ISOLATION OF GENES POTENTIALLY REGULATING MANGO FLOWERING

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Floral induction of mango is thought to be determined by interaction of a short-lived, florigenic promoter that is up-regulated in leaves during exposure to cool temperatures and an age-dependent vegetative promoter at the time that initiation of shoot growth occurs. Constans gene is widely conserved in plants and appears to be responsible for induction of a floral signaling mRNA (FT) that is synthesized in leaves and transported in phloem to buds to induce flowering in Arabidopsis. In the present study, a Constans-Like Mangifera indica gene (MiCOL) was isolated from mango and characterized. At the protein level, MiCOL was 79%, 76% and 62% identical to MdCOL2, MdCOL1 and AtCO respectively. We are currently trying to rescue Arabidopsis constans mutant plants with the MiCOL gene and to determine if transcription rates correlate with cool temperatures in mango plants. We are also investigating the functionality of the FT gene in mango.