Flowering time control in A. thaliana - the relationship between phyllochron and flowering time (A03-dong162026-Oral)

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Abstract:

The phyllochron is known to be a stable and reliable index of development in many crops. Leaf number is also used to index development in genetic studies of Arabidopsis thaliana, tacitly assuming a constant phylochron interval. Phyllochron intervals in degree-days base 0oC of flowering time mutants and wild type Landsberg erecta of Arabidopsis thaliana are analyzed under several different combinations of growth temperature and photoperiod. Its stability and reliability as a developmental index is examined. Additional base temperatures other than zero are evaluated, too. Although the phyllochron of first few rosette leaves (1st-4th) fluctuates dramatically, the phyllochron for the remaining rosette leaves and cauline leaves keeps in a relatively constant value for each genotype under a specific environment. It appears that the phyllochron increases with the increase of growth temperature and decrease with the increase of photoperiod.

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