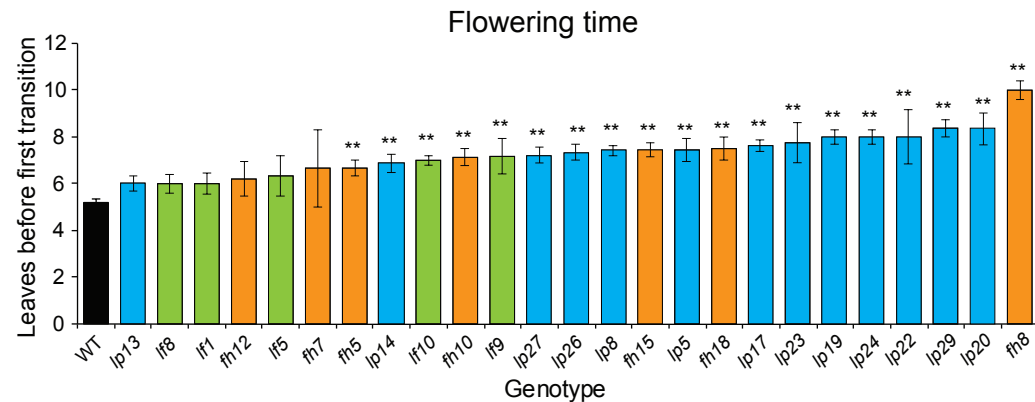
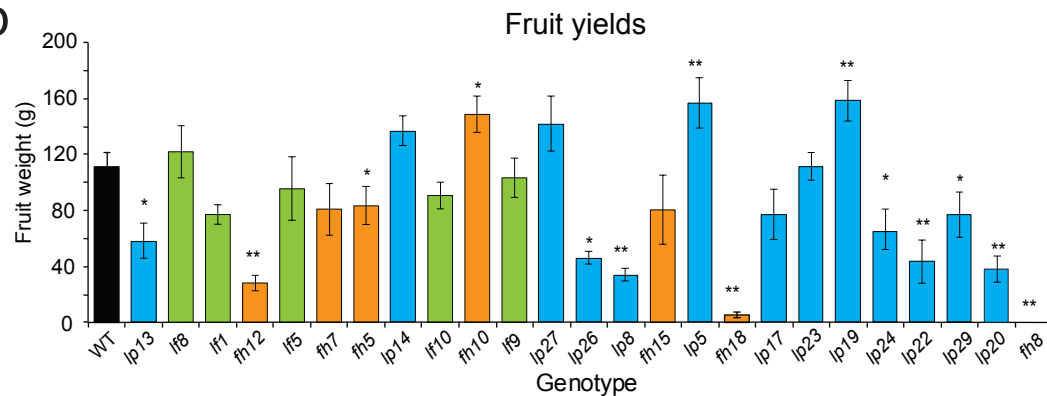


Figure S1

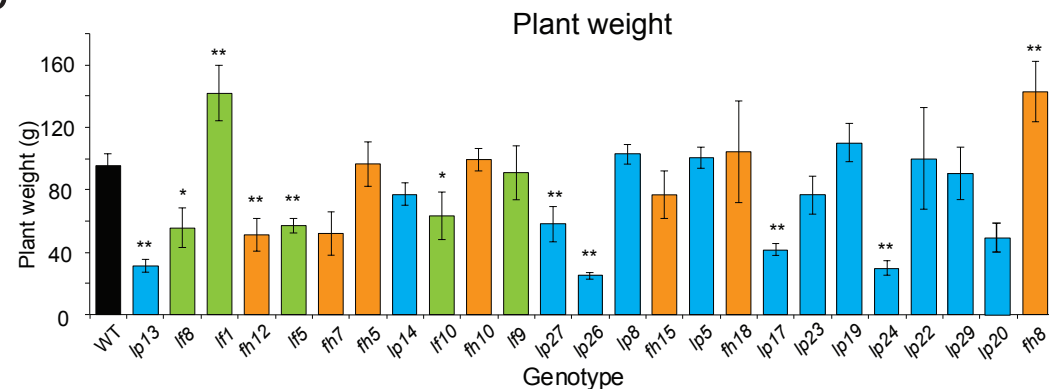
a



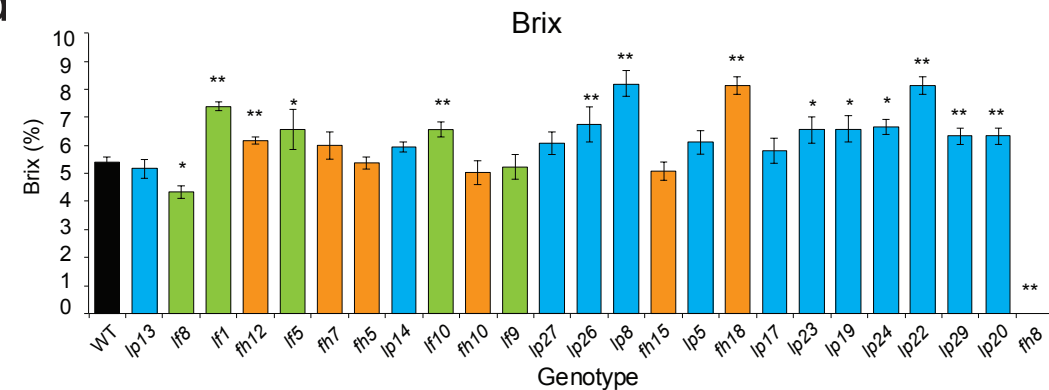
b



c



d



Micro-Tom (Wild Type) lf mutants

lp mutants

fh mutants

Figure S2

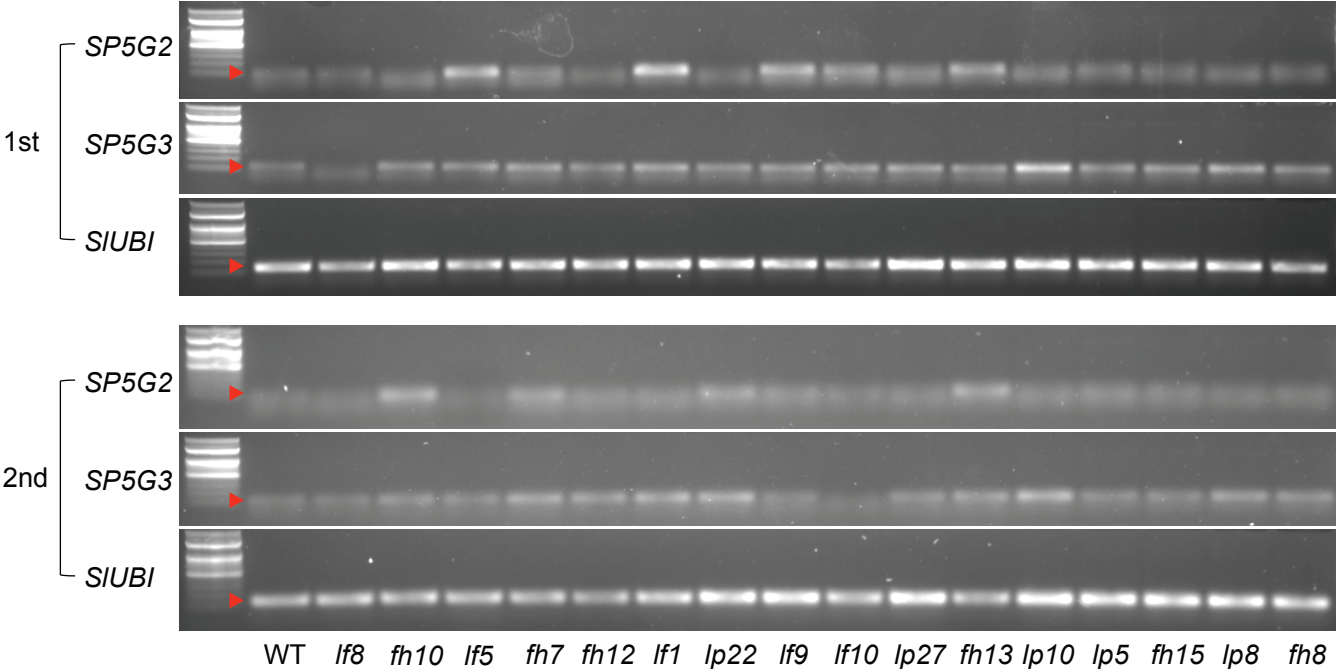
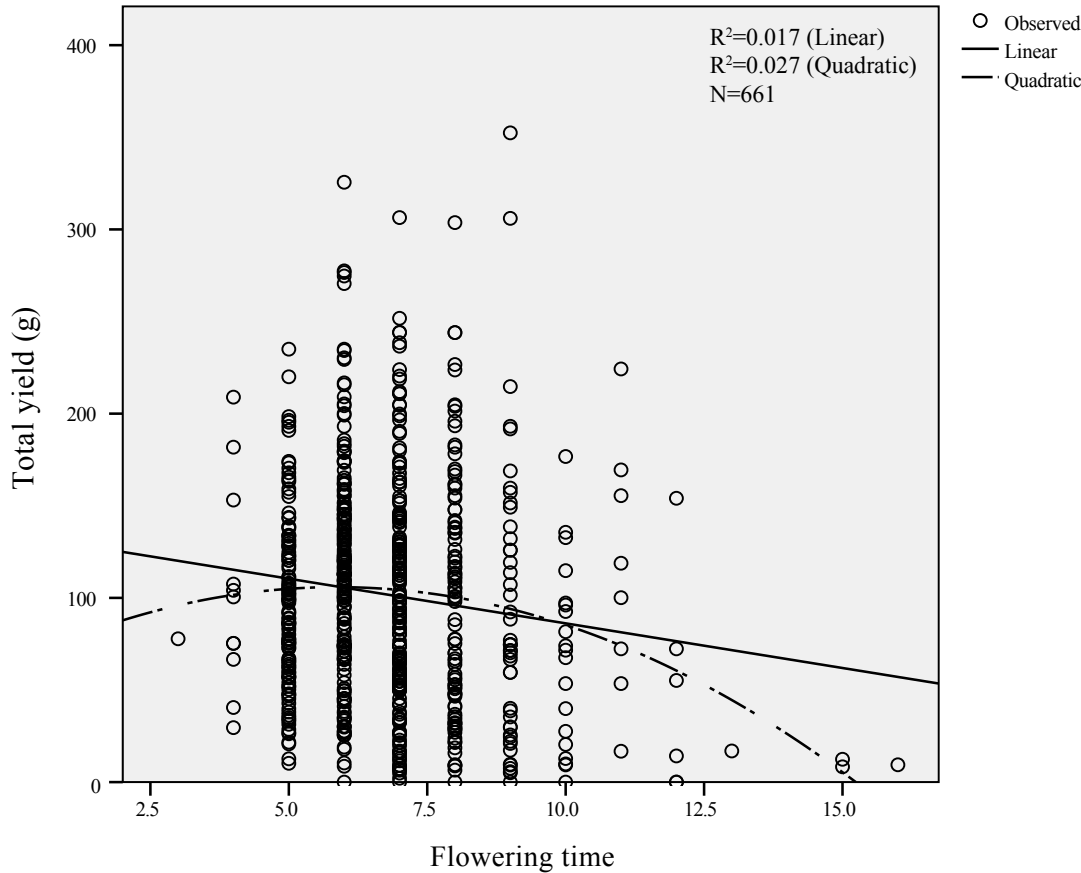


Figure S3

a



b

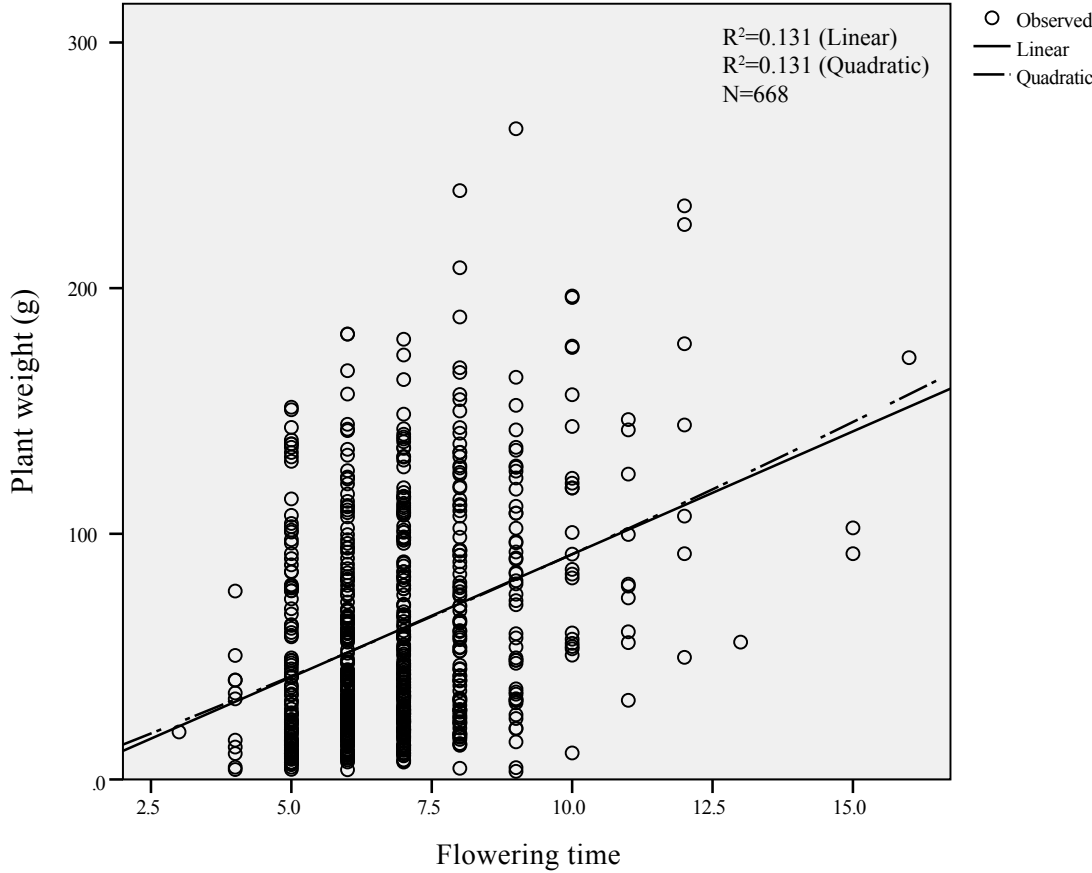


Table S1. Primer information for the qRT-PCR experiments.

Oligo Name	Sequence 5' to 3'	Purpose	Annotation
qRT_UBQ-F	CGTGGTGGTGCTAAGAAGAG	Ubiquitin Forward primer	Solyc01g056940.2
qRT_UBQ-R	ACGAAGCCTCTGAACCTTTC	Ubiquitin Reverse primer	Solyc01g056940.2
qRT_SFT-F	GACAATTAGGTCGGCAAACA	SFT Forward primer	Solyc03g063100.2
qRT_SFT-R	AGCAGCAACAGGTAAACCAA	SFT Reverse primer	Solyc03g063100.2
qRT_SP5G-F	CAACCTTTGGCAATGAAGTCG	SP5G Forward primer	Solyc05g053850.2
qRT_SP5G-R	CGATTATGTCCGGTGCATCG	SP5G Reverse primer	Solyc05g053850.2

Table S2. Late-flowering mutants isolated from three mutant groups with different morphology received from TOMATOMA.

Category	Genotype	Mutant ID	Leaf numbers on PSM (Spring)	Leaf numbers on PSM (Autumn)	Plant weight (g)	Floral morphology
Control	Wild type	Micro-Tom	4.9±0.08 (79)	5.1±0.12 (26)	11.97±0.8 (79)	Wild type
Floral homeotic plants	<i>fh5</i>	TOMJPG1890	6.1±1.1 (10)	7.4±0.3 (9)	19.86±5.6 (10)	Defective flowers and less flowers on the inflorescence
	<i>fh6</i>	TOMJPG2348-2	6.85±0.3 (7)	7.6±0.5 (5)	20.76±7.0 (7)	Sometimes fasciated flowers
	<i>fh7</i>	TOMJPE7132	6.5±1.1 (4)	6.7±1.7 (7)	33.2±4.3 (4)	Increased branching and flower number
	<i>fh8</i>	TOMJPE7233	11.5±0.4 (3)	10.0±0.4 (7)	119.96±2.1 (3)	Inflorescence branching, Sepal like petals
	<i>fh10</i>	TOMJPE7554-2	6.1±0.6 (3)	7.1±0.4 (7)	92.73±12.4 (3)	Long inflorescence, flower number
	<i>fh12</i>	TOMJPE8366	6.5±1.2 (4)	6.4±0.4 (8)	56.03±5.3 (4)	Long inflorescence, flower number
	<i>fh13</i>	TOMJPE8533	7.6±0.5 (6)	7.8±1.5 (5)	72.71±14.0 (5)	Long inflorescence, flower number
	<i>fh14</i>	TOMJPE8583	5.2±0.3 (5)	N/A	27.52±8.2 (5)	Long Inflorescence
	<i>fh15</i>	TOMJPE8670	8.8±1.1 (4)	7.4±0.3 (4)	107.94±31.8 (4)	Increased floral organ number
	<i>fh16</i>	TOMJPE8921	7.0±0.3 (5)	N/A	101.76±8.2 (5)	Curled anthers
	<i>fh18</i>	TOMJPE8933	N/A	7.5±.6 (4)	104.3±17.2 (4)	Long inflorescence
Late flowering plants	<i>lf1</i>	TOMJPE3935	6.6±0.3 (9)	6.0±0.4 (9)	66.43±10.0 (9)	Normal
	<i>lf5</i>	TOMJPE5853-1	6.1±0.8 (6)	6.3±0.9 (9)	14.09±4.6 (6)	Normal
	<i>lf8</i>	TOMJPW2797	6.0±0.5 (4)	6.0±0.4 (4)	15.35±2.7 (4)	Normal
	<i>lf9</i>	TOMJPG2152	7.0±0.4 (4)	7.2±0.7 (6)	27.55±2.9 (4)	Normal
	<i>lf10</i>	TOMJPW1592-1	7.2±1.5 (4)	7.0±0.2 (10)	59.86±6.7 (4)	Normal
Large plants	<i>lp1</i>	TOMJPE08937-1	N/A	6.7±0.4 (10)	N/A	Normal
	<i>lp2</i>	TOMJPW4585-2	7.0±0.4 (4)	7.6±0.4 (10)	138.7±4.1 (4)	Normal
	<i>lp5</i>	TOMJPE0832	7.8±2.9 (5)	7.4±0.5 (10)	138.74±29.5 (5)	Normal (sometimes fasciated)
	<i>lp6</i>	TOMJPE0870-1	N/A	6.2±0.5 (5)	N/A	Normal
	<i>lp8</i>	TOMJPW1600-1	11.0±0.4 (4)	7.4±0.2 (17)	54.90±2.1 (4)	Normal
	<i>lp9</i>	TOMJPG2773-1	6.0±0.4 (4)	9.1±0.4 (9)	36.52±3.2 (4)	Normal
	<i>lp10</i>	TOMJPW1391-2	8.5±0.2 (4)	8.4±0.7 (8)	31.87±1.8 (4)	Normal
	<i>lp12</i>	TOMJPE0821-1	N/A	6.4±0.5 (5)	N/A	Normal
	<i>lp13</i>	TOMJPE2002-1	6.5±0.3 (4)	6.0±0.3 (5)	24.90±4.5 (4)	Normal
	<i>lp14</i>	TOMJPE2036-1	6.5±0.3 (4)	6.9±0.4 (8)	26.62±3.1 (4)	Normal
	<i>lp15</i>	TOMJPE2125	N/A	6.8±0.5 (5)	N/A	Normal
	<i>lp17</i>	TOMJPE2198-1	7.2±0.8 (4)	7.6±0.2 (5)	15.77±1.1 (4)	Normal
	<i>lp18</i>	TOMJPE2349	6.5±0.2 (8)	6.6±0.7 (3)	41.68±6.5 (8)	Normal
	<i>lp19</i>	TOMJPE2385-1	7.0±0.4 (4)	8.0±0.3 (5)	34.51±3.2 (4)	Normal
	<i>lp22</i>	TOMJPE5268	7.0±0.4 (4)	8.0±1.2 (3)	44.77±1.3 (4)	Normal
	<i>lp23</i>	TOMJPW4473	6.5±0.4 (4)	7.8±0.9 (4)	18.00±1.2 (4)	Normal
	<i>lp24</i>	TOMJPG2809	6.0±1.0 (4)	8.0±0.3 (5)	19.83±2.5 (4)	Normal
	<i>lp26</i>	TOMJPG2852-1	7.5±0.9 (4)	7.3±0.3 (3)	26.78±2.1 (4)	Normal
	<i>lp27</i>	TOMJPW4612	7.3±0.3 (10)	7.2±0.4 (9)	18.55±2.8 (10)	Normal
	<i>lp29</i>	TOMJPW4629	6.3±0.4 (8)	8.4±0.4 (8)	23.92±3.3 (8)	Normal
	<i>lp30</i>	TOMJPW4665-1	5.8±0.3 (5)	6.4±0.5 (5)	44.64±8.2 (5)	Normal
	<i>lp31</i>	TOMJPW4687	6.3±2 (8)	7.4±0.5 (5)	28.88±6.5 (8)	Normal

Consistency of *lf*, *fh*, and *lp* mutants was assessed by comparing Micro-Tom wild type plants with selected mutants' Primary shoot meristem (PSM) leaves before flowering (>6), Plant weight (plants having more than 1.5 times or higher than Micro-tom were considered as Large plants) and variations in inflorescence and floral architecture. Mutants having more than 6 PSM leaves before flowering were used for further analysis as late flowering variants.

Table S3. Statistical grouping of flowering time, total yield, plant weight, 10 fruit weight, and Brix value (Grouping was done using Tukey-Kramer HSD at a confidence interval of 0.05).

	MT (N=14)	<i>lp14</i> (N=5)	<i>fh5</i> (N=5)	<i>fh12</i> (N=4)	<i>lp26</i> (N=4)	<i>fh10</i> (N=4)	<i>lp5</i> (N=3)	<i>fh13</i> (N=4)	<i>lp22</i> (N=5)	<i>fh15</i> (N=4)	<i>lp29</i> (N=5)	<i>lp10</i> (N=5)	<i>lp27</i> (N=5)	<i>lp8</i> (N=3)	<i>fh8</i> (N=3)
Flowering time (number of leaf)	F	DEF	DEF	CDEF	CDEF	CDEF	CDEF	CDEF	CDEF	CDE	CD	CD	BC	AB	A
Total yield (g)	DEG H	GHIJ	GHI	ABCDEF G	ABCDEF G	ABCDEF G	AB	ACB	ABCDEF G	JK	DEFGH I	DEFGH I	ABCD F	EGHIJ	K
Plant weight (g)	F	EF	F	BCDEF	EF	CDEF	BCDEF	CDEF	CDEF	A	CDEF	BCDE	CDEF	BCD	A
10 fruits weight (g)	AB	ABC D	BCD	CD	ABCD	ABC	ABCD	ABCD	ABCD	D	BCD	CD	BCD	BCD	D
Axillary branches (number)	H	EFGH	DEFG H	DEFGH	DEFGH	DEFGH	DEFG H	DEFG H	BCDE	CDEFG H	CDEF	AB	BCDE	ABC	A
Brix (%)	D	BCDE	BCDE	BCDE	BCDE	BCDE	BCDE	DE	ABCE	BCDE	BCDE	AB	BCDE	A	F

Table S4. Bivariate correlation analysis between flowering time and four traits in all seasons.

		Total yield	Plant weight	10 fruit weight	Brix
Flowering time	Pearson correlation coefficient	-0.128**	0.361**	-0.289**	0.213**
	Significance probability (two-tailed)	9.E-04	5.E-22	1.E-12	4.E-07
	N	661	668	584	554

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).