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FarmLink Research Report 2019

Smelling Soil

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Trial Site Location

NSW

Introduction

As part of the Soil CRC's research program (soilcrc.com.au), a team at the University of Tasmania is working with grower groups to develop a simple and easy to use device which will monitor the volatile compounds produced by biological activity in soil. This device, an eNose (or electronic nose), can detect many different compounds at the same time. It will measure something similar to an "aroma fingerprint". In much the same way that a person can detect the many different compounds that make up the smell of "coffee" without identifying particular compounds, the eNose will be developed to recognise different biological communities based on the chemicals they are producing. In the future, it is hoped that growers will be able to use this information to help make decisions on how best to manage their soils to be healthier, more productive and more resilient.

In 2019 a first-build prototype sensor array was produced although development and improvement of the device is continuing. In 2020 we will test its ability to detect changes in the volatile chemical compounds produced by soil as it is exposed to environmental stress. In parallel with the design and experimental work, the project is seeking input from growers to understand how information about biological activity in the soil might be used in the management of their properties.

Project Partners



Funding Partner

