

AgriTech 4.0: Crops, Seeds & Soil 2022

Virtual Conference Agenda (UK Time)

Conference - Friday 21st October 2022

<https://tech40.net/>

"Accelerating the development, advancement & efficiency of sustainable farming"

AgriTech 4.0: Crops, Seeds & Soil focuses on supporting farms, farmers and produce providers in providing knowledge and assistance on the key aspects of the evolving technologies, processes, and practices being developed, used, and implemented for sustainable farming to enhance productivity and yield.

CONFERENCE – 21st October 2022

"Accelerating the development, advancement & efficiency of sustainable farming"

0830 – 0855 – *Welcome coffee and networking*

Talk to the other attendees and begin your one-one networking meetings for the day

CONFERENCE ROOM 1 – DEVELOPING AND INTEGRATING SOLUTIONS INTO SUSTAINABLE FARMING

With the ever-increasing development and evolution of agriculture to develop the industry further and advance sustainable farming, there are many solutions and offerings that are available to the farm. The advantages are well established, so what is being achieved in the current marketplace at this time to support continued development?

 0855 – **Chairperson's Opening Remarks – Kate Pressland, Manager - Centre for Effective Innovation in Agriculture**

0900 – **Climate Predicting Crop Health**

- Advances in using climate to help the agriculture sector
- How can climatology help agriculture?
- Industry examples of technology applied on the farm and the benefits being received by the farmer

Chris Knight, CEO / CTO – Agribot

0925 – **Innovation and Technology within LEAF and the LEAF Network**

- Recent development projects within LEAF and the Network
- Ongoing Innovation and Technology being used and implemented in the LEAF Network
- Insights on working with LEAF, key technology & practices on the farm, & reducing catchment area pollution

Callum Bennett, Technical Officer and Megan Whatty, Technical Officer - LEAF (Linking Environment And Farming)
Andrew Court, Partner - Court Farming Partnership

0950 – **Welcome to the Fourth Agricultural Revolution**

- Transforming the future of regenerative farming: how our autonomous robots are rolling out to UK farms this Autumn
- Per Plant Farming: the importance of understanding crops at per plant level
- Using robotics and AI to make farming more efficient, sustainable, and profitable

Sam Watson Jones, President & Co-Founder - Small Robot Company

1015 – **Regenerative Agriculture Enhancing Soil Health and Securing Future Farm Sustainability**

- Current research activities relating to regenerative programmes
- Focusing on soil health research and development of metrics
- The future areas of research development and dissemination of information

Thomas Gent, Ambassador Farmer & UK Market Lead – Agreena

1040 – *Coffee break and networking with the event attendees and exhibitors*

CONFERENCE ROOM 1 – DIGITAL TECHNOLOGY AND DATA SUPPORT

Digital technology and the application of data gives farms and farmers an opportunity to improve productivity, with digital agriculture changing how farmers farm and transforming every part of the agribusiness value chain. How can we continue to support farmers and make our farms more productive & profitable whilst enhancing the environment?

1105 – Keeping on the Straight and Narrow

- Lessons and experiences from 20 years of no-till crop establishment
- Getting more from machinery using RTK-GPS
- The robots are coming! Developing autonomous inter-row weeding and the potential for low cost, lightweight autonomous machinery in agriculture

George Renner, Director - I W Renner & Sons



1130 – Drone Automation in Arable Agriculture: The Next 5 Years

- Automation making processes and practices on the farm more efficient when it's done right
- Outlining capabilities in trial plots, base stations, soil, and spraying
- Past, present, and future abilities of drone automation application on the farm

Jack Wrangham, Director – Drone AG



1155 – How Satellites and AI can Support Regenerative Agriculture

- How markets for ecosystem services can support farmers in switching to regenerative agriculture
- The role of scalable MRV in building scientific rigour and accuracy into carbon markets and soil health programmes
- How AI and accurate ground-truth data can advance the state of the art in remote sensing MRV tools

Matthew Guinness, VP Sustainability - Hummingbird Technologies



1220 – Tuberscan: Developing Smart Solutions for Non-Evasive Potato Development Mapping

- The evolution of the Tuberscan project in increasing efficiency and productivity in potato production
- The current state of the project and ongoing developments
- Ongoing research projects at the National Centre for Precision Farming to support farms

Richard Green, Head of Engineering Research, National Centre for Precision Farming - Harper Adams University



CONFERENCE ROOM 2 – ENHANCING CROPS, SEEDS, AND SOIL

Productive crops and healthy plant foods can be enhanced further by our research, practices, and processes into ensuring the life cycle of crops and plants is managed effectively. How are we developing and managing the soil whilst ensuring the inputs we put into the soil and on the plant leads to healthy, sustainable, productive crops and plants?



Chairperson: Ben Taylor-Davies, CEO - Regenben

1105 – Root Traits to Support Sustainable Agriculture

- Rhizospheres offer a considerable opportunity to improve soils
- Linking root traits of seven cover crops to improvement soil characteristics
- Targeting root traits to improve soil health is a win-win scenario

Wilfred Otten, Professor of Soil Biophysics – Cranfield University



1130 – Our Journey into Regenerative Farming

- How we started our journey into regenerative farming at W heatsheaf
- Lessons learnt and outlining the practices and processes we have tried on the farm
- Where we are now with our working practices

David Miller, Farm Manager – W heatsheaf Farming



1155 – Quantifying Conservation Agriculture – A Real Life Cost/Benefit Analysis

- Five-year scientific project to quantify holistic range of economic, agronomic, and environmental implications of moving to Conservation Agriculture practices
- Working with independent partners across different soil types, in real farm and real-time situations, to identify viable arable farming systems
- Identifying double wins for farm profitability and soil health using CA practices to support Regen Agriculture adoption

Belinda Bailey, Sustainable Farming Manager UK and Eire - Syngenta



1220 – Sustainable Agriculture and Cover Crops

- A summary of the pressures on Agriculture
- How Cover Crops can benefit cropping and soil health
- A look at alternative break crops and their place in the rotation

Hannah Foxall, Company Agronomist and Fraser Hill, Company Agronomist - Premium Crops

1245 – Lunch break and networking with the event attendees and exhibitors

1250 – CONFERENCE ROOM 1 – How to Start Growing your Agritech IP Portfolio

- What is intellectual property and how it can be used by agritech companies
- Industry examples of agritech innovation that can be protected using intellectual property law, from techniques to save energy and water, to vertical farms to agri-robotics
- When and why to start protecting innovation and how to grow an IP portfolio

Parminder Lally, Senior Associate - Appleyard Lees

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1330 – Artificial Intelligence (AI) as a Game Changer in Field Cultivation

- The current problems in agriculture
- Outlining the game changing abilities of AI in supporting the farmer and cultivation
- Facilitating effective access to all farmers for their benefit

Martin Ullmann, CEO – Ullmann

1355 – Catchment Sensitive Farming: Improving Water, Air and Soil Quality

- An introduction to Catchment Sensitive Farming (CSF)
- CSF advice: Promoting best practice, soil health and management, Countryside Stewardship, Environmental Land Management Schemes, Slurry Infrastructure Grant, and Water Quality Monitoring
- How we support farmers through the agri-transition

Ellen Fake, Catchment Sensitive Farming Adviser – Natural England

1420 – Intelligent Agrifood Chains

- How agrifood organisations are using data to quantify and support sustainability
- Find out how an improved carbon footprint links with better farm and business productivity
- Discover how the supply chain is working with farmers in a collaborative way to substantiate environmental progress and focus on key areas that provide the most gain in the thrust towards net zero

Julian Gairdner, Chief Commercial Officer - Pure Farming, Powered by Map of Ag

1445 – Assisting AgriTech Innovation Through Funding

- An overview of the funding support landscape
- What assistance is available to develop innovative solutions and how to find funding
- Outlining the steps and process for funding application

Vincent Seddon, Commercial Director - TBAT Innovation

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1330 – What is Regenerative Agriculture?

- Definitions of Regenerative Agriculture
- Common Regenerative Agricultural practices
- Where next for Regenerative Agriculture?

Francis Dodds, Editorial Director - Burleigh Dodds Science Publishing

1355 – Nature-Inspired Peptides for Sustainable Crop Protection



- Designing and developing new peptide-based bioinsecticides for sustainable global crop protection
- Peptides being selective for insect pests, pollinator-friendly and environmentally safe
- Developing high efficacy peptide candidates for 4 major pest insect targets, with promising data from early Proof of Concept semi-field trials for 2 insect targets

Shireen Davies, CEO - SOLASTA Bio

1420 – Bridging the Gap Between Industry and Academia to Advance Sustainable Farming



- The challenges facing agricultural industries and academia
- Outlining the potential for complementarity
- Rovensa's approach for bridging the gap

Robert Malek, Scientific Officer - Oro Agri

1445 – To be confirmed



- To be confirmed
- To be confirmed
- To be confirmed

Sofia Kourmpetli – Cranfield University

1510 – Coffee break and networking with the event attendees and exhibitors

CONFERENCE ROOM 1 – PANEL DISCUSSION ON DIGITAL TECHNOLOGY AND DATA SUPPORT

1535 – “Continued Steps in Implementing Technology and Processes onto the Farm”



Moderator - Kate Pressland, Manager - Centre for Effective Innovation in Agriculture

- What challenges are farms having in embracing and integrating digital technologies
- Which technologies and processes are making the difference now to productivity
- Maximising production and resource efficiency using available solutions
- Keeping the farmers and humans in the loop with automated and digital technologies



AgribotAI - Chris Knight, CEO / CTO

George Renner, Director - I W Renner & Sons



Matthew Guinness, VP Sustainability - Hummingbird Technologies

Thomas Gent, Ambassador Farmer & UK Market Lead – Agreena **Agreena**



Callum Bennett, Technical Officer - LEAF (Linking Environment And Farming)

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1535 – Joining the Dots for Nitrogen Use Efficiency



- Supply – how to ensure the optimisation of nitrogen supply
- Assimilation – optimising assimilation as soon as possible and the implications
- Utilisation – ensuring the efficient transfer to grain / seed

John Haywood, Managing Director – Unium Bioscience



1600 – **The Soil Health Improvement Project 2020-2025**

- Early findings from a field trial in Northamptonshire that has set out to improve the health of heavy clay soil
- The hypothesis of improving soil health leading to healthier plants and a reduced need for plant protection products
- Trial plots looking at crop varieties, drill technology and techniques to reduce compaction, as well as fertiliser amendments (FYM, biosolids, liquid N)

Marion Perrett-Pearson, Senior Agricultural Adviser – Severn Trent Water

1625 – **Summary & Close of AgriTech 4.0: Crops, Seeds & Soil 2022**
