

Sugars in Green Coffee Beans – Important Aroma Precursors an their Correlation to Post Harvest Method

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SUMMARY

Quantitative analyses of low molecular weight **sugars** in green **coffees** (*Coffea Arabica*) have been carried out by **LC-MS** to check either **processing** method and **storage** conditions. Coffees that have been processed by wet or dry traditional methods showed a relationship between the kind of post harvesting and the fructose and glucose contents. It has been seen that wet treatment leads to low levels of these sugars and the dry method leads to higher amounts. A comparison with the fresh controls indicates that the low levels of both sugars could be the consequence of a decrease of glucose and fructose concentration during the dry processing. For the first time cryo-conserved samples showed that dry processed coffee retains initial fructose and glucose levels, whereas semi-washed or wet processing reduces the amount of mono-saccharides present in the beans. At the same time we stored batches of same green coffees with different moisture content (MC) (7%, 10%, 13%) in fridge (10 °C) at room-temperature (25 °C) and in stove (40 °C) for nine months. Also in these cases we analysed fructose, glucose and sucrose and the conclusion is that high moisture or high temperature during storage of green coffee seams to cleave sucrose in fructose and glucose in parallel to sensorial deterioration and allows the use of monosaccharide content as quality marker. According to Knopp et al. (2005) and Bucheli et al. (1998) in both cases the glucose level is a good green coffee quality marker, instead sucrose, the major low molecular sugar in green coffee beans, is not significantly affected by coffee processing, but here we found even complete cleavage of sucrose under the drastic conditions.