Sugar Content and Cell Wall Composition of Axes and Cotyledons of *Inga vera* Seeds After Drying

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Inga vera produces recalcitrant seeds, characterized by desiccation sensibility and post-harvest life span no longer than one month. Mechanisms proposed to explain the ability of organisms to survive desiccation include accumulation of insoluble reserves and protective molecules, and cell wall folding, among others. The aim of the present study was to analyze the behavior of *I. vera* seeds (axes and cotyledons) with respect to sugar content and cell wall composition and structure after drying. Mature *I. vera* seeds containing 54% of water content were dried to 35% or 17%. Seed desiccation led to an increase in the soluble sugar content and a decrease in both reducing sugar and starch contents in the axes. Cotyledons showed only an increase in the soluble sugar content. Seed viability was slightly reduced due to drying to 35% of water content, but no seeds survived to severe desiccation (17% water content). In the dry state, the cell wall yield in the axes and cotyledons was higher than that observed at the end of the seed development. After drying, xylose/mannose content in the cell walls increased in the axes while glucose and galactose decreased. No changes in the cotyledon cell wall composition were observed between the hydrated and dry state. Light microscopy revealed thick cell walls in the dry state in both axes and cotyledons. Our data suggest high metabolic activity upon drying of *I. vera* seeds associated with cell wall thickening and lost of viability.