

APPENDICES

1. The salient features of the location and experimental soil

Item	Characteristics
Agro Ecological Zone	Modhupur Tract
Land type	High Land
Slope	Level
Soil Texture	Clay loam
Organic matter status	Medium
Suitability (rabi season)	Suitable
Suitability (Kharif season)	Moderately suitable

Source: BCA, CIMMYT -Bangladesh

2. Map indicating Research Field at Bashon, R&D-LTSL, Gazipur City Corporation, Gazipur



3. Mean monthly weather data during the crop growing periods (2016 to 2018),
R&D-LTSL, Gazipur, Bangladesh

Month	Mean monthly temperature (°C)					
	Maximum			Minimum		
	2016	2017	2018	2016	2017	2018
January	24.9	27	24.53	12.9	14	11.56
February	30	30	29.66	18	17	16.66
March	33.2	31	33.33	21.5	19	20.67
April	36.5	34	33.11	26	23	27.71
May	33.4	35	31.59	24.3	25	22.78
June	33.6	33	33.50	26.5	26	25.63
July	31.9	31.56	32.58	25.8	26.02	26.37
August	33.6	32.97	34.40	26.8	26.11	26.77
September	32.7	33.43	34.26	26.1	26.36	26.29
October	33.2	32.24	32.19	24.9	24.45	23.16
November	30.1	30.91	30.87	19.6	19.46	18.67
December	28.1	27.52	27.08	16.0	16.31	13.92

3. Cont'd.

Month	Rainfall					
	Number of rainy days			Rainfall (mm)		
	2016	2017	2018	2016	2017	2018
January	0	0	0	0	0	0
February	0	0	2	0	0	20.2
March	7	7	3	148	60	29.0
April	4	11	16	64	231	328.0
May	17	12	22	381.2	184	426.06
June	17	19	17	140	411	312.4
July	21	23	22	371	427.8	361.0
August	17	23	20	129	466	162.8
September	17	18	11	363	318.4	139.8
October	11	11	7	104	339.8	68.0
November	3	2	2	11	7.4	42.0
December	0	4	2	0	42.6	9.2

3. Cont'd.

Month	RH (%)					
	10 AM			2 PM		
	2016	2017	2018	2016	2017	2018
January	87	81	84.5	56	51	54.71
February	73	73	76.36	52	46	49.5
March	75	75	74.7	53	53	51.2
April	77	77	77.76	63	63	69.1
May	80	76	85.09	72	66	74.54
June	79	83	84.76	71	75	76.26
July	87	89.16	86.77	80	82.23	77.4
August	81	86.94	83.54	74	79.19	72.6
September	83	84.13	81.4	78	78.23	70.26
October	79	84.19	80.22	67	70.74	62.61
November	72	75.53	76.2	61	58.47	54.86
December	83	87.58	78.61	58	61.84	55.26

Source: Agro Metrological Pilot Observation Center, Metrology Dept., BRRI, Gazipur, Bangladesh

4. Mean value of 50 test F₁'s derived from Line x Tester method

Line x Tester	First female flower opening	Number of node at first female flower open	First harvest	Number of branches per plant	Single fruit weight (g)	Fruit length (cm)	Fruit diameter (cm)	Fruits per plant	Seeds per fruit	100-seed weight (g)	Yield per plant (Kg)
BT-1* BT-10	27.93	17.11	41.72	12.91	203.88	29.59	3.84	19.37	10.60	11.36	3.95
BT-1* BT-27	27.80	15.43	38.50	12.90	243.10	30.70	4.36	16.20	11.80	10.62	3.91
BT-2* BT-10	28.72	22.10	39.32	12.01	148.49	23.50	4.05	22.39	23.80	15.15	3.32
BT-2* BT-27	30.30	23.27	42.08	13.11	131.50	18.92	4.15	20.59	30.67	13.88	2.70
BT-3* BT-10	29.73	22.5	40.93	15.26	135.8	20.6	4.47	29.83	19.73	15.84	4.05
BT-3* BT-27	35.12	24.61	45.02	14.61	215.7	21.58	5.73	23.31	23.86	13.21	5.02
BT-4* BT-10	32.06	23.65	42.47	13.01	176.43	21.91	5.05	29.02	19.6	14.04	5.12
BT-4* BT-27	32.1	24.5	41.8	15	193.4	19.9	5.74	25.84	22.73	13.72	4.98
BT-5* BT-10	30.01	24.11	39.92	14.50	125.21	18.79	4.34	25.51	19.85	13.25	3.49
BT-5* BT-27	31.01	23.71	41.78	14.89	175.5	19.1	5.44	30.68	24.2	12.78	5.38
BT-6* BT-10	29.10	19.91	38.92	18.23	199.88	24.96	4.98	24.81	18.85	16.05	4.96
BT-6* BT-27	29.41	19.82	39.71	15.51	205.50	21.14	5.47	18.97	23.85	13.05	3.90
BT-7* BT-10	33.19	22.01	43.13	14.30	146.92	25.17	3.63	24.31	12.92	13.33	3.57
BT-7* BT-27	31.99	23.70	40.93	13.70	198.11	23.60	4.64	25.57	16.85	11.53	5.07
BT-8* BT-10	31.99	19.88	42.10	15.01	120.68	21.18	3.82	26.51	17.29	16.07	3.20
BT-8* BT-27	26.82	15.01	36.71	12.59	148.68	18.79	4.64	32.02	21.88	17.32	4.76
BT-9* BT-10	31.50	22.12	41.52	18.92	153.82	22.36	4.57	24.79	12.13	19.11	3.81
BT-9* BT-27	36.12	25.91	45.98	18.39	188.00	21.45	5.42	23.88	19.27	14.39	4.49
BT-11* BT-10	32.99	25.01	43.37	14.70	132.12	19.59	4.12	32.98	8.40	9.64	3.36
BT-11* BT-27	29.72	20.41	40.48	14.50	149.92	20.02	4.57	31.68	11.99	13.66	3.75
BT-12* BT-10	31.28	22.12	42.07	16.11	165.08	24.65	4.73	24.50	13.15	16.89	4.04
BT-12* BT-27	36.81	25.21	46.90	14.41	153.30	23.92	4.18	23.02	19.01	15.41	3.53
BT-13* BT-10	29.40	23.50	39.82	18.50	170.30	28.53	4.25	31.60	15.07	11.10	5.38
BT-13* BT-27	31.70	24.08	41.72	15.58	211.22	23.97	5.35	22.71	19.71	13.57	4.80
BT-14* BT-10	30.01	18.81	40.43	16.51	187.28	26.67	4.97	28.01	15.00	14.13	5.24
BT-14* BT-27	30.40	19.65	40.52	16.15	229.32	23.73	5.59	23.39	14.53	14.33	5.36
BT-15* BT-10	28.20	16.50	38.48	21.30	195.99	25.16	4.78	28.10	12.67	19.78	5.51
BT-15* BT-27	29.91	18.04	41.83	16.49	251.92	24.26	6.06	18.88	19.20	17.79	4.76

4. Cont'd.

Line x Tester	First female flower opening	Number of node at first female flower open	First harvest	Number of branches per plant	Single fruit weight (g)	Fruit length (cm)	Fruit diameter (cm)	Fruits per plant	Seeds per fruit	100-seed weight (g)	Yield per plant (Kg)
BT-16* BT-10	30.09	23.21	40.57	16.90	134.53	23.45	4.27	25.68	18.71	19.38	3.68
BT-16* BT-27	27.81	19.41	38.35	14.59	191.79	21.82	5.38	20.90	22.80	18.99	3.92
BT-17* BT-10	30.50	24.99	40.68	16.49	189.02	24.07	5.29	31.50	12.85	13.54	5.95
BT-17* BT-27	35.49	23.18	45.65	11.70	174.72	19.82	5.67	23.69	12.71	16.78	4.14
BT-18* BT-10	34.59	26.82	44.97	17.08	154.40	20.99	4.91	25.98	10.80	20.13	4.00
BT-18* BT-27	30.78	25.36	41.83	17.68	210.18	23.81	5.41	20.99	12.27	19.76	4.40
BT-19* BT-10	30.37	23.97	41.57	20.61	161.69	30.74	3.62	21.51	13.40	18.46	3.48
BT-19* BT-27	29.96	25.49	41.55	16.20	177.12	23.99	4.31	20.81	15.07	17.69	3.69
BT-20* BT-10	31.47	23.40	43.19	17.70	163.47	22.01	4.48	20.51	14.15	16.56	3.35
BT-20* BT-27	31.19	20.08	42.94	12.40	192.50	23.59	4.91	20.21	15.27	19.91	3.89
BT-21* BT-10	34.22	23.51	44.18	17.30	149.70	20.01	4.41	24.78	12.20	14.26	3.71
BT-21* BT-27	30.72	23.50	41.11	13.21	180.49	19.62	4.98	20.61	14.29	17.43	3.71
BT-22* BT-10	28.39	22.50	39.50	17.30	107.78	19.48	4.22	37.30	18.01	18.41	4.02
BT-22* BT-27	28.30	23.08	38.65	17.41	134.78	17.70	4.86	37.59	15.72	18.00	5.07
BT-23* BT-10	25.70	18.40	36.52	17.01	105.88	24.62	3.69	34.02	12.01	11.92	3.60
BT-23* BT-27	26.36	18.01	37.44	17.41	145.92	22.08	4.47	21.02	13.85	16.16	3.06
BT-24* BT-10	30.97	23.99	42.29	13.41	113.19	18.94	4.22	27.31	13.88	16.49	3.09
BT-24* BT-27	30.73	19.30	42.05	12.21	148.92	18.00	5.17	25.61	16.85	14.82	3.81
BT-25* BT-10	28.11	21.89	37.77	16.01	141.08	23.19	4.09	24.82	13.88	17.26	3.50
BT-25* BT-27	30.64	23.15	39.83	12.30	162.39	20.71	5.20	30.22	30.08	16.47	4.90
BT-26* BT-10	30.20	23.09	41.40	14.51	113.92	27.37	3.37	26.72	11.02	11.28	3.04
BT-26* BT-27	30.16	22.25	41.30	15.31	138.49	23.45	4.29	27.72	12.98	18.48	3.83

5. Mean value of test F₁ derived from 7 x 7 Diallel crosses

Diallel crosses	First female flower opening	Number of node at first female flower open	Number of branches per plant	First harvest	Fruits per plant	Single fruit weight (g)	Fruit length (cm)	Fruit diameter (cm)	Seeds per fruit	100-seed weight (g)	Yield per plant (Kg)
BT-1 X BT-4	29.9	17.5	20.8	45	20.4	162.3	20.25	6.66	15.5	12.04	3.31
BT-1 X BT-7	25.70	18.10	19.00	44.50	16.10	249.50	29.40	6.13	14.82	11.44	4.02
BT-1 X BT-13	29.9	20.5	16.3	41.1	16.6	151.1	23.4	5.85	21.13	11.56	2.51
BT-1 X BT-15	28.46	16.6	19.2	45.8	15.4	201.3	26.2	6.51	14.50	12.06	3.10
BT-1 X BT-18	32.3	23.7	17.8	42.9	25.8	156.2	20.7	6.05	13.93	13.99	3.23
BT-1 X BT-19	29.4	18.7	19	42.9	13.9	224.6	32.7	5.78	14.97	14.42	3.11
BT-4 X BT-1	32.5	19.1	20.2	47	21.6	118.6	17.5	6.45	13.34	11.48	2.56
BT-4 X BT-7	33.6	21.13	17.5	42.9	23.8	134.1	16.35	6.51	13.85	13.64	3.19
BT-4 X BT-13	33.1	18.1	16.7	41.9	18.3	170.1	18.25	7.41	15.82	14.57	3.11
BT-4 X BT-15	33.5	21.3	21.3	47	17.2	153.7	17.75	7.3	13.96	12.64	2.61
BT-4 X BT-18	30.7	22.5	19.9	41.5	25.7	122.9	15.75	6.85	17.1	13.57	3.15
BT-4 X BT-19	33.7	20.1	18.3	42.9	21.9	134.3	19.2	6.77	13.89	13.44	2.94
BT-7 X BT-1	33.1	15.1	17.3	44.8	14.5	166	25.9	5.33	13.22	12.55	2.41
BT-7 X BT-4	34.7	17.9	19.2	42.3	25.8	144.1	18.25	6.27	15	12.44	3.71
BT-7 X BT-13	26.8	14.9	16.5	39.9	15.8	186.8	28.45	5.31	16.05	12.61	2.95
BT-7 X BT-15	27.9	16.8	15.9	39.1	16.7	207.1	25.65	6.49	13.1	12.55	4.95
BT-7 X BT-18	27.5	17.1	16.1	38.1	23.1	202.3	22.3	6.33	20.79	14.57	4.67
BT-7 X BT-19	32.6	22.2	19.7	39.5	22.1	217.1	31.25	5.81	16.04	12.39	4.79
BT-13 X BT-1	26.6	18.3	17.7	40.8	21.4	205.7	26.25	6.1	12.78	10.59	4.95
BT-13 X BT-4	33.1	18.1	16.7	41.9	18.3	170.1	18.25	7.41	15.82	15.42	3.11
BT-13 X BT-7	30.5	18.9	20.4	41.5	21.6	173.9	21.55	6.38	19.42	12.48	3.75
BT-13 X BT-15	27.9	16.8	18.5	39.7	16.6	188.5	21.9	7.59	18.05	14.44	3.12
BT-13 X BT-18	27.7	17.7	18.4	40.7	31.5	128.3	18.6	7.01	13.17	11.85	4.04
BT-13 X BT-19	30.4	18.8	19.9	38.5	24.8	167.3	26.9	5.75	14.93	12.97	4.14
BT-15 X BT-1	29.4	22.7	19.9	45.5	22.5	211.4	26.6	6.52	19.1	12.71	4.75
BT-15 X BT-4	31.5	23.5	24.8	42.2	23.2	177.8	19.35	7.29	14.8	16.28	4.12
BT-15 X BT-7	27.8	19.1	17.9	42.7	21.5	261.7	26.45	7.1	17.2	13.62	5.62
BT-15 X BT-13	28.8	18.1	23.5	43.5	21.6	219.6	24.35	7.25	21	13.27	4.74

5. Cont'd.

Diallel crosses	First female flower opening	Number of node at first female flower open	Number of branches per plant	First harvest	Fruits per plant	Single fruit weight (g)	Fruit length (cm)	Fruit diameter (cm)	Seeds per fruit	100-seed weight (g)	Yield per plant (Kg)
BT-15 X BT-18	33.7	20.2	19.8	45.2	22.3	154.3	18.55	7.41	14.6	14.65	3.44
BT-15 X BT-19	29.8	20.1	19.2	41.5	19.7	229.8	27.45	7.05	21.8	14.28	4.52
BT-18 X BT-1	29.3	18.1	20.3	43.2	23.7	154.9	20.35	5.77	14.96	14.51	3.62
BT-18 X BT-4	33.1	22.1	23.4	46.5	30.3	153.7	16.5	7.44	26.1	14.51	4.65
BT-18 X BT-7	31.8	19.9	22.5	48.1	28.1	143.1	18.35	6.08	14.5	14.39	4.02
BT-18 X BT-13	27.9	21.5	21.3	45.7	32.3	162.1	20.95	6.88	17.9	15.36	5.23
BT-18 X BT-15	26.9	18.9	21.6	39.5	32.4	160.8	19.55	7.38	15.95	16.33	5.21
BT-18 X BT-19	28.9	21.6	23.9	40.9	28.6	194.7	24.5	6.94	17.11	13.71	5.56
BT-19 X BT-1	27.6	20.5	21.1	43.7	22.26	236.8	33.53	6.01	14.48	11.55	5.3
BT-19 X BT-4	32.2	19.7	19.9	42.1	18.9	132.1	18.15	6.59	17.5	13.53	2.49
BT-19 X BT-7	28.4	21.2	19.5	44.7	24.16	201.23	28.75	5.82	13.96	12.44	4.85
BT-19 X BT-13	32.9	26.4	16	46.8	15.1	188.7	25.91	5.99	19.87	13.08	2.84
BT-19 X BT-15	32.2	22.4	22.1	43.5	23.1	176	23.95	6.66	18.5	12.38	4.06
BT-19 X BT-18	30.6	21.5	22.6	44	31.5	170.5	24.15	6.47	16.57	13.61	5.37
Check (Tia F ₁)	27.5	21.1	21.1	43.33	25.5	198.1	26.5	6.39	16.1	13.59	5.05
Parents											
BT-1	28.23	17.1	40.2	21.13	251.16	30.4	5.55	14.53	17.73	9.23	3.69
BT-4	32.03	23.46	39.36	18.36	147.8	15.95	7	19.7	28.23	13.23	2.86
BT-7	31.4	18.15	44.7	14.1	207.8	27.36	5.3	17.63	19	12.18	3.22
BT-13	29.9	22.28	43	14.3	158.4	25.46	5.67	15.5	30.6	14.63	2.42
BT-15	28.63	21.11	42.03	15.4	236.86	24.75	7.8	15.96	25.5	10.06	3.32
BT-18	29.66	25.06	46.63	14.5	126.7	15.68	5.56	26.13	26.9	14.68	3.01
BT-19	30.7	25.13	43.1	16.3	160.03	31.24	4.86	15.8	21.9	14.5	2.51