9. Preliminary Study On Classification Of Raw Cow-Milk Using ATR-FTIR Coupled With PCA From Peninsular Malaysia

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Abstract

A classification of raw cow-milk samples was done according to their geographical origin in Peninsular Malaysia by Makmal Kesihatan Awam Veterinar, Department of Veterinary Services Malaysia (DVS). The objective of this study was to determine the traceability of milk in relation to food quality and safety.Six hundred milk samples were collected from Perlis, Kedah, Perak, Selangor, Pahang, Negeri Sembilan, Melaka and Johor states by 26 Milk Collecting Centre under DVS. Scanning of the milk sample was done using 4100 ExoScan attenuated total reflectance Fourier Transform Infrared (ATR-FTIR) Spectroscopy (Agilent Technologies, USA) method coupled with multivariate principal component analysis (PCA). The ATR-FTIR spectra were analysed and regions of interest were found in between 2700.819 cm^{-1} and 2419.173 cm^{-1}. Each spectral data was pre-treated using Spekwin32-spectrophotometer software version 1.71.6, 2012. Treated data were then analysed using PCA, which showed clustering of the milk samples towards their geographical origin up to district level. In conclusion, ATR-FTIR coupled with multivariate PCA alone has the potential for classifying the geographical origin of raw milk produced within Peninsular Malaysia.

10. Histopathological Observations Of Pulmonary Tissues From Respiratory-Associated Conditions In Caprine At Veterinary Research Institute For The Years 2013-2015

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Abstract

Respiratory disease is an important tropical condition of goats associated with changes in the respiratory organs which usually lead to pneumonia. Respiratory conditions can be categorised as pneumonic or non-pneumonic. This study was conducted to determine the extent of respiratory-associated conditions from lung tissues of goats in Malaysia by histopathological observation. A total of 73 lung tissues from goats from 2013 until 2015 with unclear history were examined by routine histopathological examination at the Veterinary Research Institute. The tissues were exclusively from lungs submitted and examined as diagnostic cases. The tissues were processed, examined and scored histologically. Results revealed that 86.3% of lung tissues examined had pneumonia and