

Free and Conjugated Biogenic Amines in Green and Roasted Coffee Beans

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SUMMARY

Biogenic amines are present in a wide range of vegetables, either free or conjugated, but reports in coffee are rather limited and restricted to the free ones. In order to determine the composition of arabica and robusta species in terms of free and conjugated biogenic amines and to study their usefulness as discriminators for coffee variety and post-harvest processing method (dry or wet), a total of 9 arabica and 11 robusta samples from several geographical origins were analysed. The amines (putrescine, cadaverine, serotonin, tyramine, spermidine, and spermine) were determined by RP-HPLC/fluorescence after derivatization with dansyl chloride. Putrescine was the main biogenic amine present in the green beans either free or conjugated. With roasting, a significant loss in the free and conjugated biogenic amines levels was observed, especially the free ones. Free putrescine could be used in the discrimination of arabica and robusta green beans with high statistical significance. There is also some evidence that these compounds can be used for discrimination between green coffees subjected to dry and wet processing, but a higher number samples is necessary if definitive conclusions on the significance of the differences caused by the two post-harvest processes are intended.