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Flowering Locus T (FT) and Genetically Modified Plants having Modulated Flower Development

Inventors:

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Applications:

Plant Biology, Agriculture, Horticulture
A novel gene that modulates the flowering time of plants.

This invention is based on the discovery of the gene termed "flowering locus T" or "FT" that regulates flowering in plants. Overexpression of FT results in dramatic early flowering in Arabidopsis while loss of function mutations in FT or antisense directed to FT causes late flowering. FT is useful in methods producing genetically modified plants characterized as having the phenotypic trait of modulated flower development. The invention also relates to a method for identifying compounds that affect FT activity or expression. The ability to induce early flowering is of great value to the agricultural, horticultural and natural resources industries, as it allows both the acceleration of breeding time by shortening seed production time and the identification of new varieties. This accelerates the rate at which key transgenic products can be moved from initial transformation into new breeding lines for evaluation and commercialization. This can significantly reduce the time required for commercial production. In addition, controlled inducible expression of LEAFY or FT would allow precise timing of crop production to better meet the impact of seasonal or geographical variations.

References:

Genetics 150:403-410 (September 1998)
Science 286 (5446):1962-5 (December 1999)

Patent Status:

U.S. Patent No. 6,225,530 issued May 1, 2001
U.S. Patent No. 6,713,663 issued March 30, 2004
Australian Patent No. 757842 issued June 26, 2003
New Zealand pending

License Terms:

Exclusive, Partially Exclusive, Nonexclusive license negotiable

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