

The Influence of Fungi on the Flavour of Coffee Beverages

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SUMMARY

To investigate the influence of fungi on the flavour of coffee beverages, samples of raw coffee beans of varying quality were collected from different regions of Brazil. Samples were surface disinfected with 0.4% chlorine solution for 1 min, then 50 beans from each sample were plated directly (10 particles per plate) onto Dichloran 18% Glycerol agar, and incubated at 25°C for 5 to 7 days. After incubation, fungi were isolated and identified. To study beverage quality, raw coffee beans from each sample were roasted and ground. The samples were evaluated by three degustation tests: infusion, diluted espresso and espresso. Sensory analyses were carried out, evaluating the quality of the beverage in respect to body, aroma, acidity, bitterness, astringency and sweetness. Besides that, the presence of positive flavours and aromas such as caramel, chocolate or floral and negative characters such as immature, fermented, stinker, woody, rancid, mouldy, rioy and smoky were also evaluated. The most common fungi isolated from raw coffee beans, which still produced a good, clean beverage were *Cladosporium* spp, *Alternaria* spp, *Fusarium* spp, *Penicillium* spp., black moulds and yeasts. The high occurrence of *Penicillium* spp. in the Sorocabana region gave a positive sensory evaluation. On the other hand, the most common fungi isolated from raw coffee beans which had a wood and rioy taste were *Aspergillus niger*, *A. ochraceus*, *Eurotium* spp., *Fusarium* spp. and dematiaceous fungi. Prepared coffee which had a fermented taste was infected mostly with *Aspergillus* and *Eurotium* species, while coffee with a wood smoke taste was infected mostly with *Aspergillus niger*, *A. tamarii*, *A. flavus*, *Eurotium* spp, and dematiaceous fungi.