Dormancy and Flower Bud Development in Cherry

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Fruit production in temperate region is strongly affected by dormancy. Cultivation areas of Prunus sp. as cherry are delimitated to cold winter regions. Chilling requirements made difficult to extend this crops to southern regions in order to extend the consumption season or off season production. Flowering is a key moment in fruit production and it just last few days in sweet cherry. However flower buds are differentiated at the end of the previous summer and further development is stopped by dormancy. The importance of the blooming dates prediction have made to develop several empirical models to determine the length of dormancy, however this models are not supported on biological bases. Tree reserves status at dormancy establishment determine next year activity and fruit production, due to resumption of growth in spring take place without photosynthetic activity. This is a two years work with flower buds of cv. Bing. Attention is focused on flower development studying anatomical and cytochemical changes in a dormancy context. Results show that while no anatomical variations occur along dormancy, starch management during chilling accumulation is a key point for further flower development.