

ABA promotes starch synthesis and storage metabolism in dormant grapevine buds

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© 2019 Elsevier GmbH In grapevine (*Vitis vinifera* L.) buds, the short day (SD)-photoperiod induces endodormancy and increases the level of ABA and the expression of ABA key biosynthesis genes, which suggests that ABA could be the mediator of the photoperiodic induction of endodormancy. In the present study, it was established that during the development of the endodormancy, the content of ABA and the accumulation of starch increased in parallel in the buds; however, these increases occurred after the buds were already in the state of endodormancy. Despite this finding the exogenous applications of ABA to single-bud cuttings increased the starch content and up-regulated the expression of starch synthesis genes (*VvSS1* and *VvSS3*) and down-regulated the expression of sucrose metabolism genes, invertase (*VvINV*) and sucrose phosphate synthase (*VvSUPS*). In addition, the manipulation of the endogenous content of ABA in the grapevine buds by applications of hydrogen cyanamide and uniconazole-P,