

Tree Shape Modification Induced by the *Laurina* Mutation in *Coffea arabica* L.

A. LECOLIER¹, J. L. VERDEIL², H. CHRESTIN³, M. NOIROT¹

¹IRD, UMR 1097 – DGPC (AGRO-M, CIRAD, INRA, IRD), «Diversité et Génome des Plantes Cultivées», Pôle de Protection des Plantes, 97410, Saint Pierre, La Réunion

²CIRAD PHIV, UMR 1098, IFR, 34 000 Montpellier, France

³IRD, UMR 1097 – DGPC (AGRO-M, CIRAD, INRA, IRD), Centre IRD de Montpellier, 34 000, Montpellier, France

SUMMARY

Coffea arabica var. *Laurina* is a dwarf mutant of *Coffea arabica* var. *Bourbon*, with a characteristic pyramidal shape. The aim of this study was to understand the origin of shape changes between these two varieties. Tree-shape variation could theoretically depend on the angle formed between plagiotropic and orthotropic axes. Nevertheless the two *Bourbon* varieties exhibit a same (about 50°) angle between these axes, with a within-variety variation of 3° only. As the angle does not explain the main shape differences between the two varieties, a growth ratio (Ri) was defined between the length of plagiotropic and orthotropic axis. This parameter allowed differentiating the *Bourbon* and the *Bourbon pointu*. The elongation patterns of the last internodes on the orthotropic axis in regards to the plagiotropic branches could explain mostly the pyramidal shape of *Bourbon pointu*. In fact, the *Laurina* mutation affected the growth of last internodes of the orthotropic axes without affecting the plagiotropic ones.