Aromatic herbs classification by using discriminant analysis techniques

ABSTRACT

An electronic nose was used to distinguish between selected herb samples according to their family group species. This paper aims to evaluate the potential of using the electronic nose to characterize three groups of families of twelve herb species based on the discriminant analysis approach. The feature extraction involves the use of a signal processing technique that simplifies classification and yields optimal results. Two discriminant techniques: the principal component analysis (PCA) and the multiple discriminant analysis (MDA) were used to investigate the potential to distinguish herb species between several herbs within the same family group. The results showed that the twelve herb species can be better classified using the MDA method compared to the PCA method.