

Profile and Levels of Bioactive Amines in Regular, Decaffeinated and Organic Instant Coffee

T. M. L. SILVEIRA, M. B. A. GLÓRIA

Laboratório de Bioquímica de Alimentos, Faculdade de Farmácia, Universidade Federal de Minas Gerais, Av. Antônio Carlos 6627, Belo Horizonte, MG, 31270-901, Brazil

SUMMARY

The levels of ten free bioactive amines, pH and color characteristics were determined in different types of instant coffee. The amines were extracted with TCA and quantified by ion-pair HPLC, post-column derivatization with OPA and fluorimetric detection. The pH varied from 4.86 to 5.15, with higher levels in decaffeinated coffee. The color characteristics varied among types of instant coffee. Nine amines were detected (except tryptamine). Tyramine was present in every sample, followed by cadaverine and serotonin. Total amine levels varied from 0.28 to 2.76 mg/100 g. Serotonin was the predominant amine followed by cadaverine, tyramine and spermidine. Significantly higher tyramine levels were found in decaffeinated coffee and higher cadaverine levels were detected in decaffeinated and organic coffee. Investigations are needed to ascertain the impact of these amines on coffee flavor and on human health, and to determine the factors which affect amine formation and accumulation in instant coffee.