
Year	1971	1966	1966	1967	1967
Cases	10(I)	12(U)	26(U)	13(U)	14(I)
OM	3.14	5.40	3.62	3.84	2.82
	(0.84)	(2.52)	(1.12)	(1.62)	(0.72)
pH	5.94	5.63	5.82	5.73	5.65
	(.38)	(.31)	(.29)	(.19)	(.33)
EXTRP	11.8	177.2	17.7	7.5	7.3
	(6.8)	(181.6)	(14.1)	(8.3)	(7.2)
N	-	0.162	0.124	0.139	-
	-	(.078)	(.032)	(.059)	-
LEAFN	1.53	-	-	1.82	1.49
	(.23)	-	-	(.31)	(.29)
LEAFP	0.18	-	-	0.21	0.17
	(.03)	-	-	(.04)	(.04)
CY	3114	2061	2127	3223	4134
	(1407)	(1278)	(1046)	(1556)	(1301)
N1	3547	2498	2965	3930	3915
N2	3847	2804	3483	4209	5705
P1	3431	2018	2473	3181	4500
N1P1	3327	2655	3269	3904	5485
N1P2	3737	3071	3742	4564	6505
P2	3559	2183	2440	3480	4464
N1P2	3969	2511	3119	4080	5462
N2P2	3981	3126	3642	4727	6303
N _L	**	**	**	**	**
N _q	ns	ns	ns	ns	ns
P ₁	ns	ns	ns	ns	**
P _q	ns	ns	*	ns	*
W _P	ns	ns	ns	ns	ns
C.V.	22.0	23.6	23.2	22.2	21.2

Year	1966	1967	1967	1968
Cases	23(U)	15(U)	9(I)	14(I)
OM	7.88 (1.15)	5.78 (1.68)	7.32 (1.38)	7.60 (1.50)
pH	5.44 (.22)	5.71 (.20)	5.40 (.20)	5.53 (.24)
EXTRP	25.8 (12.5)	18.5 (11.9)	10.9 (8.3)	17.7 (14.1)
N	.223 (.028)	.244 (.039)	- -	- -
LEAFN	1.93 (.36)	1.87 (.32)	1.58 (.21)	1.59 (.21)
LEAFP	0.26 (.07)	0.22 (.04)	0.19 (.03)	0.21 (.03)
CY	4265 (2116)	3578 (1333)	4134 (1962)	3562 (1973)
N1	4893	4375	6364	5175
N2	5529	5208	6620	5214
P1	4334	4886	6082	4421
N1P1	5111	5033	5747	4926
N1P2	5289	5886	6656	5665
P2	4145	4391	5002	4380
N1P2	5107	5221	5999	4950
N2P2	5656	5470	6834	5961
N _L	..	..	.	..
N _q	ns	ns	ns	ns
P _L	ns	..	ns	ns
P _q	ns	..	.	ns
NP	ns	ns	.	ns
C.V.	21.3	20.7	29.5	22.3

APPENDIX VI - Mean Analysis Results for 0-20 cm soil samples collected from Departmental Trials under Normal Management

Table 1 - Plots which received no lime applications sampled after 7 years cropping

Trial	Per cent organic matter	pH	Extractable P p.p.m.	Extractable Ca mg/100g	Per cent Silt	Per cent Clay
Ubare I	4.1	4.53	6.5	55	11	30
Ubi II	2.7	4.84	3.5	48	7	20
Ukumiro I	4.1	5.00	14.0	88	11	35
Uchwekano II	8.5	5.02	21.5	196	15	32
Uwanda II	3.3	5.06	12.0	79	8	35
Urapai I	2.5	5.10	9.0	33	4	18
Umulonge I	3.4	5.25	13.0	129	9	28
Uyembogo I	7.6	5.50	880.0	322	10	11
Uulindi I	7.1	5.78	9.0	292	12	29
Uwanda I	2.9	5.83	28.0	117	9	28
Ukalasa I	6.5	5.86	45.5	292	14	32

Table 1 - Unfertilized plots sampled at the beginning of the second cropping year

Trial	Per cent organic matter	pH	Extr.P p.p.m.	Extr.Ca mg/100g	Extr.K mg/100g	C.E.C.		Nitrogen Index p.p.m.	Per cent Silt	Per cent Clay
						(at pH 8.2) m.e./100g	*Per cent Base Saturation			
Kawanda A	4.5	5.50	3.0	89	8.3	13.1	55.0	42.2	7.5	31.5
Kawanda C	2.9	5.85	2.8	110	16.0	11.8	78.8	31.5	13.5	31.5
Bukalasa A	6.9	6.00	8.7	219	41.2	28.1	86.0	60.7	12.0	26.0
Bukalasa B	6.5	5.79	6.8	273	28.3	21.7	87.3	65.3	12.8	28.8
Namulonge A	3.6	5.95	16.0	144	30.5	13.1	82.8	39.3	7.8	28.5
Bulindi A	6.8	5.87	4.3	275	45.5	24.3	77.5	40.8	15.8	26.8
Bukomero A	2.6	5.83	4.8	88	32.5	11.8	70.3	29.3	7.3	32.5
Busheryi A	4.4	4.27	15.3	15	6.5	10.5	10.3	70.4	10.0	20.3
Kyotera A	2.4	5.58	6.5	38	11.8	7.3	73.0	47.8	6.5	15.5
Bugaya A	2.8	5.40	2.0	105	25.8	10.3	45.8	33.1	7.0	35.0
Nakabango A	6.6	5.98	8.8	298	46.8	27.0	85.0	59.5	15.5	45.5
Tororo A	2.3	6.18	28.5	116	30.8	10.4	68.3	36.4	7.0	14.5
Iki-Iki A	2.9	5.43	2.8	67	22.0	11.6	53.3	38.5	9.5	27.3
Kibale A	1.7	4.70	3.8	32	23.8	7.3	57.5	39.9	7.0	21.0
Nakasongola A	2.6	6.23	8.3	111	34.0	10.8	69.5	49.4	12.3	26.0
Abi A	3.5	5.75	3.5	61	8.7	11.1	52.8	62.2	7.5	21.8
Kitgum A	1.8	6.20	3.0	64	20.5	7.1	69.5	41.0	5.5	17.5
Arapoi A	1.4	5.35	2.0	34	10.0	5.5	52.5	29.3	4.5	13.0

(*Per cent of C.E.C., measured at pH 8.2, saturated with bases)

APPENDIX VII - Mean Analysis Results for 0-20 cm soil samples
collected from Departmental Trials under Improved
Management

Table 2a - Plots which received no lime or no potash applications

Station	Year after opening	Unlimed plots				No K plots	
		Per cent organic Matter	pH	Extr. P p.p.m.	Extr. Ca mg/100g	Extr. K mg/100g	Extr. K/Ca
Kawanda A	0	4.1	5.40	3.2	97	8.4	.087
	1	4.4	5.46	9.6	112	7.5	.062
	3	3.7	5.44	5.8	112	5.7	.037
Kawanda C	0	3.9	5.84	7.5	115	23.5	.204
	1	3.0	5.82	8.5	116	18.9	.151
	3	3.1	5.89	11.3	112	15.3	.096
Bukalaza A	0	7.2	5.89	10.2	283	33.3	.118
	1	6.9	6.07	8.7	243	36.5	.145
	3	6.2	6.26	18.4	263	30.4	.102
Bukalaza B	0	9.0	5.83	10.7	239	35.6	.149
	1	6.6	5.85	10.1	276	28.0	.093
	3	6.1	5.73	12.6	238	22.9	.079
Namulonge A	0	4.3	6.20	23.1	154	44.1	.287
	1	3.5	5.90	19.6	141	29.9	.174
	3	3.3	6.13	22.9	137	32.9	.177
Bulindi A	0	7.4	5.85	6.8	259	59.8	.231
	1	7.1	5.88	11.0	276	44.4	.146
	3	6.7	5.91	8.2	284	39.5	.125
Bukomero A	0	3.8	5.88	9.9	91	42.0	.464
	1	2.6	5.53	6.7	81	30.1	.336
	3	2.8	5.48	11.4	86	26.5	.205
Bushenyi A	0	4.4	4.00	17.0	14	9.8	.700
	1	4.1	4.21	18.1	16	6.6	.198
	3	3.6	4.26	15.6	25	6.8	.068
Kyotera A	0	2.9	5.75	15.1	72	16.0	.222
	1	2.5	5.67	15.9	48	20.9	.340
	3	2.5	5.51	14.1	70	9.3	.076

Table 2b - Plots which received no lime or no potash applications

Station	Year after opening	Unlimed plots				No K plots	
		Per cent organic matter	pH	Extr. P p.p.m.	Extr. Ca mg/100g	Extr. K mg/100g	Extr. K/Ca
Bugaya A	0	4.0	5.39	2.4	75	35.9	.479
	1	3.1	5.38	2.9	99	25.3	.310
	3	3.4	5.37	3.7	102	22.3	.208
Wakabango A	0	9.3	5.86	13.9	264	80.4	.305
	1	6.9	5.78	15.1	314	47.8	.135
	3	7.4	5.73	15.7	254	41.9	.124
Tororo A	0	2.2	5.83	22.9	94	28.6	.305
	1	2.0	5.99	23.1	95	31.3	.258
	3	1.8	5.71	19.3	78	25.9	.233
Iki Iki A	0	3.2	5.18	1.8	71	20.3	.287
	1	3.1	5.49	4.3	62	21.4	.292
	3	2.8	5.46	5.2	98	19.6	.164
Kibale A	0	2.3	5.04	2.4	48	27.3	.572
	1	1.9	5.14	7.3	46	26.8	.337
	3	1.7	5.06	7.6	45	22.6	.249
Nakasongola A	0	2.3	5.90	5.4	89	32.6	.365
	1	2.6	6.16	5.9	106	31.8	.246
	3	2.6	5.95	8.1	91	26.7	.201
Abi A	0	4.5	5.93	3.8	72	8.8	.122
	1	3.1	5.47	3.7	63	8.9	.126
	3	3.3	5.47	3.9	73	4.1	.029
Kitgum A	0	1.9	6.43	4.1	63	20.0	.318
	1	1.8	6.20	3.0	64	20.5	.298
	3	1.8	6.25	6.5	72	19.7	.158
Arapai A	0	1.4	5.38	2.0	35	10.0	.290
	1	1.4	5.35	2.0	34	10.0	.200
	3	1.5	5.26	7.9	46	8.6	.135