Supplementary Files

Supplementary Table S1. Characteristics of flower morphology for non-GM and GM tomato

	September - December 2018		April - July 2019		
unit	Non-GM	GM (5B)	Non-GM	GM (5B)	*p*
Number of petals	6.25 ± 0.07 (n=72)	6.22 ± 0.08 (n=67)	6.14 ± 0.05 (n=72)	6.11 ± 0.06 (n=72)	0.670
Flower diameter (cm)	2.76 ± 0.05 (n=71)	2.82 ± 0.05 (n=66)	2.36 ± 0.03 (n=72)	2.36 ± 0.02 (n=72)	0.474
Flower color	Mainly 6A Occasionally 5A, 6B, 7A	Mainly 6A Occasionally 5A, 6B, 7A	5A, 6A, 7A	5A, 6A, 7A	

The values are the means ± SEs.

The color of the flowers was evaluated by the number of the RHS color chart (Sixth Edition, Royal Horticultural Society).

Statistical analysis was performed with a generalized linear mixed model, with genotype as a fixed effect and year of cultivation as a variable effect.

The *p* values indicate the effect of genotype.

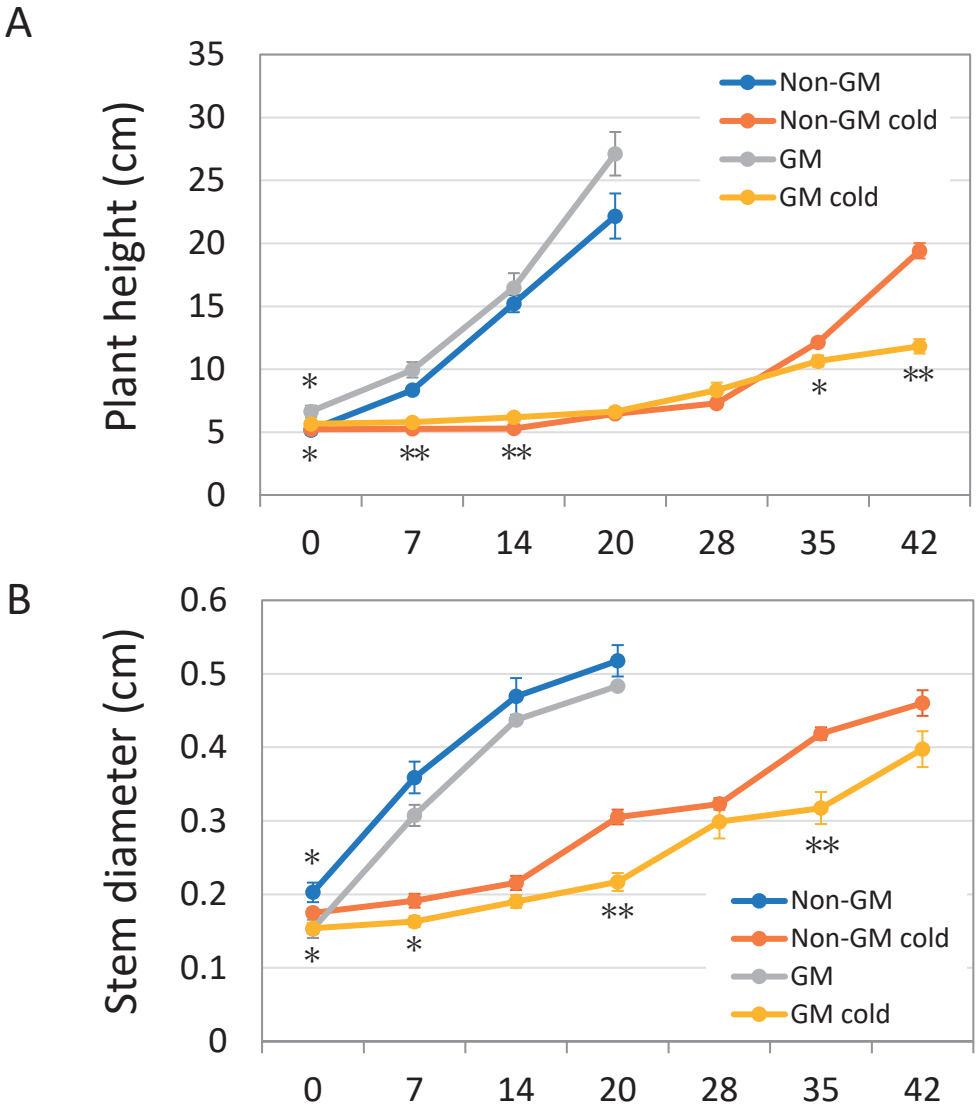
Supplementary Table S2. Effects of soil grown with GM tomato on lettuce growth

	September - December 2018			April - July 2019		
Cultivated soil	Non-GM	GM (5B)	Fresh soil	Non-GM	GM (5B)	Fresh soil
Hypocotyl (cm)	0.84 ± 0.03*(n=85)	0.83 ± 0.04*(n=55)	1.34 ± 0.07 (n=58)	1.18 ± 0.03*(n=116)	1.16 ± 0.03*(n=115)	1.73 ± 0.04 (n=48)
Root (cm)	3.73 ± 0.19*(n=85)	3.01 ± 0.24 (n=55)	2.48 ± 0.11 (n=58)	4.56 ± 0.12*(n=116)	3.95 ± 0.11*(n=115)	3.44 ± 0.12 (n=48)

The values are the means ± SEs.

n: Indicates the number of germinated lettuce plants that were used for measurement.

* Indicates a significant difference between the fresh soil and each cultivated soil at $p < 0.05$ according to Dunnett's test.



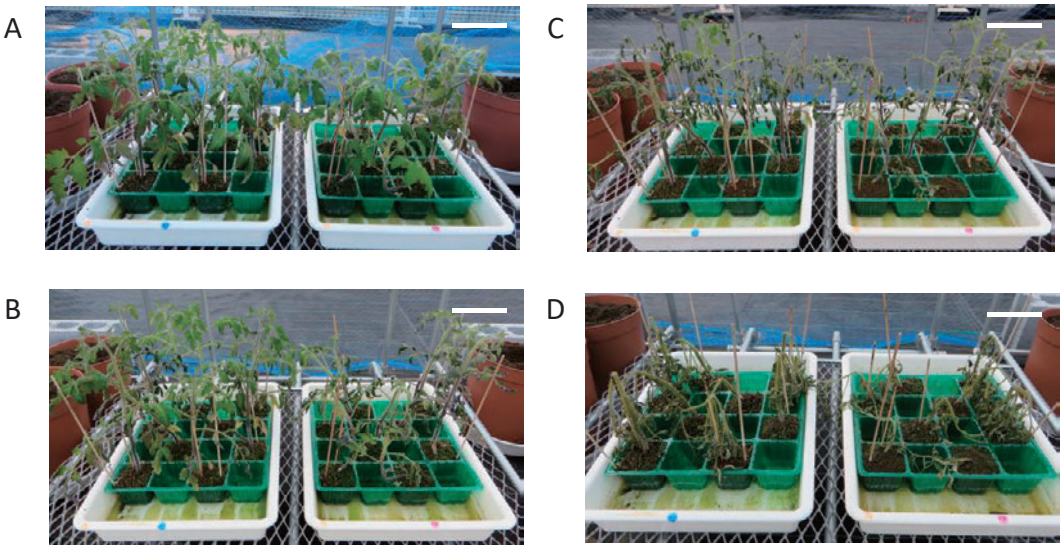
Supplementary Figure S1. Effects of low temperature on the plant height and stem diameter of tomato seedlings.

(A) Plant height. (B) Stem diameter.

Non-GM and GM refer to seedlings that continued to grow under nursery conditions (25°C, 16 h light/8 h darkness). Non-GM cold and GM cold refer to seedlings that were grown at low temperature (5°C, 16 h light/8 h darkness). Statistical analysis was performed by the *F*-test followed by Student's *t*-test for equal variances and Welch's *t*-test for unequal variances.

* Indicates a significant difference between non-GM and the GM tomato at $p < 0.05$ according to the *t*-test.

** Indicates a significant difference between non-GM and the GM tomato at $p < 0.01$ according to the *t*-test.



Supplementary Figure S2. Tomato cold tolerance at the early growth stage in an isolated field.
(A) December 18, 2018 (day 0), (B) December 20, 2018 (day 2), (C) December 23, 2018 (day 5), and (D) December 26, 2018 (day 8).
The seedlings grown at low temperature for 46 days were moved to a rack with a bird netting installed in the isolated field. Images were periodically taken during the cold tolerance test. Scale bars shows 10 cm.