

FLORIGENIC PROMOTER OF LYCHEE (*Litchi chinensis*, Sonn) SYNTHESIZED IN LEAVES

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ABSTRACT

In mango, the florigenic promoter is synthesized in leaves and is translocated to buds in the phloem whereas in citrus, it is synthesized in stem tips. Because lychee trees appear to have the same phenology as mango, and appear regulated by similar environmental cues, we needed to determine the source of the putative florigenic promoter of this crop to further understand the flowering mechanisms. Replicate branches from five trees each of two cultivars, 'Brewster' and 'Mauritius' were isolated from the rest of the canopy by girdling. All of the stem terminals on each branch were tip pruned to stimulate uniform bud break during cool, floral inductive conditions. One branch on each tree was defoliated to remove the potential source of the floral promoter and another was left with the full complement of leaves. Another set of replicate branches was left undisturbed to document normal flowering behavior. Virtually 100% of the lateral shoots initiating in the branches with leaves formed flowering shoots. In contrast, branches in which all of the leaves were removed formed only vegetative shoots. These results indicate that the floral promoter of lychee is synthesized in leaves.

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