ANTHOCYANINS OF COCOA BEANS : THE EFFECT OF PROCESSING AND STORAGE

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The anthocyanin pigments, 3-D galactosidyl and 3-L-arabinosidyl cyanidins are responsible for the purple colour of the fresh cocoa bean. During processing anthocyanin content declines. In this study the variation of anthocyanin content during main stages of cocoa processing namely :-)i) fermentation (ii) drying (iii) roasting and also (iv) maturation (a concept introduced by Liau[1]) was investigated.

Although anthocyanins do not play an important role in the final flavour pf cocoa, there is a possibility of using their content as an index for fermentation (also into consideration the changes on storage of cocoa beans).

The anthocyanin content[2] was determined by measuring absorbance at 520 nm.

The cocoa beans were categorized the different stages of processing the non-fermentated, 2 day fermented, 2 day fermented and 2 day matured, 4 day fermented and also for various initial colours of the beans.

Maturation was more effective than fermentation in lowering anthyocyanin content. Studies showed that the anthocyanin content also declined on storage.

These studies have laid a scientific basis for the "cut test"[3] for fermentation of cocoa bean, where the fermented "forestero" beans have a purple brown to brown and "criollo" a cinnamon appearance and the unfermented bean can be distinguished as it does not turn entirely brown on storage although there is a reduction of anthocyanin content.

The study also revealed a problem in that partially fermented beans give a fermented appearance and similar anthocyanin levels after three months of storage.

References

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