

MORPHOLOGY AND REGULATION OF FLOWERING IN APPLE

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The sequence of differentiation within apple buds (*Malus domestica* Borkh. cv. 'Royal Gala) was observed over six consecutive seasons in order to determine the extent of variability in the time and duration of doming of the apical meristem, which signals the transition to floral development. Floral differentiation was also observed in four cultivars within a single season in order to determine the effect of cultivar on floral morphogenesis. The potential for growth regulator treatments to moderate a biennial bearing cycle were investigated: Various gibberellins (GA₃, GA₇, GA₄₊₇) applied in the off year to inhibit flower bud formation; Ethrel and/or NAA treatments applied in the on year to enhance flower bud formation). The potential for these treatments to achieve consistent cropping of biennial apple cultivars will be discussed.