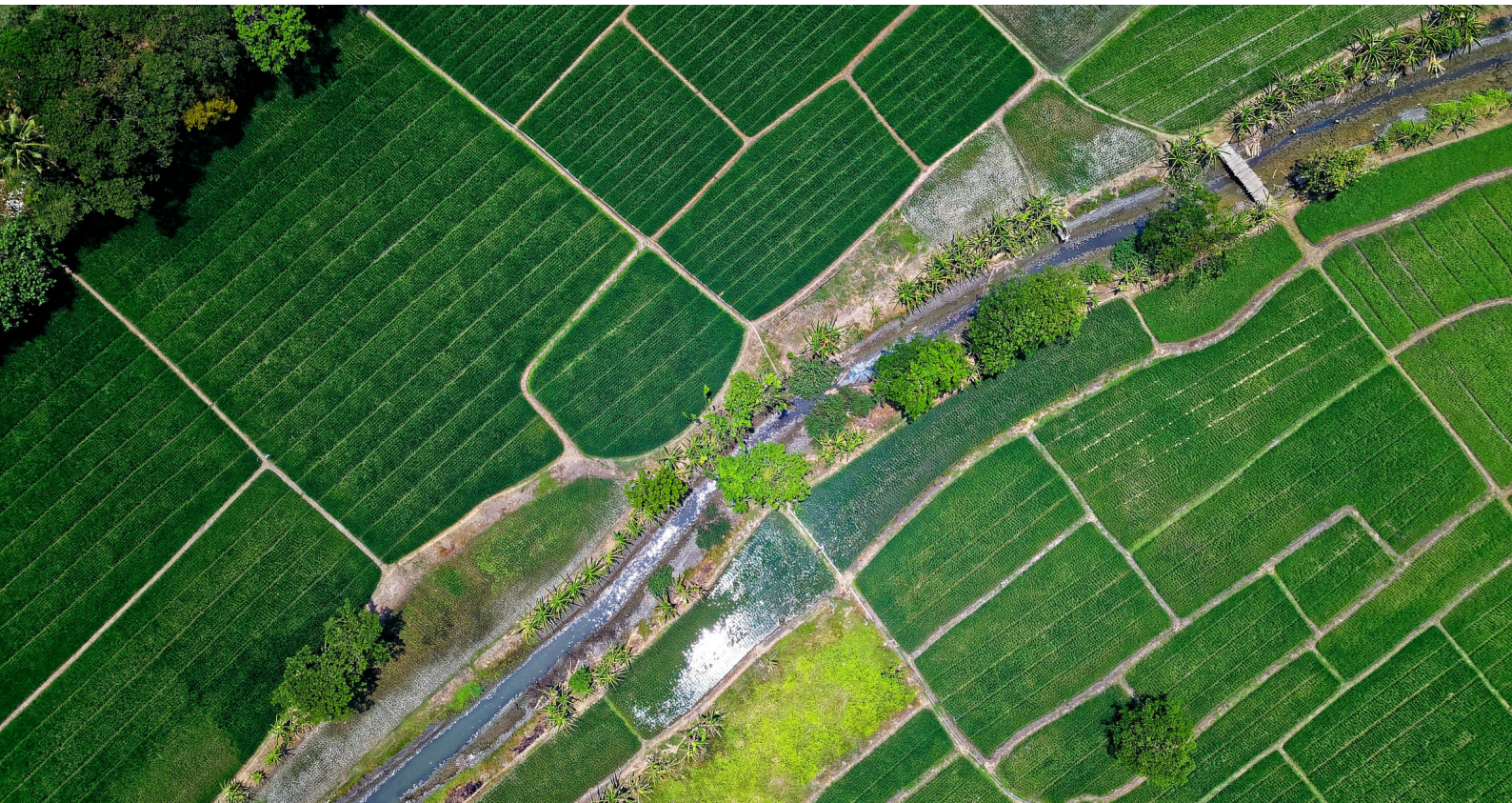


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Portable Electronic Nose for Agrifood applications "SPOTDETECT"

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PROBLEM

Contamination and fraud pose significant challenges in the agrifood industry during post-production. Detecting contamination or fraudulent activities involves sending samples to the lab, but by the time results are obtained, products may have already been processed or distributed to customers. This delay in detection can lead to severe health or financial risks for consumers.

Preventing delayed contamination results or fraud requires establishing a comprehensive control system that ensures maximum testing capacity at the initial stages of the production chain, such as farms and food processing facilities.



THE IDEA

The SPOTDETECT system by Next Generation Sensors is a flexible portable mass spectrometer designed for detecting contamination and fraud in agrifood products. The innovative idea behind it is to shift from the traditional method of taking samples to the lab for analysis to bringing the analysis tool directly to the production site. This concept comes to life with **SPOTDETECT**, a portable device meant for on-site use, providing immediate analysis "On the SPOT".



APPLICATIONS

With a **total detection and analysis time of less than ≤ 2mins** the SPOTDETECT can be used in several applications in the agrifood industry. Our device as molecular contaminants screener can **detect contamination** in agrifood products, **prevent health issues** and **prevent food wastage** by detected the contamination before the food processing and before hitting the shelves.

With the technology associated with the device, it is possible to prevent the fraud on fruit and vegetable marking as **Bio or non-Bio** products. As the first one has market value higher than the latter, farmer and producers tend to cheat on labeling of the product; by using our device the customer will be guaranteed to get the face value of what he paid for.

Portable Electronic Nose for Agrifood applications “SPOTDETECT”



Technical Spec	
Dimension	54×30×45 cm (including pumps, PC and power supply)
Weight	21 kg
Sample Inlet	Flex membrane probe for volatile contaminant analysis Rapid sample vaporization system for non-volatile contaminant analysis
Sample preparation	Zero (analyses sample in native form)
Ion Source	Electron Impact
Mass Analyzer	Quadrupole Mass Filter
Mass Range	Up-to 500 m/z
Mass Resolution	Software adjustable, better than 0.7 at FWHM
Ion Detector	Faraday and Electron Multiplier
Sensitivity	Low parts per billion
Dynamic Range	HDR mode, High dynamic range mode. 8 decade dynamic range in a single scan
Vacuum Pumps	Self-contained miniature turbomolecular and diaphragm pump
NIR	960 to 1690 nm
Power Requirement	100-240 V AC, 50-60 Hz, 250 VA
Display	7" Multitouch Color Display (1280x720 WVGA;1300 nits brightness)
Software Application	NGS SPOTDETECT APP
Data Storage	Internal 64GB External: cloud with data management system
Classification model engine	Optional with a license fee
Data Storage	SQL format
Autosampler	20 sample capacity
Total measurement time including data analysis	≤2 mins