

Sucrose Metabolism during Fruit Development of *Coffea racemosa*

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SUMMARY

Sucrose metabolism was studied during the of fruit maturation of *Coffea racemosa*. Cherries were harvested regularly after anthesis up to the complete maturation occurring at around 70 days after flowering (DAF). This development was followed by measuring individual weight of pericarp, perisperm and endosperm tissues at regular (every 2 weeks) time after flowering. Along the development, the pericarp was the main tissue, representing around 70-80% of fresh weight of cherries. After 10 DAF, the perisperm decreased rapidly and was replaced by the growing endosperm. Sucrose content appeared relatively stable during endosperm development, representing around 8% of fruit dry weight at the mature stage. Acid invertase and sucrose synthase activities were also monitored in the endosperm. No invertase activity was observed in developing endosperm of *C. racemosa*, confirming the limited role of this enzyme in sucrose metabolism of coffee fruits. On the other hand, sucrose synthase showed highest activities at around 40 DAF, coinciding with endosperm expansion phase. The sucrose synthase activity also paralleled sucrose accumulation observed at the same stage in this tissue.