

## 3<sup>rd</sup> International Symposium on Guava and Other *Myrtaceae*



ISSN 1516-1633

Abril, 2012

*Empresa Brasileira de Pesquisa Agropecuária  
Embrapa Semiárido  
Ministério da Agricultura, Pecuária e Abastecimento*

## ***Documentos 247***

**3<sup>rd</sup> International Symposium on  
Guava and Other *Myrtaceae***

**April 23-25, 2012, Petrolina,  
PE, Brazil**

Embrapa Semiárido  
Petrolina, PE  
2012

## Chemical and biochemical characterization of guava and araçá fruits from different regions of Brazil

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Guava and araçá, both belonging to the genus *Psidium*, are important options for the Brazilian agribusiness due to their fruit characteristics, such as appearance, taste and richness in minerals and phenolic compounds. These fruits can be consumed 'in natura' or in several processed forms. The active germplasm bank is an important tool for characterization of genetic material and studies of plant breeding. This study aimed to characterize, chemically and biochemically, fruits of guava and araçá accessions from different regions of Brazil and grown in the Active Germplasm Bank of Embrapa Tropical Semi-Arid, in Petrolina, Pernambuco State, Brazil. Sugar, proteins, soluble solids, titratable acidity, calcium, magnesium, iron and phosphorus contents were determined. Large variations were observed in the analyzed compounds, which could be attributed to the diversity of genotypes and also to the environmental conditions, which affect the plant metabolism. The average titratable acidity in araçá was 1.16% of citric acid, while in guava it was 0.5%. The average content of soluble solids showed no significant difference between samples, with guava accessions presenting the highest "ratio" levels, which amounted to 37.69 against 16.64 in araçás. The total protein content was similar between the accessions of guava and araçá, with a mean value of 0.65% on fresh weight. A higher variation in the magnesium and iron levels (2.5 and 5 times, respectively) was observed, both between guavas and araçás. On the other hand, no significant difference was found in the levels of calcium and phosphorus. The high variability observed in most parameters of both accessions is an important factor to the improvement of these species. Most accessions of guava showed titratable acidity and soluble solids higher than those found in guava commercial cultivars and, in araçá, these levels were even higher, which makes them promising for commercial exploitation. Moreover, both fruits of guava and araçá present as good sources of sugars and minerals. Special attention should be given to some accessions of guava and araçá from Maranhão and Pernambuco States, respectively, which showed elevated levels of many chemicals and should be targets of breeding programs for the improvement of new cultivars of *Psidium*.

**Keywords:** *Psidium* spp, composition, plant breeding.

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