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Oral Communication Abstract – 1.10

MOLECULAR CONTROL OF FLOWERING AT THE RICE SHOOT APEX

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rice, flowering, panicle development, tiller angle, internode elongation

Heading date 3a (Hd3a) and Rice Flowering Locus T1 (RFT1) are two rice florigens expressed in leaves under short days that can travel long-distance to reach the shoot apical meristem (SAM) and induce its transition to reproductive development. Once in the SAM, Hd3a and RFT1 form Floral Activation Complexes (FAC) that bind promoter sequences of target genes to modify their transcription.

In recent years, we have used various transcriptomic approaches to identify Hd3a and RFT1 targets at the SAM. The characterization of some targets suggested that different developmental processes, that take place during floral transition, are specifically controlled by some of them. FLOWERING LOCUS T LIKE-1 (FT -L1), is a florigen target but also an alternative florigen itself, that can form FACs, but is specifically expressed in the SAM after floral transition and later on during panicle formation. Other targets are BROADER TILLER ANGLE 1, an F-BOX protein that, if mutated, results in prostrated plants with a broad angle between tillers, PREMATURE INTERNODE ELONGATION 1 (PINE1) required for internode elongation and Os MAINENTANCE OF MERISTEMS LIKE-1 (OsMAIL1) necessary for carpel development and flower fertility.