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JESIUM 2008, Presqu'île de Giens, France, August 31-September 5
Final programme& abstract book, 3-P124, page 158

Session 3-Poster-young researcher

INFLORESCENCE PHOTOSYNTHATE ALLOCATION OF CHARDONNAY GRAPEVINE (*VITIS VINIFERA* L.) FRUITING CUTTINGS

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In grapevine, the energy cost of reproduction is important regarding the annual development. Flowering coincides with the transition between wood reserve and leaf supplies for carbohydrates. Moreover, leaves are not the only organ able to perform photosynthesis since there are many evidences that grapevine inflorescences are photosynthetically active. Besides, inflorescence photosynthesis is considered to sustain a part of the energy cost. The aim of this study was first to determine the part of inflorescence and leaf photosynthesis in inflorescence supply and second to investigate the partitioning of photosynthesis products from leaves and inflorescences in grapevine plant. $^{13}CO_2$ labelling on fruiting cuttings was used to perform this study at four stages of flower development: separated clusters, separated floral buds, flowering and fruit set. At each stage of flower development, labelling of leaves or inflorescences were performed and fruiting cuttings were collected just after the labelling period and 48 h after labelling. After each labelling, fruiting cuttings were separated into stem, roots, leaves and inflorescence for isotopic measurements. Preliminary results showed that leaf CO_2 assimilation was always higher than in inflorescence during the flower development. Moreover, both leaf and inflorescence CO_2 assimilation increased from separated cluster to fruit set, except in inflorescences at fruit set where CO_2 assimilation felt down. Regarding partitioning of leaf CO_2 assimilation, products stayed mainly in leaves and then in stem, roots and inflorescences with low fluctuations during flower development. On the contrary, the products of inflorescence assimilation were mainly destined to the stem and then in leaves, inflorescence and roots. All these preliminary results suggest that inflorescence photosynthates were not exclusively used for flower development while leaf assimilation contributed mainly to own leaf development.