de correlação estabelecidos entre os métodos analíticos, observou-se que o melhor coeficiente obtido foi entre compostos polares totais e ácidos dienóicos conjugados (0,72). Já, os testes rápidos apresentaram 67,2% de resultados corretos para o ensaio de Perevalov; 87,9% quando utilizado o Kit Oil Test; 75,9% de acertos para o Monitor de Gordura 3M e; 62,1% de resultados corretos para o ensaio de Solubilidade, quando comparados com o limite estabelecido para compostos polares totais. O Kit Oil Test foi o que apresentou melhor coeficiente de correlação com o teor de compostos polares totais (0,86) e menor ocorrência de resultados falsos (12,1%), quando comparado com os testes de Perevalov e Monitor de Gordura 3M.

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Seed characterization of six species of the genus *Theobroma* as compared to that of Theobroma cacao L.

Martini, M. H. **Seed characterization of six species of the genus *Theobroma* as compared to that of Theobroma cacao L.-** Campinas, 2004 [Tese de Doutorado – Faculdade de Engenharia de Alimentos – UNICAMP]. Orientadora: Profa. Dra. Débora de Queiroz Tavares

Many investigations on the cellular reserves within the cotyledon mesophyll of the genus *Theobroma* have been carried out on *Theobroma cacao* seeds, the source of raw material for the production of chocolate. These studies demonstrated structural cellular changes due to fermentation, drying, and roasting processes during chocolate production. Recently the seeds of the *T. grandiflorum* have been analyzed due to their importance in the production of "cupulate", a new product similar to chocolate. In the present work, we analyze the lipid-protein reserve cells and polyphenolic idioblasts derived from *T. cacao*, *T. grandiflorum*, *T. subincanum*, *T. bicolor*, *T. speciosum* and *T. obovatum*. Only phenolic cells were studied in *T.obovatum* and *T. microcarpum*.The distribution of lipid bodies was similar in all the species studied; that is, they were located at the periphery of the cell wall and demonstrated extremely susceptibly to heat, coalescing at temperatures above 30°C. The reserve protein was interspersed with lipid bodies and some starch granules. The polyphenolic cells were dispersed throughout the mesophyll and around the vascular bundles in all the species studied. In *T. bicolor* and *T. speciosum* the polyphenolic cells were only observed around the vascular bundle and radicle parenchyma. Mucilage is a cellular secretion in the five species studied. Mucilage does not accumulate intracellularly; however, rarely we did observe mucilage in the cells of the mesophyll epidermis of *T. subincanum*. In *T. speciosum*, mucilage cells were abundant in the mesophyll and about 10% reached large dimensions without tissue disruption. The polyphenolic cells presented characteristic mucilage histochemistry, however their strict association with vascular bundles should direct their development towards polyphenol synthesis. Cotyledon mesophyll tissue is similar in all the species studied with respect to lipid-protein reserve. Immature cells demonstrated the capacity to synthesize all the reserves, but this capacity is not retained in the mature cell. The distribution of reserves in the mesophyll are most similar in *T. grandiflorum* and *T. subincanum*. *T.* bicolor showed a high protein content, lower lipid levels and low levels of polyphenolic cells.

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