**A Short-Day-Specific Expressed Gene *Flowering locus T-like 1* Contributes to Domestication of Tomato Flowering**

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Tomato (*Solanum lycopersicum*) is one of the major vegetable crops all over the world. Modern cultivated tomatoes were originated from their wild relatives, *Solanum pimpinellifolium*, from Andean region in South America. During domestication, tomato cultivars have lost the photoperiodic sensitivity gradually and become day-neutral plants whereas the wild tomatoes are short-day (SD) plants. Compared with the wild tomatoes, the cultivars flower earlier under long-day (LD) conditions but later under SD conditions. However, it is still elusive that why the cultivated tomatoes flower differently from their wild relatives under SD conditions. In this study, we identified a genomic locus responsible for the different flowering habit under SD conditions between wild and cultivated tomatoes. Fine-mapping of this locus reveals that the mutation on a CETS family gene, *FTL1*, cause late flowering under SD in cultivated tomatoes. *FTL1* is specifically expressed under SD conditions suggesting its unique function on flowering regulation in SD. Nucleotide diversity analysis reveals that the genomic region containing *FTL1* shows signatures of an improvement sweep. Finally, we are proving that the selection of both *FTL1* and another previously studied CETS member *SP5G* during tomato domestication, contributes to the day-neutrality of modern cultivated tomatoes.

**Key Words:** tomato, photoperiodic, domestication, *FTL1*