

# Luke Tyler – Menter Mon Portfolio

## **Agri-Tech Manager – Menter Mon (Jan 2020 – present)**

My role as Agri-Tech Manager is to manage the company's agri-tech portfolio and lead the agri-tech team. This work is primarily centred around pioneering the use of controlled environment agriculture (CEA) technology in farming diversification. I named the project [Tech Tyfu](#) (Growing Technology), which I have developed over the last two years into a successful brand.

### **Successful businesses**

A key part of this role has been to form a group of farmers and growers, supplying them with CEA systems and providing specialist support to the growers. Some of these growers have achieved considerable success through the project, which include established farmers [Hooton's Homegrown](#) with their new Anglesey watercress, and also new business [Tyfu'r Tyddyn](#) in Harlech, started by the project and now supply fresh produce to a [number of local businesses](#).

### **Tech Tyfu Innovation Hub**

The Innovation Hub is a new facility housing the Tech Tyfu project at Menai Science Parc, aiming to embed controlled environment agriculture into the Welsh economy, and provide a high-level CEA resource for research. The project has had two main features, which have been a novel design and remote sensing. I worked with V-Farm to design the hub equipment, which has taken the form of an entirely novel integrated NFT with flood and drain design, with crops fed by autodosing and customisable artificial lighting. The hub also includes three freestanding systems with autodosing, one of which is a novel chamber system with integrated HVAC and cloud control.



Above: Interview with Rhun ap Iwan MS in the Innovation Hub at M-Sparc

The project has attracted high level interest from senior figures across the political spectrum. The facility was [visited by Lee Waters MS](#), Deputy Minister for Climate Change in Sep 2021, who commented “I have been continuously impressed by the energy and ingenuity of Menter Môn. I wish every community in Wales had an equivalent.”

In November 2021, Rhun ap Iwan MS, MS for Ynys Môn, chair of cross-party group on digital and deputy leader of Plaid Cymru visited the facility and interviewed me about the project. [You can watch our discussion here.](#)

The project was [mentioned](#) as an exemplar in the [7<sup>th</sup> of June debate](#) on the ARIA bill in the House of Commons by Ynys Môn MP, Virginia Crosbie, who said: “*We need to encourage more people with an innovative and entrepreneurial mindset, such as those at Tech Tyfu and the others located at M-SParc, to engage with research in order to solve the problems that the world faces today and in the future.*”

### **Innovation in use of wool**

I have been part of the company’s strategy to [develop new supply chains for Welsh wool](#). In controlled environment agriculture, I have been trialling wool-based matting for different crops over the last two years, and am working with BEACON on the possibility of biorefining. Extracting lanolin would create a valuable coproduct and the wool would have improved water retention, and we are currently working on developing this technique.



Above: Meeting Lesley Griffiths MS (Minister for North Wales and Rural Affairs) at our BlasCymru 2021 stand, demonstrating our crops grown in experimental wool matting substrate.

### Teaching and education experience

Another key aspect of my work on the project has been to introduce CEA / agritech to the education system. This has involved supplying free standing hydroponics equipment to four of Anglesey's secondary schools (Amlwch, Bodedern, Holyhead and Llangefni) and Coleg Glynllifon near Caernarfon. This project has involved me running sessions with staff and students teaching practical growing and hydroponics, which has been received with real enthusiasm by the schools (success stories from [Holyhead](#), [Llangefni](#) and [Glynllifon](#) so far).

The schools project has been well-received by policymakers, with Future Generations Commissioner for Wales Sophie Howe writing for the Institute for Welsh Affairs: *"Across Wales we are seeing evidence of innovation in education. Schools in Anglesey have been exploring vertical farming with agri-tech programme Tech Tyfu, learning about new ways of growing crops without using soil."* ([full article here](#)).





Above: Teaching at Coleg Glynllifon in Feb 2020

I am a member of the [M-Sparc Agri-tech cluster](#), which is a group of academics and tenant companies at Menai Science Parc dedicated to innovation in agri-tech. We meet regularly to explore opportunities for collaboration and funding as well as provide the cluster with updates. Remote sensing is a key theme of the cluster ('The Green Eagle' was one recent collaboration between cluster members led by UAV experts Aerialworx, which was a UAV able to recognise weeds in a field and apply treatment) For Bangor University's press release on the cluster: [click here](#).

I am a steering group member and project manager on a large active travel and biodiversity corridor project called the [Green spine](#). My responsibilities include producing maps for the route, assigning tasks to consultants and contractors as decided by the steering group and working in collaboration with Natural Resources Wales, Ynys Mon County Council and Welsh Water. Through this project I have gained in depth understanding of NRW internal processes, project management and stakeholder engagement.

I am a conference and event speaker on various topics relating to innovation, forestry, sustainability and agri-tech. Most recently I spoke at the [COP26](#) Wales Regional Roadshow, and earlier in 2021 I was a speaker at [Wales Tech Week](#) and [Digital Leaders Week](#). I also presented research at the [Wales Real Food and Farming Conference](#) in the session on Fruits and Nuts – heritage, business, biodiversity and the circular economy.