

Exploration Study of Civet Coffee: Amino Acids Composition and Cup Quality

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Abstract : Coffee flavour is influenced by many factors such as processing techniques. Civet coffee is known as one of premium coffee due to its unique processing technique and its superior cupping quality. The desirable aroma of coffee is foremost formed during roasting step at a high temperature from precursors that are present in the green bean. Sugars, proteins, acids and trigonelline are the principal flavor precursors compounds in green coffee bean. It is now widely accepted that amino acids act as precursors of the Maillard reaction during which the colour and aroma are formed. To investigate amino acids on civet coffee, concentration of 20 amino acids (L-Isoleucine, L-Valine, L-Proline, L-Phenylalanine, L-Arginine, L-Asparagine, L-Threonine, L-Tryptophan, L-Leucine, L-Serine, L-Glutamine, L-Methionine, L-Histidine, Aspartic acid, L-Tyrosine, L-Lysine, L-Glutamic acid, and L-Cysteine, L-Alanine and Glycine) were determined in green and roasted bean of civet coffee by LCMS analysis. The cup quality of civet coffee performed using professional Q-grader followed SCAA standard method. The measured parameters were fragrance/aroma, flavor, acidity, body, uniformity, clean up, aftertaste, balance, sweetness and overall. The work has been done by collecting samples of civet coffee from six locations in Gayo Highland, Aceh-Indonesia. The results showed that 18 amino acids were detected in green bean of civet coffee (L-Isoleucine, L-Valine, L-Proline, L-Phenylalanine, L-Arginine, L-Asparagine, L-Threonine, L-Tryptophan, L-Leucine, L-Serine, L-Glutamine, L-Methionine, L-Histidine, Aspartic acid, L-Tyrosine, L-Lysine, L-Glutamic acid, and L-Cysteine) and 2 amino acids were not detected (L-Alanine and Glycine). On the other hand, L-Tyrosine and Glycine were not detected in roasted bean of civet coffee. Glutamic acid is the amino acid with highest concentration in both green and roasted bean (21,02 mg/g and 24,60 mg/g), followed by L-Valine (19,98 mg/g and 20,22 mg/g) and Aspartic acid (14,93 mg/g and 18,58 mg/g). Civet coffee has a fairly high cupping value (cup quality), ranging from 83.75 to 84.75, categorized as speciality coffee. Moreover, civet coffee noted to have nutty, chocolaty, fishy, herby and watery.

Keywords : amino acids, civet coffee, cupping quality, luwak

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