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Identification of poisonous mushrooms by means of a hand-held electronic nose

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Research paper

Summary

This work presents a practical application of an electronic nose to fast and efficient discrimination of different species of Amanita mushrooms. The electronic nose instrument were utilized for investigation of discrimination capability with respect to odour profile of these fungi. The home-made prototype was based on MOS-type chemical sensors and headspace sampling method. Samples were cut into thin sheets, placed in glass vials and maintained at a constant temperature using a thermostatic bath, the headspace of which was subjected to analysis. The data were analysed using multivariate methods: PCA, LDA and Artificial Neural Networks. The obtained results confirmed legitimacy of application of the electronic nose technique to identification and discrimination of fungi species. Results show a correct classification of the fungi species at the level of 80–100%.

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