

Preliminary nitrite, nitrate and colour analysis of Malaysian edible bird's nest

ABSTRACT

The high nitrite content in edible bird's nests is a major concern to the local swiftlet industry. It lowers the price of the edible bird's nests and it brings severe health hazards to consumers and farmers. This research investigated the nitrite and nitrate contents of eight types of local edible bird's nests by using ion chromatography system and evaluating its colour using the CIE system in $L^*a^*b^*$ parameters. The nitrite content obtained ranged from 5.7 g/g for the house nests to 843.8 g/g for the cave nests. The nitrate content for the house and cave nests was 98.2 g/g and 36,999.4 g/g, respectively. The cave nests with darker and redder colour had higher nitrite and nitrate contents than the brighter and more yellow house nests. This likely suggests that the nitrite and nitrate contents have correlations with edible bird's nests colour. Correlations studies suggested that the nitrite content had high correlations with colour parameters, $L^*a^*b^*$ of edible bird's nests at significant level of $P < 0.10$. These findings suggest that edible bird's nests' colour may be a useful indicator for measuring nitrite and nitrate contaminations.

Keyword: Nitrite; Nitrate; Colour; Ion chromatography; Edible bird's nest