Fungal Metabolites in Coffee

B. T. IAMANAKA[1], M. V. COPETTI[1], A. A. TEIXEIRA[2], A. R. R. TEIXEIRA[2], N. BRAGAGNOLO[3] AND M. H. TANIWAKI[1]

[1]Food Technology Institute – ITAL, Campinas-SP, CEP 13.070-178, Brazil
[2]Assicafé Assessoria e Consultoria Agrícola Ltda, São Paulo-SP, Brazil, Brazil
[3]Food Engineering Faculty, State University of Campinas, UNICAMP, Campinas-SP, Brazil

SUMMARY

The presence of fungi in coffee and the influence of these microrganisms in the final beverage, from two Brazilian regions, Patrocínio (Minas Gerais State) and Pirajú (São Paulo State) were investigated. Fifty beans were analyzed from each sample and the fungal species were isolated and identified. To study beverage quality, raw coffee beans were roasted and ground. The samples were evaluated in three different tasting tests: infusion, diluted espresso and espresso. A total of 547 strains were isolated. Coffee samples from Patrocínio had a low percentage of fungal infection with an average of 8.2%. *Eurotim sp* and *Fusarium sp* were the genera isolated the most. Coffee samples from Pirajú showed a high infection of *Penicillium brevicompactum.* The average infection was 29.3%. *Penicillium palitans, Fusarium lateritium*, *Fusarium oxysporium*, *Aspergillus niger* and *Aspergillus ochraceus* were the other fungi isolated from this region. Some coffee samples had a good clean beverage, with distinct aromas such as: chocolate, caramel and floral. These samples were more infected with: *Cladosporium* spp, *Fusarium* spp., *P. brevicompactum* and *P. palitans*. On the other hand, the most common fungi isolated from raw coffee beans which had fermented, stinker and rioy taste were *A. niger, A. ochraceus, Fusarium* spp and *P. brevicompactum*. Raw coffee samples were analysed to obtain the profile of volatile metabolites. Studies comparing the fungal infection to chemical metabolites are being carried out.