

**Supplemental Table 1.** Flowering time, maturity and yield per plant of RS F<sub>3</sub> and SRS F<sub>2</sub> *B. napus* along with their parents grown in the short-day climate of Bangladesh (Mean and  $\pm$ SE)

	<b>1<sup>st</sup> Flowering (DAS)</b>	<b>50% Flowering (DAS)</b>	<b>100% Flowering (DAS)</b>	<b>Yield/plant (g)</b>	<b>Days to Maturity</b>
<b>RS <i>B. napus</i> F<sub>3</sub></b>					
TCr-2 <sup>a</sup>	29.3 $\pm$ 0.3	50.7 $\pm$ 3.4	65.3 $\pm$ 1.9	28.3 $\pm$ 4.0	120
TCr-3	42.7 $\pm$ 0.6	50.0 $\pm$ 1.7	58.3 $\pm$ 4.5	31.4 $\pm$ 8.0	130
TCr-4	35.0 $\pm$ 0.6	46.0 $\pm$ 1.7	50.7 $\pm$ 4.6	17.8 $\pm$ 6.6	112
CrT-14	47.5 $\pm$ 1.5	60.0 <sup>c</sup>	80.0 <sup>c</sup>	24.5 $\pm$ 5.6	138
AlBA-16	41.3 $\pm$ 5.3	47.3 $\pm$ 4.1	58.7 $\pm$ 0.9	41.4 $\pm$ 7.0	112
<b>SRS <i>B. napus</i> F<sub>2</sub></b>					
BARI Sharisha -7 $\times$ TCr-4	32.0 $\pm$ 0.0	42.0 $\pm$ 1.6	50.3 $\pm$ 4.4	18.7 $\pm$ 2.5	104
BARI Sharisha-8 $\times$ TCr-4	36.3 $\pm$ 0.3	45.3 $\pm$ 2.2	59.0 $\pm$ 0.6	33.4 $\pm$ 13.6	108
CrGc5-1 $\times$ TCr-3	44.0 $\pm$ 0.0	57.0 $\pm$ 1.0	70.0 $\pm$ 1.6	22.8 $\pm$ 9.7	116
CrGc5-1 $\times$ TCr-4	40.3 $\pm$ 2.3	50.0 $\pm$ 3.1	64.7 $\pm$ 1.8	23.8 $\pm$ 4.4	112
Kirariboshi $\times$ TCr-2	65.7 $\pm$ 0.9	83.7 $\pm$ 0.9	96.7 $\pm$ 0.3.	18.2 $\pm$ 4.0	145
Kirariboshi $\times$ TCr-4	80.3 $\pm$ 2.3	87.0 <sup>c</sup>	102 $\pm$ 0.0	14.7 $\pm$ 1.5	140
<b>Parental species</b>					
Tori-7(AA)	22.3 $\pm$ 0.3	28.7 $\pm$ 0.3	38.3 $\pm$ 0.7	6.7 $\pm$ 0.8	80
BARI Sharisha-14(AA)	30.0 $\pm$ 0.0	34.0 $\pm$ 1.0	39.0 $\pm$ 1.0	5.3 $\pm$ 0.2	82
CrGc3-1(CC)	37.3 $\pm$ 0.9	40.0 $\pm$ 1.6	59.0 $\pm$ 4.2	6.4 $\pm$ 0.8	137
<i>B. alboglabra</i> (CC)	79.5 $\pm$ 0.5	-	81.0 <sup>c</sup>	13.5 $\pm$ 3.9	143
BARI Sharisha -7(AACC)	30.3 $\pm$ 0.3	38.0 $\pm$ 1.0	48.0 $\pm$ 0.0	9.0 $\pm$ 1.0	95
BARI Sharisha -8(AACC)	33.7 $\pm$ 0.7	39.7 $\pm$ 0.3	46.3 $\pm$ 0.3	8.9 $\pm$ 0.4	99
CrGc5-1(AACC)	56.0 $\pm$ 2.0	61.5 $\pm$ 0.4	75.0 $\pm$ 0.8	17.0 $\pm$ 3.4	118
Kirariboshi(AACC)	125.3 $\pm$ 0.7	130.7 $\pm$ 0.8	138.3 $\pm$ 2.7	0.6 $\pm$ 0.2	159
LSD (0.05) <sup>b</sup>	4.7	4.9	8.1	15.4	

<sup>a</sup> TCr (Tori-7 $\times$ CrGC3-1), CrT-14 (CrGC3-1 $\times$ Tori-7), AlBA (*B. alboglabra* $\times$ BARIS-14), BARIS (BARI sarisha). <sup>b</sup> LSD (0.05); least significant difference at P=0.05.

<sup>c</sup> Single replication data were available.

**Supplemental Table 2.** Different morphological characteristics of RS F<sub>3</sub> and SRS F<sub>2</sub> *B. napus* along with their parents grown in the short-day climate of Bangladesh (Mean and  $\pm$ SE)

	Leaf length (cm)	Leaf width (cm)	Petal length (mm)	Petal width (mm)	Primary branch	Secondary branch	Pod length (cm)
<b>RS <i>B. napus</i> F<sub>3</sub></b>							
TCr-2 <sup>a</sup>	25.5 $\pm$ 1.2	12.6 $\pm$ 0.5	14.9 $\pm$ 0.24	10.7 $\pm$ 0.2	5.3 $\pm$ 0.3	8.8 $\pm$ 1.1	4.4 $\pm$ 0.1
TCr-3	20.5 $\pm$ 0.7	11.2 $\pm$ 0.5	19.7 $\pm$ 0.3	11.7 $\pm$ 0.1	5.9 $\pm$ 0.4	9.1 $\pm$ 0.8	4.8 $\pm$ 0.1
TCr-4	18.7 $\pm$ 0.9	11.8 $\pm$ 0.6	16.3 $\pm$ 0.3	9.5 $\pm$ 0.2	4.8 $\pm$ 0.3	7.5 $\pm$ 1.0	5.5 $\pm$ 0.1
CrT-14	21.7 $\pm$ 1.0	11.3 $\pm$ 0.5	18.7 $\pm$ 0.3	12.1 $\pm$ 0.2	7.8 $\pm$ 1.0	16.0 $\pm$ 1.0	4.1 $\pm$ 0.6
AlBA-16	22.5 $\pm$ 0.9	11.0 $\pm$ 0.7	16.7 $\pm$ 0.3	9.9 $\pm$ 0.2	6.3 $\pm$ 0.7	11.3 $\pm$ 2.4	7.1 $\pm$ 0.3
<b>SRS <i>B. napus</i> F<sub>2</sub></b>							
BARI Sarisha-7 $\times$ TCr-4	23.7 $\pm$ 1.6	11.4 $\pm$ 0.8	14.5 $\pm$ 0.3	9.5 $\pm$ 0.2	4.9 $\pm$ 0.2	6.4 $\pm$ 0.6	6.4 $\pm$ 0.1
BARI Sarisha-8 $\times$ TCr-4	28.1 $\pm$ 1.6	12.9 $\pm$ 0.8	16.0 $\pm$ 0.3	9.6 $\pm$ 0.2	4.9 $\pm$ 0.5	10.3 $\pm$ 1.6	7.4 $\pm$ 0.4
CrGc5-1 $\times$ TCr-3	27.03 $\pm$ 1.3	13.5 $\pm$ 0.6	14.9 $\pm$ 0.2	8.0 $\pm$ 0.2	6.5 $\pm$ 0.5	12.2 $\pm$ 1.7	4.5 $\pm$ 0.2
CrGc5-1 $\times$ TCr-4	28.54 $\pm$ 1.4	14.7 $\pm$ 0.6	14.8 $\pm$ 0.3	8.1 $\pm$ 0.2	7.3 $\pm$ 0.5	15.0 $\pm$ 1.8	4.7 $\pm$ 0.2
Kirariboshi $\times$ TCr-2	38.45 $\pm$ 1.7	16.6 $\pm$ 0.8	14.9 $\pm$ 0.3	9.3 $\pm$ 0.4	7.8 $\pm$ 0.3	14.3 $\pm$ 1.2	4.2 $\pm$ 0.1
Kirariboshi $\times$ TCr-4	30.17 $\pm$ 1.1	15.3 $\pm$ 0.6	15.2 $\pm$ 0.2	9.3 $\pm$ 0.1	7.5 $\pm$ 0.6	10.7 $\pm$ 1.2	5.1 $\pm$ 0.2
<b>Parental species</b>							
Tori-7(AA)	12.8 $\pm$ 0.7	5.4 $\pm$ 0.3	10.1 $\pm$ 0.2	6.1 $\pm$ 0.2	6.1 $\pm$ 0.3	6.4 $\pm$ 0.7	4.3 $\pm$ 0.0
BARI Sharisha-14 (AA)	9.7 a $\pm$ 0.2	3.6 $\pm$ 0.0	10.2 $\pm$ 0.2	5.0 $\pm$ 0.0	5.2 $\pm$ 0.2	3.8 $\pm$ 0.5	4.1 $\pm$ 0.0
CrGc3-1(CC)	14.9 $\pm$ 0.4	7.2 $\pm$ 0.3	17.9 $\pm$ 0.4	8.1 $\pm$ 0.2	4.6 $\pm$ 0.3	5.6 $\pm$ 0.6	4.0 $\pm$ 0.2
<i>B. alboglabra</i> (CC)	24.2 $\pm$ 1.2	11.5 $\pm$ 0.9	18.9 $\pm$ 0.2	10.7 $\pm$ 0.2	5.5 $\pm$ 0.6	5.8 $\pm$ 2.8	5.8 $\pm$ 0.3
BARI Sarisha-7 (AACC)	22.0 $\pm$ 1.2	8.6 $\pm$ 0.5	13.9 $\pm$ 0.2	8.9 $\pm$ 0.2	3.3 $\pm$ 0.2	3.1 $\pm$ 0.2	6.7 $\pm$ 0.1
BARI Sarisha-8 (AACC)	23.1 $\pm$ 1.0	8.2 $\pm$ 0.3	14.4 $\pm$ 0.3	8.8 $\pm$ 0.2	3.0 $\pm$ 0.2	2.6 $\pm$ 0.1	7.5 $\pm$ 0.1
CrGc5-1 (AACC)	27.79 $\pm$ 1.2	11.4 $\pm$ 0.5	11.9 $\pm$ 0.4	7.9 $\pm$ 0.4	8.9 $\pm$ 0.4	10.6 $\pm$ 1.5	5.5 $\pm$ 0.1
Kirariboshi (AACC)	35.64 $\pm$ 0.9	13.3 $\pm$ 0.5	14.0 $\pm$ 0.0	9.0 $\pm$ 0.0	6.4 $\pm$ 0.7	12.4 $\pm$ 1.4	3.0 $\pm$ 0.2
LSD(0.05) <sup>b</sup>	4.6	2.8	0.9	0.9	1.9	6.9	0.7

<sup>a</sup> TCr (Tori-7 $\times$ CrGC3-1), CrT-14 (CrGC3-1 $\times$ Tori-7), AIBA (*B. alboglabra* $\times$ BARIS-14), BARIS (BARI sarisha). <sup>b</sup> LSD (0.05); least significant difference at P=0.05.

**Supplemental Table 3** Characteristics of RS F<sub>3</sub>, SRS F<sub>2</sub> *B. napus* and their parents when grown in the short-day climate of Bangladesh

	Palmitic C <sub>16:0</sub>	Stearic C <sub>18:0</sub>	Oleic C <sub>18:1</sub>	Linoleic C <sub>18:2</sub>	Lenolenic C <sub>18:3</sub>	Eurosenoic
<b>RS <i>B. napus</i> F<sub>3</sub></b>						
TCr-2	2.6	1.1	24.6	13.7	6.1	11.6
TCr-3	2.8	0.9	23.6	14.4	4.6	10.1
TCr-4	3.1	0.8	18.2	15.0	6.1	9.1
CrT-14	3.4	0.6	22.3	14.4	6.01	11.4
AlBA-16	2.4	0.9	31.1	6.6	8.9	7.5
<b>SRS <i>B. napus</i> F<sub>2</sub></b>						
BARI Sarisha -7×TCr-4	2.8	-	19.3	12.5	7.6	8.9
BARI Sarisha-8×TCr-4	2.6	1.0	15.2	14.4	7.7	7.9
CrGc5-1×TCr-3	3.2	0.5	30.6	14.4	5.3	12.2
Kirariboshi ×TCr-4	3.9	0.6	36.4	16.3	4.5	11.6
<b>Parental species</b>						
Tori-7(AA)	1.2	1.0	10.5	13.7	6.8	7.8
BARI Sarisha-14(AA)	1.7	1.1	11.8	12.0	7.6	-
CrGc3-1(CC)	3.0	0.7	19.5	10.0	6.4	7.1
<i>B. alboglabra</i> (CC)	3.1	-	18.0	10.3	7.5	6.6
BARI Sarisha -7(AACC)	3.4	-	20.0	15.5	9.3	11.0
BARI Sarisha -8(AACC)	2.3	0.6	14.2	13.5	8.3	9.0
CrGc5-1(AACC)	3.28	1.4	40.3	12.3	3.6	3.8