An experimental system developed in partnership by vegetable growers Produce World Ltd's Mr Jonathan Tole and Cranfield University's Senior Lecturer in Sustainable Soil Management, Dr Robert Simmons, is poised to revolutionise the way farmers manage their soils. Together, the researchers are unlocking the potential of soils through the new science of agri-informatics and their innovative, collaborative Soil-for-Life® management system.

SUSTAINING THE SOIL

It is becoming more widely accepted that our soil – the basis of food production, a store of water and carbon, a key climate regulator, and home to a uniquely diverse community of organisms – needs a health check. In fact, Jonathan Tole, who was Dr Simmons’ key partner at UK vegetable producers Produce World, says: “Enhanced soil management practices will drive growth in farm profits and sustainable improvements to farming that reduce the impact of agriculture on the environment.”

However, soil is a complex entity which differs from farm to farm and field to field. To harness the scientific and technical expertise of Cranfield University, and the farming and business knowledge of Produce World, Dr Simmons and Mr Tole built a team of soil and environmental scientists, database designers, agri-business experts, and web developers. Together they developed an innovative, high-tech and user-friendly solution to support farmers and agri-businesses to manage their soil sustainably, despite its complexity. The solution, called Soil-for-Life®, aims to reverse soil degradation, improve soil quality, and maintain soil health in the long term, providing users with the information they need to balance environmental sustainability with economic viability.

As one of the largest fresh produce businesses in the UK, Produce World was uniquely placed to provide data across a

In a time of growing human population and increasing impacts of global climate change, food security is of increasing concern. Producers and policymakers agree that there is an urgent need to increase agricultural production in the short term, while maintaining environmental sustainability for the long term. But can these two, often competing factors be achieved in tandem?

Dr Robert Simmons, an expert in sustainable soil management, believes that much of today’s inefficiency – and unsustainability – in crop production has its roots in inappropriate soil management. In fact, soil provides the foundation for over ninety percent of all agricultural production worldwide so it is no surprise that degraded soils can result in sub-optimal yields of poor quality crops with higher levels of wastage. The state of the soil not only impacts directly upon crop yields, but also has implications for the timing and effectiveness of agricultural operations, resulting in land not being used to its full capacity. Furthermore, a build-up of diseases in soils may make them unsuitable for growing many crop species – in total, it is estimated that over ten trillion US dollars is lost each year due to declining soil quality.

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The longer Soil-for-life® continues, the more information is generated and the greater improvements can be made.