

# **Chemical Characterization of *Coffea arabica* Accessions from Instituto Agronômico Coffee Germplasm Collection**

**T. J. G. SALVA, V. B. DE LIMA, G. MARTIN, A. SANVIDO, M. B. SILVAROLLA,  
L. C. FAZUOLI, O. GUERREIRO-FILHO**

Instituto Agronômico (IAC), Centro de Café ‘Alcides Carvalho’, Campinas, Brazil

E-mail: tsalva@iac.sp.gov.br

## **SUMMARY**

Instituto Agronômico (IAC) Coffee Germplasm collection is composed of 16 species of *Coffea* and 2 of *Psilanthus* genera available for breeding programs. Highly productive varieties currently cultivated in Brazil and in other coffee producer countries have been originated from this germplasm collection. In order to explore the potential of utilization of the available material in future genetic improvement programs, forty four *C. arabica* accessions were analyzed for soluble solids, reducing sugars, total reducing sugars, trigonelline, total chlorogenic acids and caffeine. Chemical diversity was confirmed in all these grain components. Ethiopian and Yemen introductions enriched the possibilities of breeding focusing cup quality and nutraceutical characteristics. Some of these gene types are very different of genetic improved cultivars and varieties currently available. Although typical total reducing sugar concentration in Arabica is around 7% according the methodology employed, an Ethiopian accession exhibited concentration as high as 9.43%. Also, trigonelline, total chlorogenic acids and caffeine were characteristically high in accessions from Ethiopia.