

Appendix 1 Data for crop model  
Table A-1-1. Data for crop model for rice.

CNO	PID	CID	LAT	N:S	PM	HM	N	GC	CROPS	TYPE	ADAPG.	YIELD07	INP	HI	LAI	Dependence of rate of leaf photosynthesis (pm) on temperature (°C)									
Country No.	Prod. code	Country code	Latitude	N:1 S:2	Plant month	Harvest month	Growing day	N index	Crop	Type	Adaptability group	Yield in 2007	Input level	Harvest index	Leaf area index	5	10	15	20	25	30	35	40	45	
1	RI	AUS	4	2	10.0	4.0	210.0	4.0	Japonica	wetland	C3/II	9.159	3.0	0.40	6.0	0	5	15	30	35	35	30	5	0	
2	RI	NZL	5	2	10.0	4.0	210.0	4.0			C3/II	0.000													
3	RI	XOC	2	2	10.0	4.0	210.0	4.0	Japonica	wetland	C3/II	2.502	1.0	0.30	3.0	0	5	15	30	35	35	30	5	0	
4	RI	CHN	4	1	4.0	9.0	150.0	4.0	Japonica	wetland	C3/II	6.418	3.0	0.40	6.0	0	5	15	30	35	35	30	5	0	
5	RI	HKG	3	1	4.0	9.0	150.0	4.0			C3/II	0.000													
6	RI	JPN	5	1	4.5	10.0	165.0	4.0	Japonica	wetland	C3/II	6.542	3.0	0.40	6.0	0	5	15	30	35	35	30	5	0	
7	RI	KOR	5	1	6.5	10.5	120.0	2.0	Japonica	wetland	C3/II	6.820	3.0	0.40	5.0	0	5	15	30	35	35	30	5	0	
8	RI	MNG	5	1	5.5	9.0	105.0	1.0			C3/II	0.000													
9	RI	TWN	3	1	2.0	6.0	120.0	2.0	Japonica	wetland	C3/II	0.000				0	5	15	30	35	35	30	5	0	
10	RI	XEA	5	1	5.5	9.5	120.0	2.0	Japonica	wetland	C3/II	4.157	2.0	0.35	4.0	0	5	15	30	35	35	30	5	0	
11	RI	BRN	1	1	7.0	2.0	240.0	4.0	Indica	wetland	C3/II	0.745	1.0	0.30	3.0	0	0	15	30	35	35	30	5	0	
12	RI	KHM	2	1	6.5	0.5	210.0	4.0	Indica	wetland	C3/II	2.619	1.0	0.30	3.0	0	0	15	30	35	35	30	5	0	
13	RI	IDN	1	2	0.5	4.0	105.0	1.0	Japonica	wetland	C3/II	4.740	2.0	0.35	3.7	0	5	15	30	35	35	30	5	0	
14	RI	LAO	3	1	7.0	11.5	135.0	3.0	Indica	wetland	C3/II	3.455	2.0	0.38	4.5	0	0	15	30	35	35	30	5	0	
15	RI	MYS	1	1	7.0	2.0	240.0	4.0	Indica	wetland	C3/II	3.502	2.0	0.38	4.8	0	0	15	30	35	35	30	5	0	
16	RI	PHL	2	1	8.0	12.0	120.0	2.0	Indica	wetland	C3/II	3.752	2.0	0.38	4.0	0	0	15	30	35	35	30	5	0	
17	RI	SGP	1	1	7.0	2.0	240.0	4.0			C3/II	0.000													
18	RI	THA	2	1	6.5	0.5	210.0	4.0	Indica	wetland	C3/II	2.962	1.0	0.30	3.0	0	0	15	30	35	35	30	5	0	
19	RI	VNM	2	1	6.5	9.5	90.0	1.0	Indica	wetland	C3/II	5.035	3.0	0.45	5.0	0	0	15	30	35	35	30	5	0	
20	RI	XSE	3	1	6.0	12.0	180.0	4.0	Indica	wetland	C3/II	3.916	2.0	0.38	4.8	0	0	15	30	35	35	30	5	0	
21	RI	BGD	3	1	4.0	8.0	120.0	2.0	Indica	wetland	C3/II	4.027	2.0	0.38	4.0	0	0	15	30	35	35	30	5	0	
22	RI	IND	3	1	8.0	1.5	195.0	4.0	Indica	wetland	C3/II	3.295	2.0	0.38	4.8	0	0	15	30	35	35	30	5	0	
23	RI	NPL	4	1	6.5	11.0	135.0	3.0	Indica	wetland	C3/II	2.683	1.0	0.30	3.0	0	0	15	30	35	35	30	5	0	
24	RI	PAK	4	1	6.0	10.5	135.0	3.0	Indica	wetland	C3/II	3.333	2.0	0.38	4.5	0	0	15	30	35	35	30	5	0	
25	RI	LKA	2	1	4.5	8.5	120.0	2.0	Indica	wetland	C3/II	3.728	2.0	0.38	4.0	0	0	15	30	35	35	30	5	0	
26	RI	XSA	4	1	8.0	1.5	195.0	4.0	Indica	wetland	C3/II	3.250	2.0	0.38	4.8	0	0	15	30	35	35	30	5	0	
27	RI	CAN	5	1	5.0	9.0	120.0	2.0			C3/II	0.000													
28	RI	USA	5	1	5.0	9.0	120.0	2.0	Indica	wetland	C3/II	7.832	3.0	0.45	5.5	0	0	15	30	35	35	30	5	0	
29	RI	MEX	3	1	5.5	11.5	180.0	4.0	Indica	wetland	C3/II	4.467	2.0	0.38	4.8	0	0	15	30	35	35	30	5	0	
30	RI	XNA	4	1	5.5	11.5	180.0	4.0			C3/II	0.000													
31	RI	ARG	4	2	11.0	5.0	210.0	4.0	Indica	wetland	C3/II	6.816	3.0	0.45	6.5	0	0	15	30	35	35	30	5	0	
32	RI	BOL	3	2	10.5	2.0	135.0	3.0	Indica	wetland	C3/II	2.299	1.0	0.30	3.0	0	0	15	30	35	35	30	5	0	
33	RI	BRA	2	2	3.5	10.0	195.0	4.0	Indica	wetland	C3/II	3.979	2.0	0.38	4.8	0	0	15	30	35	35	30	5	0	
34	RI	CHL	4	2	10.5	3.5	180.0	4.0	Indica	wetland	C3/II	5.533	3.0	0.45	6.5	0	0	15	30	35	35	30	5	0	
35	RI	COL	1	1	3.5	7.0	105.0	1.0	Indica	wetland	C3/II	6.078	3.0	0.45	5.0	0	0	15	30	35	35	30	5	0	
36	RI	ECU	1	2	1.0	5.0	120.0	2.0	Indica	wetland	C3/II	4.206	2.0	0.38	4.0	0	0	15	30	35	35	30	5	0	
37	RI	PRY	3	2	10.5	2.0	135.0	3.0	Indica	wetland	C3/II	3.439	2.0	0.38	4.5	0	0	15	30	35	35	30	5	0	
38	RI	PER	2	2	1.5	6.0	135.0	3.0	Indica	wetland	C3/II	7.131	3.0	0.45	6.0	0	0	15	30	35	35	30	5	0	
39	RI	URY	4	2	11.0	5.0	210.0	4.0	Indica	wetland	C3/II	7.691	3.0	0.45	6.5	0	0	15	30	35	35	30	5	0	
40	RI	VEN	2	1	5.0	10.0	150.0	4.0	Japonica	wetland	C3/II	5.058	3.0	0.40	6.0	0	5	15	30	35	35	30	5	0	
41	RI	XSM	1	1	5.5	9.5	120.0	2.0	Japonica	wetland	C3/II	4.244	2.0	0.35	4.0	0	5	15	30	35	35	30	5	0	
42	RI	CRI	2	1	6.5	9.5	90.0	1.0	Japonica	wetland	C3/II	3.974	2.0	0.35	3.7	0	5	15	30	35	35	30	5	0	
43	RI	GTM	2	1	4.5	10.0	165.0	4.0	Japonica	wetland	C3/II	2.643	1.0	0.30	3.0	0	5	15	30	35	35	30	5	0	
44	RI	HND	3	1	4.5	9.5	150.0	4.0	Japonica	wetland	C3/II	5.054	3.0	0.40	6.0	0	5	15	30	35	35	30	5	0	
45	RI	NIC	2	1	6.5	9.5	90.0	1.0	Japonica	wetland	C3/II	3.864	2.0	0.35	3.7	0	5	15	30	35	35	30	5	0	
46	RI	PAN	2	1	4.5	9.0	135.0	3.0	Japonica	wetland	C3/II	2.653	1.0	0.30	3.0	0	5	15	30	35	35	30	5	0	

Table A-1-1. Data for crop model for rice (continued).

CNO	PID	CID	LAT	N-S	PM	HM	N	GC	CROPS	TYPE	ADAP.G.	YIELD07	INP	HI	LAI	Dependence of rate of leaf photosynthesis (pm) on temperature (°C)									
Country No.	Prod. code	Country code	Latitude	N:S:2	Plant month	Harvest month	Growing day	N index	Crop	Type	Adaptability group	Yield in 2007	Input level	Harvest index	Leaf area index	5	10	15	20	25	30	35	40	45	
47	RI	SLV	3	1	6.5	11.0	135.0	3.0	Japonica	wetland	C3/II	7.599	3.0	0.40	5.5	0	5	15	30	35	35	30	5	0	
48	RI	XCA	3	1	5.0	11.0	180.0	4.0	Japonica	wetland	C3/II	4.112	2.0	0.35	4.5	0	5	15	30	35	35	30	5	0	
49	RI	DOM	2	1	6.0	9.5	105.0	1.0	Japonica	wetland	C3/II	4.775	2.0	0.35	3.7	0	5	15	30	35	35	30	5	0	
50	RI	JAM	2	1	6.0	9.5	105.0	1.0	Japonica	wetland	C3/II	2.763	1.0	0.30	2.5	0	5	15	30	35	35	30	5	0	
51	RI	PRI	2	1	6.0	9.5	105.0	1.0	Japonica	wetland	C3/II	0.000													
52	RI	TTO	2	1	7.0	11.0	120.0	2.0	Japonica	wetland	C3/II	1.053	1.0	0.30	2.5	0	5	15	30	35	35	30	5	0	
53	RI	XCB	3	1	4.5	10.0	165.0	4.0	Japonica	wetland	C3/II	3.439	2.0	0.35	4.5	0	5	15	30	35	35	30	5	0	
54	RI	AUT	5	1	3.0	9.0	180.0	4.0			C3/II	0.000													
55	RI	BEL	5	1	3.0	9.0	180.0	4.0			C3/II	0.000													
56	RI	CYP	4	1	4.5	9.5	150.0	4.0			C3/II	0.000													
57	RI	CZE	5	1	4.5	9.5	150.0	4.0			C3/II	0.000													
58	RI	DNK	5	1	3.0	9.0	180.0	4.0			C3/II	0.000													
59	RI	EST	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
60	RI	FIN	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
61	RI	FRA	5	1	3.0	9.0	180.0	4.0	Japonica	wetland	C3/II	5.452	3.0	0.40	6.0	0	5	15	30	35	35	30	5	0	
62	RI	DEU	5	1	3.0	9.0	180.0	4.0			C3/II	0.000													
63	RI	GRC	5	1	5.0	9.5	135.0	3.0	Japonica	wetland	C3/II	7.361	3.0	0.40	5.5	0	5	15	30	35	35	30	5	0	
64	RI	HUN	5	1	4.5	9.5	150.0	4.0	Japonica	wetland	C3/II	3.655	2.0	0.35	4.5	0	5	15	30	35	35	30	5	0	
65	RI	IRL	5	1	3.0	9.0	180.0	4.0			C3/II	0.000													
66	RI	ITA	5	1	4.5	9.5	150.0	4.0	Japonica	wetland	C3/II	6.365	3.0	0.40	6.0	0	5	15	30	35	35	30	5	0	
67	RI	LVA	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
68	RI	LTU	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
69	RI	LUX	5	1	3.0	9.0	180.0	4.0			C3/II	0.000													
70	RI	MLT	5	1	4.5	9.5	150.0	4.0			C3/II	0.000													
71	RI	NLD	5	1	3.0	9.0	180.0	4.0			C3/II	0.000													
72	RI	POL	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
73	RI	PRT	5	1	4.0	9.0	150.0	4.0	Japonica	wetland	C3/II	5.777	3.0	0.40	6.0	0	5	15	30	35	35	30	5	0	
74	RI	SVK	5	1	4.5	9.5	150.0	4.0			C3/II	0.000													
75	RI	SVN	5	1	4.5	9.5	150.0	4.0			C3/II	0.000													
76	RI	ESP	5	1	5.0	9.5	135.0	3.0	Japonica	wetland	C3/II	6.948	3.0	0.40	5.5	0	5	15	30	35	35	30	5	0	
77	RI	SWE	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
78	RI	GBR	5	1	3.0	9.0	180.0	4.0			C3/II	0.000													
79	RI	CHE	5	1	4.5	9.5	150.0	4.0			C3/II	0.000													
80	RI	NOR	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
81	RI	XEF	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
82	RI	ALB	5	1	4.5	10.0	165.0	4.0			C3/II	0.000													
83	RI	BGR	5	1	3.5	7.5	120.0	2.0	Japonica	wetland	C3/II	5.603	3.0	0.40	5.0	0	5	15	30	35	35	30	5	0	
84	RI	BLR	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
85	RI	HRV	5	1	4.5	9.5	150.0	4.0			C3/II	0.000													
86	RI	ROU	5	1	4.5	9.5	150.0	4.0	Japonica	wetland	C3/II	3.878	2.0	0.35	4.5	0	5	15	30	35	35	30	5	0	
87	RI	RUS	5	1	4.5	8.5	120.0	2.0	Japonica	wetland	C3/II	4.483	2.0	0.35	4.0	0	5	15	30	35	35	30	5	0	
88	RI	UKR	5	1	4.5	8.5	120.0	2.0	Japonica	wetland	C3/II	5.031	3.0	0.40	5.0	0	5	15	30	35	35	30	5	0	
89	RI	XEE	5	1	4.5	8.5	120.0	2.0			C3/II	0.000													
90	RI	XER	5	1	4.5	9.5	150.0	4.0	Indica	wetland	C3/II	5.967	3.0	0.45	6.5	0	0	15	30	35	35	30	5	0	
91	RI	KAZ	5	1	4.5	8.5	120.0	2.0	Indica	wetland	C3/II	3.346	2.0	0.38	4.0	0	0	15	30	35	35	30	5	0	
92	RI	KGZ	5	1	4.5	8.5	120.0	2.0	Indica	wetland	C3/II	2.881	1.0	0.30	2.5	0	0	15	30	35	35	30	5	0	
93	RI	XSU	5	1	4.5	8.5	120.0	2.0	Indica	wetland	C3/II	2.973	1.0	0.30	2.5	0	0	15	30	35	35	30	5	0	





Table A-1-2. Data for crop model for wheat (continued).

CNO	PID	CID	LAT	N:S	PM	HM	N	GC	CROPS	TYPE	ADAP.G.	YIELD07	INP	HI	LAI	Dependence of rate of leaf photosynthesis (pm) on temperature (°C)									
Country No.	Prod. code	Country code	Latitude	N:1 S:2	Plant month	Harvest month	Growing day	N index	Crop	Type	Adaptability group	Yield in 2007	Input level	Harvest index	Leaf area index	5	10	15	20	25	30	35	40	45	
47	WH	SLV	3	1	11.0	5.0	210.0				C3/I	0.000													
48	WH	XCA	3	1	11.0	5.0	210.0				C3/I	0.000													
49	WH	DOM	2	1	11.0	5.0	210.0				C3/I	0.000													
50	WH	JAM	2	1	11.0	5.0	210.0				C3/I	0.000													
51	WH	PRI	2	1	11.0	5.0	210.0				C3/I	0.000													
52	WH	TTO	2	1	4.5	10.0	165.0				C3/I	0.000													
53	WH	XCB	3	1	11.0	5.0	210.0				C3/I	0.000													
54	WH	AUT	5	1	10.0	8.0	330.0	4.0	Wheat	winter	C3/I	5.125	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
55	WH	BEL	5	1	10.5	7.5	300.0	4.0	Wheat	winter	C3/I	8.301	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
56	WH	CYP	4	1	10.0	6.0	270.0	4.0	Wheat	winter	C3/I	1.751	1.0	0.30	2.5	5	15	25	25	20	10	0	0	0	
57	WH	CZE	5	1	9.0	7.5	345.0	4.0	Wheat	winter	C3/I	5.041	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
58	WH	DNK	5	1	10.0	8.0	330.0	4.0	Wheat	winter	C3/I	7.140	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
59	WH	EST	5	1	9.0	7.5	345.0	4.0	Wheat	winter	C3/I	3.025	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
60	WH	FIN	5	1	9.5	6.5	300.0	4.0	Wheat	winter	C3/I	3.710	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
61	WH	FRA	5	1	10.5	7.5	300.0	4.0	Wheat	winter	C3/I	6.699	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
62	WH	DEU	5	1	10.0	8.0	330.0	4.0	Wheat	winter	C3/I	7.416	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
63	WH	GRC	5	1	10.0	6.0	270.0	4.0	Wheat	winter	C3/I	2.491	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
64	WH	HUN	5	1	10.0	6.5	285.0	4.0	Wheat	winter	C3/I	4.214	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
65	WH	IRL	5	1	10.5	7.5	300.0	4.0	Wheat	winter	C3/I	8.893	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
66	WH	ITA	5	1	10.0	6.5	285.0	4.0	Wheat	winter	C3/I	3.671	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
67	WH	LVA	5	1	9.0	7.5	345.0	4.0	Wheat	winter	C3/I	3.411	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
68	WH	LTU	5	1	9.0	7.5	345.0	4.0	Wheat	winter	C3/I	3.515	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
69	WH	LUX	5	1	10.5	7.5	300.0	4.0	Wheat	winter	C3/I	6.077	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
70	WH	MLT	5	1	10.0	6.5	285.0	4.0	Wheat	winter	C3/I	4.283	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
71	WH	NLD	5	1	10.0	8.0	330.0	4.0	Wheat	winter	C3/I	8.065	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
72	WH	POL	5	1	9.5	7.5	330.0	4.0	Wheat	winter	C3/I	3.751	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
73	WH	PRT	5	1	11.5	6.5	240.0	4.0	Wheat	winter	C3/I	2.289	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
74	WH	SVK	5	1	9.0	7.5	345.0	4.0	Wheat	winter	C3/I	4.174	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
75	WH	SVN	5	1	9.5	7.5	330.0	4.0	Wheat	winter	C3/I	4.299	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
76	WH	ESP	5	1	11.5	6.5	240.0	4.0	Wheat	winter	C3/I	3.231	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
77	WH	SWE	5	1	9.5	6.5	300.0	4.0	Wheat	winter	C3/I	5.943	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
78	WH	GBR	5	1	10.5	7.5	300.0	4.0	Wheat	winter	C3/I	7.847	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
79	WH	CHE	5	1	10.0	6.5	285.0	4.0	Wheat	winter	C3/I	5.930	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
80	WH	NOR	5	1	9.5	6.5	300.0	4.0	Wheat	winter	C3/I	4.475	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
81	WH	XEF	5	1	9.5	6.5	300.0	4.0	Wheat	winter	C3/I	0.000													
82	WH	ALB	5	1	9.5	7.0	315.0	4.0	Wheat	winter	C3/I	3.548	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
83	WH	BGR	5	1	9.5	7.0	315.0	4.0	Wheat	winter	C3/I	3.256	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
84	WH	BLR	5	1	9.0	7.5	345.0	4.0	Wheat	winter	C3/I	3.357	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
85	WH	HRV	5	1	9.5	7.5	330.0	4.0	Wheat	winter	C3/I	4.902	3.0	0.50	5.5	5	15	25	25	20	10	0	0	0	
86	WH	ROU	5	1	9.5	7.5	330.0	4.0	Wheat	winter	C3/I	2.602	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
87	WH	RUS	5	1	5.0	8.5	105.0	1.0	Wheat	spring	C3/I	2.165	2.0	0.30	2.6	5	15	20	20	15	5	0	0	0	
88	WH	UKR	5	1	9.0	7.5	345.0	4.0	Wheat	winter	C3/I	2.848	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
89	WH	XEE	5	1	9.0	7.5	345.0	4.0	Wheat	winter	C3/I	2.244	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
90	WH	XER	5	1	9.5	7.5	330.0	4.0	Wheat	winter	C3/I	3.577	2.0	0.40	4.0	5	15	25	25	20	10	0	0	0	
91	WH	KAZ	5	1	5.0	8.5	105.0	1.0	Wheat	spring	C3/I	1.135	1.0	0.20	1.8	5	15	20	20	15	5	0	0	0	
92	WH	KGZ	5	1	5.0	8.5	105.0	1.0	Wheat	spring	C3/I	2.002	2.0	0.30	2.6	5	15	20	20	15	5	0	0	0	
93	WH	XSU	5	1	5.0	8.5	105.0	1.0	Wheat	sub-tropics	C3/I	3.683	2.0	0.35	3.0	5	15	20	20	15	5	0	0	0	



Table A-1-3. Data for crop model for maize.

CNO	Country No.	PID	CID	LAT	N:S	PM	HM	N	GC	CROPS	TYPE	ADAP.G.	YIELD07	INP	HI	LAI	Dependence of rate of leaf photosynthesis (pm) on temperature (°C)									
		Prod. code	Country code	Latitude	N:1 S:2	Plant month	Harvest month	Growing day	N index	Crop	Type	Adaptability group	Yield in 2007	Input level	Harvest index	Leaf area index	5	10	15	20	25	30	35	40	45	
1	MZ	AUS		4	2	10.5	4.5	210.0	4.0	Maize	lowland	C4/III	5.200	3.0	0.45	4.5	0	0	5	45	65	65	45	5		
2	MZ	NZL		5	2	10.5	4.5	210.0	4.0	Maize	lowland	C4/III	11.222	3.0	0.45	4.5	0	0	5	45	65	65	45	5		
3	MZ	XOC		2	2	10.5	4.5	210.0	4.0	Maize	lowland	C4/III	2.844	2.0	0.35	3.3	0	0	5	45	65	65	45	5		
4	MZ	CHN		4	1	3.0	7.5	135.0	3.0	Maize	sub-tropics	C4/IV	5.350	3.0	0.45	4.0	0	0	5	45	65	65	45	5		
5	MZ	HKG		3	1	3.0	7.5	135.0					0.000													
6	MZ	JPN		5	1	5.0	9.0	120.0	3.0	Maize	lowland	C4/III	2.527	2.0	0.35	3.3	0	0	5	45	65	65	45	5		
7	MZ	KOR		5	1	5.0	9.0	120.0	3.0	Maize	lowland	C4/III	4.901	3.0	0.45	4.0	0	0	5	45	65	65	45	5		
8	MZ	MNG		5	1	5.0	9.0	120.0					0.000													
9	MZ	TWN		3	1	3.0	7.5	135.0					0.000													
10	MZ	XEA		5	1	5.0	9.0	120.0	3.0	Maize	lowland	C4/III	3.219	2.0	0.35	3.3	0	0	5	45	65	65	45	5		
11	MZ	BRN		1	1	5.0	8.0	90.0					0.000													
12	MZ	KHM		2	1	5.0	8.0	90.0	1.0	Maize	sub-tropics	C4/IV	3.671	2.0	0.30	2.3	0	5	40	50	50	40	5	0		
13	MZ	IDN		1	2	11.5	3.5	150.0	4.0	Maize	sub-tropics	C4/IV	3.736	2.0	0.33	3.5	0	5	40	50	50	40	5	0		
14	MZ	LAO		3	1	5.0	8.0	90.0	1.0	Maize	sub-tropics	C4/IV	4.595	3.0	0.40	3.0	0	5	40	50	50	40	5	0		
15	MZ	MYS		1	1	5.0	8.0	90.0	1.0	Maize	sub-tropics	C4/IV	4.476	3.0	0.40	3.0	0	5	40	50	50	40	5	0		
16	MZ	PHL		2	1	5.0	8.0	90.0	1.0	Maize	sub-tropics	C4/IV	2.504	2.0	0.30	2.3	0	5	40	50	50	40	5	0		
17	MZ	SGP		1	1	5.0	8.0	90.0					0.000													
18	MZ	THA		2	1	5.0	8.0	90.0	1.0	Maize	sub-tropics	C4/IV	3.987	2.0	0.30	2.3	0	5	40	50	50	40	5	0		
19	MZ	VNM		2	1	5.0	8.0	90.0	1.0	Maize	sub-tropics	C4/IV	3.894	2.0	0.30	2.3	0	5	40	50	50	40	5	0		
20	MZ	XSE		3	1	5.0	8.0	90.0	1.0	Maize	sub-tropics	C4/IV	2.927	2.0	0.30	2.3	0	5	40	50	50	40	5	0		
21	MZ	BGD		3	1	6.0	12.0	180.0	6.0	Maize	sub-tropics	C4/IV	5.766	3.0	0.45	5.5	0	5	40	50	50	40	5	0		
22	MZ	IND		3	1	6.0	12.0	180.0	6.0	Maize	sub-tropics	C4/IV	2.221	2.0	0.35	4.3	0	5	40	50	50	40	5	0		
23	MZ	NPL		4	1	6.0	12.0	180.0	6.0	Maize	sub-tropics	C4/IV	2.096	2.0	0.35	4.3	0	5	40	50	50	40	5	0		
24	MZ	PAK		4	1	6.0	12.0	180.0	6.0	Maize	sub-tropics	C4/IV	3.293	2.0	0.35	4.3	0	5	40	50	50	40	5	0		
25	MZ	LKA		2	1	6.0	12.0	180.0	6.0	Maize	sub-tropics	C4/IV	1.771	1.0	0.25	3.0	0	5	40	50	50	40	5	0		
26	MZ	XSA		4	1	6.0	12.0	180.0	6.0	Maize	sub-tropics	C4/IV	2.423	2.0	0.35	4.3	0	5	40	50	50	40	5	0		
27	MZ	CAN		5	1	5.5	10.5	150.0	2.0	Maize	highland	C4/IV	8.682	3.0	0.35	4.0	0	0	5	45	65	65	45	5		
28	MZ	USA		5	1	5.0	10.5	165.0	5.0	Maize	sub-tropics	C4/IV	9.492	3.0	0.45	5.0	0	0	5	45	65	65	45	5		
29	MZ	MEX		3	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	3.172	2.0	0.35	3.8	0	5	40	50	50	40	5	0		
30	MZ	XNA		4	1	5.5	11.0	165.0					0.000													
31	MZ	ARG		4	2	10.0	4.0	210.0	6.0	Maize	sub-tropics	C4/IV	6.674	3.0	0.45	5.5	0	5	40	50	50	40	5	0		
32	MZ	BOL		3	2	11.0	4.0	180.0	2.0	Maize	highland	C4/IV	2.345	2.0	0.27	3.0	0	5	40	50	50	40	5	0		
33	MZ	BRA		2	2	11.0	4.0	180.0	6.0	Maize	sub-tropics	C4/IV	3.749	2.0	0.35	4.3	0	5	40	50	50	40	5	0		
34	MZ	CHL		4	2	10.0	4.0	210.0	2.0	Maize	highland	C4/IV	10.085	3.0	0.35	4.0	0	5	40	50	50	40	5	0		
35	MZ	COL		1	1	11.0	4.0	180.0	2.0	Maize	highland	C4/IV	2.691	2.0	0.27	3.0	0	5	40	50	50	40	5	0		
36	MZ	ECU		1	2	11.0	4.0	180.0	2.0	Maize	highland	C4/IV	2.144	2.0	0.27	3.0	0	5	40	50	50	40	5	0		
37	MZ	PRY		3	2	10.0	4.0	210.0	6.0	Maize	sub-tropics	C4/IV	2.539	2.0	0.35	4.3	0	5	40	50	50	40	5	0		
38	MZ	PER		2	2	11.0	4.0	180.0	2.0	Maize	highland	C4/IV	2.839	2.0	0.27	3.0	0	5	40	50	50	40	5	0		
39	MZ	URY		4	2	10.0	4.0	210.0	6.0	Maize	sub-tropics	C4/IV	4.697	3.0	0.45	5.5	0	5	40	50	50	40	5	0		
40	MZ	VEN		2	1	11.0	4.0	180.0	6.0	Maize	sub-tropics	C4/IV	3.544	2.0	0.35	4.3	0	5	40	50	50	40	5	0		
41	MZ	XSM		1	1	11.0	4.0	180.0	6.0	Maize	sub-tropics	C4/IV	1.347	1.0	0.25	3.0	0	5	40	50	50	40	5	0		
42	MZ	CRI		2	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	2.004	2.0	0.35	3.8	0	5	40	50	50	40	5	0		
43	MZ	GTM		2	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	2.100	2.0	0.35	3.8	0	5	40	50	50	40	5	0		
44	MZ	HND		3	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	1.640	1.0	0.25	2.5	0	5	40	50	50	40	5	0		
45	MZ	NIC		2	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	1.390	1.0	0.25	2.5	0	5	40	50	50	40	5	0		
46	MZ	PAN		2	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	1.693	1.0	0.25	2.5	0	5	40	50	50	40	5	0		

Table A-1-3. Data for crop model for maize (continued).

CNO	Country No.	PID	Country code	CID	LAT	N:S	PM	HM	N	GC	CROPS	TYPE	ADAPG.	YIELD07	INP	HI	LAI	Dependence of rate of leaf photosynthesis (pm) on temperature (°C)									
																			5	10	15	20	25	30	35	40	45
47	MZ	SLV			3	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	3.127	2.0	0.35	3.8	0	5	40	50	50	40	5	0	0	
48	MZ	XCA			3	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	2.162	2.0	0.35	3.8	0	5	40	50	50	40	5	0	0	
49	MZ	DOM			2	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	1.407	1.0	0.25	2.5	0	5	40	50	50	40	5	0	0	
50	MZ	JAM			2	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	1.226	1.0	0.25	2.5	0	5	40	50	50	40	5	0	0	
51	MZ	PRI			2	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	1.838	1.0	0.25	2.5	0	5	40	50	50	40	5	0	0	
52	MZ	TTO			2	1	11.0	4.0	180.0	6.0	Maize	sub-tropics	C4/IV	2.500	2.0	0.35	4.3	0	5	40	50	50	40	5	0	0	
53	MZ	XCB			3	1	5.5	11.0	165.0	5.0	Maize	sub-tropics	C4/IV	1.336	1.0	0.25	2.5	0	5	40	50	50	40	5	0	0	
54	MZ	AUT			5	1	4.5	9.0	135.0	1.0	Maize	highland	C4/IV	10.076	3.0	0.35	3.5	0	0	5	45	65	65	45	5	5	
55	MZ	BEL			5	1	4.5	10.0	165.0	2.0	Maize	highland	C4/IV	11.749	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
56	MZ	CYP			4	1	5.0	9.5	135.0					0.000													
57	MZ	CZE			5	1	4.5	9.0	135.0	1.0	Maize	highland	C4/IV	7.031	3.0	0.35	3.5	0	0	5	45	65	65	45	5	5	
58	MZ	DNK			5	1	5.0	10.0	150.0					0.000													
59	MZ	EST			5	1	5.0	10.0	150.0					0.000													
60	MZ	FIN			5	1	5.0	10.0	150.0					0.000													
61	MZ	FRA			5	1	4.5	10.0	165.0	2.0	Maize	highland	C4/IV	9.229	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
62	MZ	DEU			5	1	4.5	10.0	165.0	2.0	Maize	highland	C4/IV	9.096	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
63	MZ	GRC			5	1	4.5	9.5	150.0	4.0	Maize	lowland	C4/III	10.146	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
64	MZ	HUN			5	1	4.5	9.5	150.0	4.0	Maize	lowland	C4/III	6.005	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
65	MZ	IRL			5	1	4.5	10.0	165.0					0.000													
66	MZ	ITA			5	1	4.0	9.5	165.0	4.0	Maize	lowland	C4/III	9.204	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
67	MZ	LVA			5	1	5.0	10.0	150.0					0.000													
68	MZ	LTU			5	1	5.0	10.0	150.0	2.0	Maize	highland	C4/IV	3.792	2.0	0.27	3.0	0	0	5	45	65	65	45	5	5	
69	MZ	LUX			5	1	4.5	10.0	165.0	2.0	Maize	highland	C4/IV	6.687	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
70	MZ	MLT			5	1	4.0	9.5	165.0					0.000													
71	MZ	NLD			5	1	4.5	10.0	165.0	2.0	Maize	highland	C4/IV	10.839	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
72	MZ	POL			5	1	4.5	9.0	135.0	1.0	Maize	highland	C4/IV	5.517	3.0	0.35	3.5	0	0	5	45	65	65	45	5	5	
73	MZ	PRT			5	1	3.5	10.0	195.0	2.0	Maize	highland	C4/IV	5.640	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
74	MZ	SVK			5	1	4.5	9.0	135.0	1.0	Maize	highland	C4/IV	5.870	3.0	0.35	3.5	0	0	5	45	65	65	45	5	5	
75	MZ	SVN			5	1	4.5	9.5	150.0	4.0	Maize	lowland	C4/III	7.262	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
76	MZ	ESP			5	1	3.5	10.0	195.0	4.0	Maize	lowland	C4/III	9.884	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
77	MZ	SWE			5	1	5.0	10.0	150.0					0.000													
78	MZ	GBR			5	1	4.5	10.0	165.0					0.000													
79	MZ	CHE			5	1	4.5	10.0	165.0	2.0	Maize	highland	C4/IV	9.440	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
80	MZ	NOR			5	1	5.0	10.0	150.0					0.000													
81	MZ	XEF			5	1	4.5	10.0	165.0					0.000													
82	MZ	ALB			5	1	4.5	9.5	150.0	4.0	Maize	lowland	C4/III	4.895	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
83	MZ	BGR			5	1	4.5	9.5	150.0	2.0	Maize	highland	C4/IV	3.382	2.0	0.27	3.0	0	0	5	45	65	65	45	5	5	
84	MZ	BLR			5	1	5.0	10.0	150.0	2.0	Maize	highland	C4/IV	4.464	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
85	MZ	HRV			5	1	4.5	9.5	150.0	4.0	Maize	lowland	C4/III	6.481	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
86	MZ	ROU			5	1	4.5	8.5	120.0	1.0	Maize	highland	C4/IV	2.835	2.0	0.25	2.5	0	0	5	45	65	65	45	5	5	
87	MZ	RUS			5	1	5.0	10.0	150.0	4.0	Maize	lowland	C4/III	3.468	2.0	0.35	3.3	0	0	5	45	65	65	45	5	5	
88	MZ	UKR			5	1	5.0	10.0	150.0	4.0	Maize	lowland	C4/III	4.109	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
89	MZ	XEE			5	1	5.0	10.0	150.0	4.0	Maize	lowland	C4/III	2.371	2.0	0.35	3.3	0	0	5	45	65	65	45	5	5	
90	MZ	XER			5	1	4.5	9.5	150.0	2.0	Maize	highland	C4/IV	4.400	3.0	0.35	4.0	0	0	5	45	65	65	45	5	5	
91	MZ	KAZ			5	1	5.0	10.0	150.0	4.0	Maize	lowland	C4/III	4.915	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
92	MZ	KGZ			5	1	5.0	10.0	150.0	4.0	Maize	lowland	C4/III	5.995	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	
93	MZ	XSU			5	1	5.0	10.0	150.0	4.0	Maize	lowland	C4/III	4.944	3.0	0.45	4.5	0	0	5	45	65	65	45	5	5	





Table A-1-4. Data for crop model for soybeans.

CNO	PID	CID	LAT	N:S	PM	HM	N	GC	CROPS	TYPE	ADAPG.	YIELD07	INP	HI	LAI	Dependence of rate of leaf photosynthesis (pm) on temperature (°C)									
Country No.	Prod. code	Country code	Latitude	N:S	Plant month	Harvest month	Growing day	N index	Crop	Type	Adaptability group	Yield in 2007	Input level	Harvest index	Leaf area index	5	10	15	20	25	30	35	40	45	
1	SB	AUS	4	2	10.5	4.5	210.0	3.0	Soybeans	sub-tropics	C3/II	2.358	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
2	SB	NZL	5	2	10.5	4.5	210.0					0.000													
3	SB	XOC	2	2	10.5	4.5	210.0					0.000													
4	SB	CHN	4	1	5.0	9.0	120.0	2.0	Soybeans	sub-tropics	C3/II	1.608	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
5	SB	HKG	3	1	5.0	9.0	120.0					0.000													
6	SB	JPN	5	1	5.0	9.0	120.0	2.0	Soybeans	sub-tropics	C3/II	1.677	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
7	SB	KOR	5	1	5.0	9.0	120.0	2.0	Soybeans	sub-tropics	C3/II	1.665	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
8	SB	MNG	5	1	5.0	9.0	120.0					0.000													
9	SB	TWN	3	1	5.0	9.0	120.0					0.000													
10	SB	XEA	5	1	5.0	9.0	120.0	2.0	Soybeans	sub-tropics	C3/II	1.150	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
11	SB	BRN	1	1	5.0	8.0	90.0					0.000													
12	SB	KHM	2	1	5.0	8.0	90.0	1.0	Soybeans	tropics	C3/II	1.508	2.0	0.23	2.3	0	0	15	30	35	35	30	5	0	
13	SB	IDN	1	2	11.5	3.5	150.0	3.0	Soybeans	tropics	C3/II	1.297	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
14	SB	LAO	3	1	5.0	8.0	90.0	1.0	Soybeans	tropics	C3/II	1.296	2.0	0.23	2.3	0	0	15	30	35	35	30	5	0	
15	SB	MYS	1	1	5.0	8.0	90.0					0.000													
16	SB	PHL	2	1	5.0	8.0	90.0	1.0	Soybeans	tropics	C3/II	1.361	2.0	0.23	2.3	0	0	15	30	35	35	30	5	0	
17	SB	SGP	1	1	5.0	8.0	90.0					0.000													
18	SB	THA	2	1	5.0	8.0	90.0	1.0	Soybeans	tropics	C3/II	1.584	2.0	0.23	2.3	0	0	15	30	35	35	30	5	0	
19	SB	VNM	2	1	5.0	8.0	90.0	1.0	Soybeans	tropics	C3/II	1.421	2.0	0.23	2.3	0	0	15	30	35	35	30	5	0	
20	SB	XSE	3	1	5.0	8.0	90.0	1.0	Soybeans	tropics	C3/II	1.303	2.0	0.23	2.3	0	0	15	30	35	35	30	5	0	
21	SB	BGD	3	1	6.5	10.5	120.0	3.0	Soybeans	tropics	C3/II	1.496	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
22	SB	IND	3	1	6.5	10.5	120.0	3.0	Soybeans	tropics	C3/II	1.113	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
23	SB	NPL	4	1	6.5	10.5	120.0	2.0	Soybeans	sub-tropics	C3/II	0.900	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
24	SB	PAK	4	1	6.5	10.5	120.0	2.0	Soybeans	sub-tropics	C3/II	0.767	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
25	SB	LKA	2	1	6.5	10.5	120.0	3.0	Soybeans	tropics	C3/II	1.923	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
26	SB	XSA	4	1	6.5	10.5	120.0	2.0	Soybeans	sub-tropics	C3/II	0.846	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
27	SB	CAN	5	1	5.5	10.0	135.0	3.0	Soybeans	sub-tropics	C3/II	2.659	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
28	SB	USA	5	1	5.5	10.5	150.0	3.0	Soybeans	sub-tropics	C3/II	2.787	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
29	SB	MEX	3	1	5.5	10.5	150.0	3.0	Soybeans	sub-tropics	C3/II	1.643	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
30	SB	XNA	4	1	5.5	10.5	150.0					0.000													
31	SB	ARG	4	2	11.5	4.5	180.0	3.0	Soybeans	sub-tropics	C3/II	2.824	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
32	SB	BOL	3	2	11.0	4.0	180.0	3.0	Soybeans	tropics	C3/II	1.657	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
33	SB	BRA	2	2	11.0	4.0	180.0	3.0	Soybeans	tropics	C3/II	2.670	3.0	0.30	4.0	0	0	15	30	35	35	30	5	0	
34	SB	CHL	4	2	11.5	4.5	180.0	3.0	Soybeans	sub-tropics	C3/II	0.000				0	5	15	30	35	35	30	5	0	
35	SB	COL	1	1	11.0	4.0	180.0	3.0	Soybeans	tropics	C3/II	2.052	3.0	0.30	4.0	0	0	15	30	35	35	30	5	0	
36	SB	ECU	1	2	11.0	4.5	195.0	3.0	Soybeans	sub-tropics	C3/II	1.720	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
37	SB	PRY	3	2	11.0	4.5	195.0	3.0	Soybeans	sub-tropics	C3/II	2.263	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
38	SB	PER	2	2	11.0	4.0	180.0	3.0	Soybeans	sub-tropics	C3/II	1.606	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
39	SB	URY	4	2	11.5	4.5	180.0	3.0	Soybeans	sub-tropics	C3/II	2.106	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
40	SB	VEN	2	1	11.0	4.0	180.0	3.0	Soybeans	tropics	C3/II	1.697	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
41	SB	XSM	1	1	11.0	4.0	180.0	3.0	Soybeans	tropics	C3/II	0.952	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
42	SB	CRI	2	1	5.5	10.5	150.0					0.000													
43	SB	GTM	2	1	5.5	10.5	150.0	3.0	Soybeans	tropics	C3/II	2.652	3.0	0.30	4.0	0	0	15	30	35	35	30	5	0	
44	SB	HND	3	1	5.5	10.5	150.0	3.0	Soybeans	tropics	C3/II	2.215	3.0	0.30	4.0	0	0	15	30	35	35	30	5	0	
45	SB	NIC	2	1	5.5	10.5	150.0	3.0	Soybeans	tropics	C3/II	2.065	3.0	0.30	4.0	0	0	15	30	35	35	30	5	0	
46	SB	PAN	2	1	5.5	10.5	150.0	3.0	Soybeans	tropics	C3/II	0.363	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	

Table A-1-4. Data for crop model for soybeans (continued).

CNO	PID	CID	LAT	N:S	PM	HM	N	GC	CROPS	TYPE	ADAPG.	YIELD07	INP	HI	LAI	Dependence of rate of leaf photosynthesis (pm) on temperature (°C)									
Country No.	Prod. code	Country code	Latitude	N:1 S:2	Plant month	Harvest month	Growing day	N index	Crop	Type	Adaptability group	Yield in 2007	Input level	Harvest index	Leaf area index	5	10	15	20	25	30	35	40	45	
47	SB	SLV	3	1	5.5	10.5	150.0	3.0	Soybeans	tropics	C3/II	1.996	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
48	SB	XCA	3	1	5.5	10.5	150.0	3.0	Soybeans	tropics	C3/II	1.892	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
49	SB	DOM	2	1	5.5	10.5	150.0					0.000													
50	SB	JAM	2	1	5.5	10.5	150.0					0.000													
51	SB	PRI	2	1	5.5	10.5	150.0					0.000													
52	SB	TTO	2	1	11.0	4.0	180.0					0.000													
53	SB	XCB	3	1	5.5	10.5	150.0	3.0	Soybeans	tropics	C3/II	0.000				0	0	15	30	35	35	30	5	0	
54	SB	AUT	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.686	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
55	SB	BEL	5	1	5.0	10.0	150.0					0.000													
56	SB	CYP	4	1	5.0	9.0	120.0					0.000													
57	SB	CZE	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.924	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
58	SB	DNK	5	1	5.0	10.0	150.0					0.000													
59	SB	EST	5	1	5.0	10.0	150.0					0.000													
60	SB	FIN	5	1	5.0	10.0	150.0					0.000													
61	SB	FRA	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.738	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
62	SB	DEU	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.000	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
63	SB	GRC	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.000	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
64	SB	HUN	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.211	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
65	SB	IRL	5	1	5.0	10.0	150.0					0.000													
66	SB	ITA	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	3.148	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
67	SB	LVA	5	1	5.0	10.0	150.0					0.000													
68	SB	LTU	5	1	5.0	10.0	150.0					0.000													
69	SB	LUX	5	1	5.0	10.0	150.0					0.000													
70	SB	MLT	5	1	5.0	10.5	165.0					0.000													
71	SB	NLD	5	1	5.0	10.0	150.0					0.000													
72	SB	POL	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.416	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
73	SB	PRT	5	1	5.0	10.5	165.0					0.000													
74	SB	SVK	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.742	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
75	SB	SVN	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.630	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
76	SB	ESP	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.689	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
77	SB	SWE	5	1	5.0	10.0	150.0					0.000													
78	SB	GBR	5	1	5.0	10.0	150.0					0.000													
79	SB	CHE	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.705	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
80	SB	NOR	5	1	5.0	10.0	150.0					0.000													
81	SB	XEF	5	1	5.0	10.5	165.0					0.000													
82	SB	ALB	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.000	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
83	SB	BGR	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	1.165	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
84	SB	BLR	5	1	5.0	10.0	150.0					0.000													
85	SB	HRV	5	1	5.0	10.5	165.0	3.0	Soybeans	sub-tropics	C3/II	2.576	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
86	SB	ROU	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.717	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
87	SB	RUS	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	0.985	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
88	SB	UKR	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.332	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
89	SB	XEE	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.376	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
90	SB	XER	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	2.395	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
91	SB	KAZ	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.692	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
92	SB	KGZ	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	0.859	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
93	SB	XSU	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	0.082	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	

Table A-1-4. Data for crop model for soybeans (continued).

CNO	PID	CID	LAT	N:S	PM	HM	N	GC	CROPS	TYPE	ADAPG.	YIELD07	INP	HI	LAI	Dependence of rate of leaf photosynthesis (pm) on temperature (°C)									
Country No.	Prod. code	Country code	Latitude	N:1 S:2	Plant month	Harvest month	Growing day	N index	Crop	Type	Adaptability group	Yield in 2007	Input level	Harvest index	Leaf area index	5	10	15	20	25	30	35	40	45	
94	SB	ARM	5		1	5.0	10.0	150.0				0.000													
95	SB	AZE	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	0.464	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
96	SB	GEO	5	1	5.0	10.0	150.0	3.0	Soybeans	sub-tropics	C3/II	2.638	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
97	SB	BHR	4	1	5.0	9.0	120.0					0.000													
98	SB	IRN	4	1	5.0	9.0	120.0	2.0	Soybeans	sub-tropics	C3/II	2.327	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
99	SB	ISR	4	1	5.0	9.0	120.0					0.000													
100	SB	KWT	4	1	5.0	9.0	120.0					0.000													
101	SB	JOR	4	1	5.0	9.0	120.0					0.000													
102	SB	OMN	3	1	5.0	9.0	120.0					0.000													
103	SB	QAT	3	1	5.0	9.0	120.0					0.000													
104	SB	SAU	3	1	5.0	9.0	120.0					0.000													
105	SB	TUR	5	1	5.0	9.0	120.0	2.0	Soybeans	sub-tropics	C3/II	3.718	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
106	SB	ARE	3	1	5.0	9.0	120.0					0.000													
107	SB	XWS	4	1	5.0	9.0	120.0	2.0	Soybeans	sub-tropics	C3/II	1.789	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
108	SB	EGY	4	1	5.0	9.0	120.0	2.0	Soybeans	sub-tropics	C3/II	3.243	3.0	0.30	4.0	0	5	15	30	35	35	30	5	0	
109	SB	MAR	4	1	2.5	6.5	120.0	2.0	Soybeans	sub-tropics	C3/II	1.000	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
110	SB	TUN	4	1	3.5	7.5	120.0					0.000													
111	SB	XNF	4	1	3.5	7.5	120.0					0.000													
112	SB	BEN	2	1	6.5	10.0	105.0	2.0	Soybeans	tropics	C3/II	0.678	1.0	0.15	1.8	0	0	15	30	35	35	30	5	0	
113	SB	BFA	2	1	7.0	10.5	105.0	2.0	Soybeans	tropics	C3/II	1.665	2.0	0.23	2.7	0	0	15	30	35	35	30	5	0	
114	SB	CMR	1	1	6.0	9.0	90.0	1.0	Soybeans	tropics	C3/II	0.609	1.0	0.15	1.5	0	0	15	30	35	35	30	5	0	
115	SB	CIV	2	1	7.5	11.5	120.0	3.0	Soybeans	tropics	C3/II	1.016	2.0	0.23	3.0	0	0	15	30	35	35	30	5	0	
116	SB	GHA	2	1	5.5	10.0	135.0					0.000													
117	SB	GIN	2	1	6.5	11.0	135.0	2.0	Soybeans	tropics	C3/II	0.000	1.0	0.15	1.8	0	0	15	30	35	35	30	5	0	
118	SB	NGA	2	1	6.0	9.5	105.0					0.947	1.0	0.15	1.8	0	0	15	30	35	35	30	5	0	
119	SB	SEN	2	1	6.5	11.0	135.0					0.000													
120	SB	TGO	2	1	5.5	10.0	135.0	3.0	Soybeans	tropics	C3/II	0.420	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
121	SB	XWF	2	1	6.5	11.0	135.0	3.0	Soybeans	tropics	C3/II	0.885	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
122	SB	XCF	1	1	11.5	3.5	150.0	3.0	Soybeans	tropics	C3/II	0.687	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
123	SB	XAC	1	1	3.5	6.5	90.0	1.0	Soybeans	tropics	C3/II	0.483	1.0	0.15	1.5	0	0	15	30	35	35	30	5	0	
124	SB	ETH	2	1	3.0	6.0	90.0	1.0	Soybeans	tropics	C3/II	0.972	1.0	0.15	1.5	0	0	15	30	35	35	30	5	0	
125	SB	KEN	1	1	3.0	7.0	120.0	3.0	Soybeans	tropics	C3/II	0.816	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
126	SB	MDG	3	2	12.0	4.0	150.0	3.0	Soybeans	tropics	C3/II	0.473	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
127	SB	MWI	2	2	11.5	4.0	165.0	3.0	Soybeans	tropics	C3/II	0.473	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
128	SB	MUS	3	2	12.0	4.0	150.0					0.844	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
129	SB	MOZ	3	2	12.0	4.0	150.0					0.000													
130	SB	RWA	1	2	3.5	8.0	135.0	3.0	Soybeans	tropics	C3/II	0.753	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
131	SB	TZA	2	2	12.0	4.0	150.0	3.0	Soybeans	tropics	C3/II	0.376	1.0	0.15	2.0	0	0	15	30	35	35	30	5	0	
132	SB	UGA	1	1	7.5	11.0	105.0	2.0	Soybeans	tropics	C3/II	1.202	2.0	0.23	2.7	0	0	15	30	35	35	30	5	0	
133	SB	ZMB	3	2	0.5	3.5	90.0	1.0	Soybeans	sub-tropics	C3/II	1.233	2.0	0.23	2.7	0	5	15	30	35	35	30	5	0	
134	SB	ZWE	3	2	11.5	4.0	165.0	3.0	Soybeans	sub-tropics	C3/II	1.574	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
135	SB	XEC	2	2	10.0	1.0	120.0	2.0	Soybeans	sub-tropics	C3/II	0.757	1.0	0.15	2.0	0	5	15	30	35	35	30	5	0	
136	SB	BWA	3	2	11.5	4.0	165.0					0.000													
137	SB	NAM	3	2	11.5	4.0	165.0					0.000													
138	SB	ZAF	4	2	12.0	4.0	150.0	3.0	Soybeans	sub-tropics	C3/II	1.529	2.0	0.23	3.0	0	5	15	30	35	35	30	5	0	
139	SB	XSC	4	2	12.0	4.0	150.0					0.000													
140	SB	XTW	2	1	10.0	1.0	120.0					0.000													

Note: Original data source: Fischer et al. (2002). Planting and harvest months in Africa are based on FAO's cropping calendar.

Table A-1-5. Maximum active incoming shortwave radiation and gross dry matter production.

Variable	Unit	LAT	Latitude	N-S	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	1	0	1	343	360	369	364	349	337	343	357	368	365	349	337
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	2	10	1	299	332	359	375	377	374	375	377	369	345	311	291
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	3	20	1	249	293	337	375	394	400	399	386	337	313	264	238
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	4	30	1	191	245	307	363	394	417	411	384	333	270	210	179
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	5	40	1	131	190	260	339	396	422	413	369	298	220	151	118
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	1	0	2	343	357	368	365	349	337	343	360	369	364	349	337
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	2	10	2	375	377	369	345	311	291	299	332	359	375	377	374
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	3	20	2	399	386	357	313	264	238	249	293	337	375	394	400
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	4	30	2	411	384	333	270	210	179	191	245	303	363	400	417
RSE	cal cm <sup>-2</sup> day <sup>-1</sup>	5	40	2	413	369	298	220	151	118	131	190	260	339	396	422
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	1	0	1	413	424	429	426	417	410	413	422	429	427	418	410
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	2	10	1	376	401	422	437	440	440	440	439	431	411	385	370
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	3	20	1	334	371	407	439	460	468	465	451	425	387	348	325
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	4	30	1	281	333	385	437	471	489	483	456	412	356	299	269
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	5	40	1	219	283	353	427	480	506	497	455	390	314	241	204
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	1	0	2	413	422	429	427	418	410	413	424	429	426	417	410
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	2	10	2	440	439	431	411	385	370	376	401	422	437	440	440
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	3	20	2	465	451	425	387	348	325	334	371	407	439	460	468
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	4	30	2	483	456	412	356	299	269	281	333	385	437	471	489
YC	kg ha <sup>-1</sup> day <sup>-1</sup>	5	40	2	497	455	390	314	241	204	219	283	353	427	480	506
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	1	0	1	219	226	230	228	221	216	218	225	230	228	222	216
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	2	10	1	197	212	225	234	236	235	236	235	230	218	203	193
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	3	20	1	170	193	215	235	246	250	249	242	226	203	178	164
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	4	30	1	137	168	200	232	251	261	258	243	216	182	148	130
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	5	40	1	99	137	178	223	253	268	263	239	200	155	112	91
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	1	0	2	218	225	230	228	222	216	219	226	230	228	221	216
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	2	10	2	236	235	230	218	203	193	197	212	225	234	236	235
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	3	20	2	249	242	226	203	178	164	170	193	215	235	246	250
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	4	30	2	258	243	216	182	148	130	137	168	200	232	251	261
YO	kg ha <sup>-1</sup> day <sup>-1</sup>	5	40	2	263	239	200	155	112	91	99	137	178	223	253	268

Note: RSE: Maximum active incoming shortwave radiation, YC: Gross dry matter production on clear days, YO: Gross dry matter production on overcast days

LAT: level of latitude, Latitude: for example, from 5 to 15 degrees are categorized to 10 degree.

N-S: 1: North hemisphere, 2: South hemisphere

Source: Doorenbos and Kassam (FAO) (1979)