HORTICULTURE DASHBOARD

May 2021 – June 2022

FARMING connect
cyswllt FFERMIO

352 BUSINESSES REGISTERED with Farming Connect are from the Horticulture sector

Demonstration Network

Focus Site: Cae Derw, Ruthin

Project Title: Diversifying into horticulture and establishing a Pick Your Own enterprise using the no-dig method

The Pick Your Own (PYO) market has evolved over the last decade, from the traditional production-focused enterprise towards an experience based on farm tourism. Social media and demand for local value-based family days out in the countryside has fuelled this demand. Being less motivated by crop production, this provides opportunities for family farm units – even those more remotely located –to build an alternative income-generating enterprise that can be scaled according to individual resources and labour availability throughout the year.

The aims of the project were to:

- Explore the no-dig method to develop fruit, vegetable, and flower beds
- Grow as naturally and ecologically as possible
- Have crops available for public access from March to October
- Compare sheep's wool against cardboard as a weed suppressant mulch
- Develop a pumpkin PYO enterprise

Figure 1. Pick your own jam jar flowers, August 2021

Figure 2. Raspberry Punnets September 2021

Figure 3. Lucy Owens, Cae Derw, October 2021

Conclusions:

- The no-dig approach has been successful, with the flowers, raspberries and pumpkins all growing well
- Using sheep's wool around the raspberries worked well as a weed suppressant, also helping to store water for slow release, plus contributing nitrogen over time
- Using cardboard worked better as a base layer with farmyard muck on top covered by Mypex
- Planting flower bulbs through Mypex was more labour-intensive initially, but reduced subsequent weeding requirements
- The PYO pumpkins worked well, managed through a booking platform
- The raised flowerbeds for PYO days have proved very popular and financially lucrative, so more beds will be created for the coming year, starting with spring bulbs

Focus Site: Glebelands Market Garden, Cardigan

Project Title: Evaluating the benefits of the Terrateck wheel hoe with Bio-Discs for weed control in vegetables

Glebelands Market Garden is a 4ha organic enterprise supplying a farm shop on site, plus local restaurants and shops. Weed control is a constant challenge in small- and medium-sized vegetable growing ventures that routinely depend on hand-hoeing techniques, requiring considerable time and labour input. The business currently deploys two Glaser wheel hoe models- which are used alongside hand-hoeing, but wanted to explore how to reduce or eliminate the hand-hoeing altogether.

The 'Terrateck Market Gardening Hoe' is a multi-purpose cultivator tool that can be used to mechanise seedbed preparation, hoeing, weeding and ridging work. The hoe was fitted with Bio-Discs, which have two settings: one for mulching a row of vegetables and the other for precise weeding. Using the ridging position, the Bio-Discs cover the row with earth, thereby stifling the weed plantlets – making it ideal for bean, onion, and leek seedlings.

Figure 4. Adam York using the Terrateck hoe with Bio-Discs

Results

Table 1: Weeding time and labour costs for five treatment beds, each using the Terrateck wheel hoe with bio-Discs (TBD) versus the Glaser hoe (GH) and hand-hoeing

TBD			
Date	8 June	15 June	30 June
Weeding time per bed (minutes)	11.8	75.0	11.4
Total treatment weeding time (hours)		8.2	
Labour cost for 5 beds £*	82		
GH			
Date	8 June	15 June	30 June
Weeding time per bed (minutes)	78.0	45.0	63.0
Total treatment weeding time (hours)		15.5	
Labour cost for 5 beds £*	155		
Cost saving %	47% less		
*Labour costed at £10 per hour			

Conclusions:

The Bio-Discs are a valuable tool for cultivation of upright crops. A sufficiently fine tilth is critical for efficient operation and getting reliable results. The hoe is particularly suited to small- and medium-scale operators with row crops of higher value but insufficient scale to justify the machinery cost, set up or training time for tractor-mounted versions. A typical dilemma on small to medium farms is whether to get a tractor out and set up the relevant cultivator, or pick up a lower-tech manual tool for more immediate use, but lower efficiency, as the area worked on increases.

The time savings recorded suggest that the Bio-Discs are a cost-effective tool. Over five treatment beds and three weeding operations, use of the Bio-Discs saved 7.3 hours labour at a cost of £73, compared to the Glaser hoe and hand-hoeing: a 47% reduction.

Focus Site: Mostyn Kitchen Garden, Holywell

Project Title: Developing a Pick Your Own pumpkin enterprise

The main aim was to explore the financial benefits of establishing a small-scale Pick Your Own (PYO) pumpkin enterprise and to evaluate any additional benefits from engaging the local community, such as increased sales of jams and chutneys also produced on site.

The project looked at:

- Choice of varieties, considering colour and size requirements
- Crop agronomy from seed to maturity, including pest and disease control
- Comparing growing from seed indoors with direct planting outdoors
- Weed control
- Recording any disease issues, especially Blossom End Rot and powdery mildew
- Determining whether irrigation was required
- Promotion of PYO using social media
- Management of the public on site

Results

The crop grew well, despite a cold spring. The plants produced were of good quality and there were few losses. In the direct drill trial, the pumpkins did not germinate as well as in the modules, which left gaps. The ones that did survive produced a crop – albeit not of the quality of the transplanted ones.

Weed control involved a simple stale seed bed preparation, followed by a combination of tractor-mounted scuffles and hand-hoeing. Some patchy powdery mildew appeared in August, but by then, the crop was setting well and no action was taken.

The growing of crops for entertainment value, as well as food, is quite a new area, and despite being on a small but intensive scale, rewards were good. It has created a sustainable operation from which the enterprise will develop further.

Operating this type of venture does require some marketing flair and a willingness to welcome the public and provide a good visitor experience. It is, however, a model that could be implemented on many farms to make a reasonable seasonal return that is repeatable and operating in a market likely to grow in demand over the coming years.

Costs

5000 F1 Hybrid seeds £250-300

Labour (hand planting and weeding) £1250 per hectare(ha)

Returns

7500 marketable pumpkins per ha @ £4 average price = £30,000 gross output/ha

Conclusions

The crop was manageable with the existing staff and was produced without many problems. Thanks to planning and targeted social media campaigns, the crop sold out very quicky. Engagement with the public demonstrated keen demand, and farm tourism provides a viable alternative to mainstream edible production, which has become problematical with the low prices achieved on fresh produce to more conventional markets.

Mentoring Programme

1 NEW HORTICULTURALISTS IS ACCESSING THE MENTORING PROGRAMME

Knowledge Exchange Hub

Technical articles produced by the KE HUB:

- SPROUTS, MICROGREENS AND EDIBLE FLOWERS: POTENTIALS FOR INNOVATIONS
- POTATO BLIGHT: SECURING OUR SPUDS
- THE POTENTIAL FOR GROWING PLANTS UNDER ARTIFICIAL LIGHT
- UNLOCKING THE POTENTIAL OF ALTERNATIVE CROPS: NEW INCOME AND ENVIRONMENTAL SUSTAINABILITY
- GROWING CROPS FOR THE PHARMACEUTICAL INDUSTRY
- INDOOR OR IN-FIELD: CLIMATE IMPACTS OF CONTROLLED ENVIRONMENT GROWTH
- PHOTO-SELECTIVE POLYMER FILMS FOR CROP GROWTH AND PROTECTION

EIP Wales

Improving horticultural yields with non-peat based soil amendments

Soil amendments are materials which are added to the soil to improve its structure, provide nutrients and promote healthy plant growth. Many different kinds of soil amendments exist; however, in this two-year EIP Wales project, running until September 2022, four experienced farmers/ horticultural growers from across mid and south Wales are trialling three different organic soil amendments to assess the impact on plant growth, which are:

1. Molinia biochar
2. Animal bedding co-composted with sheep's wool (20% wool, 80% manure)
3. Animal bedding compost with molinia biochar (20% biochar, 80% manure)

The aims of this project are to:

- Demonstrate if vegetable yields can be improved with low-carbon footprint alternatives to inorganic fertilisers
- Develop a sustainable market for molinia to encourage its removal and improve upland biodiversity
- Develop a method to increase the quantity of carbon sequestered in soil
- Provide an alternative to peat-based composts/soil conditioners
- Develop a market for tail wool (which currently has no use or value)

Preliminary results from 2021

Each of the five trials in the first year provided slightly different results. In summary it seems as though biochar (with and without the sheep wool/manure compost) had the greatest effect in the poorest growing medium. All treatments showed an improved result against the control, but not all were statistically significant.

The cabbage field trial showed that the biochar + compost mix gave a 35% yield increase over the control. As research suggests, biochar takes two years to give full benefit, so cabbages will be grown again in the same bed.

In the basil trials, when added to commercial compost, biochar had a small positive effect, but high quantities had a high negative effect. Therefore, the basil pot trials this year are designed to find the optimum ratio of each.

With the maize and courgettes, which were grown in raised beds of improved slightly acid soil, the compost without biochar performed best.

Radishes, pot-grown in quite poor soil with a pH of 5.8, showed a significant yield improvement for all treatments. These pot trials will be replicated this year to assess the optimum ratio of soil and amendment.

Here are the results in more detail

The second growing season (2022) is currently underway.

Personal Development Plans

Within this period a total of **741** PDPs were created; of these, **31** were completed by businesses that selected horticulture as their primary or sub-sector.

Management Exchange

Naomi Hope

Location: Nevern, Pembrokeshire

Destination: France

Topic: Growing and processing organic herbs for Welsh teas

Naomi (who has a master's degree in project management), together with her partner Richard, are new entrants to horticulture. They grow a diverse range of organic vegetables from their 10-acre Pembrokeshire smallholding, which they sell through a vegetable box scheme, as well as directly to shops and restaurants. Having researched the market, they feel ready to expand their business model by growing fresh organic herbs, including those which can be made into speciality tea.

"Unlike in France, very few herbs are grown in the UK specifically for teas. Brittany has a similar climate to ours, so my exchange will teach me which varieties to focus on, and I will learn about the cutting, drying, processing and packaging processes."

John Savage-Onstwedder

Location: Llandysul, Ceredigion

Destination: Sweden

Topic: Distilling birch tree sap to make alcohol

According to John Savage-Onstwedder, there are thousands of acres of birch trees in Wales, but to the best of his knowledge, nothing is being done with them! John farms a 60-acre organic farm in Ceredigion, where he keeps a herd of suckler cows. He is best-known, however, for being the founder of Caws Teifi Cheese and the Da Mhile Distillery – two award-winning enterprises that are widely acknowledged for producing flagship products within the Welsh food and drink industry. John is a member of 'Grŵp Sap Bedw', set up to investigate the opportunities for harvesting and marketing birch sap.

"My interest in visiting Sweden is to meet with a company which successfully uses birch sap to make alcohol."

Surgeries

7 SURGERIES HELD

Key topics included:

4 Marketing and diversification	**2** Business and Business Performance	**1** Agriculture & Succession Law

Several businesses wanted a surgery, in either Marketing and Diversification or Business, to discuss the new horticulture grant and opportunities relating to that. They wanted advice on how to create a business plan regarding their horticulture business ideas.

One business wanted an Agriculture & Succession Law Surgery, to have more information on joint venture agreements, due to them thinking of going into a horticulture joint venture.

Venture

0 HORTICULTURE OPPORTUNITY CURRENTLY AVAILABLE

17 SEEKERS ARE LOOKING FOR HORTICULTURE OPPORTUNITIES

1 HORTICULTURE OPPORTUNITY MATCHED UP THROUGH VENTURE AND CURRENTLY BENEFITING FROM THE ADVISORY SERVICE

Webinars

Examples of webinars held include:

Living off 10 acres

This webinar was held as part of the Living Off 10 Acres roadshow, targeting individuals looking to diversify into horticulture, and experienced gardeners looking to venture further. The roadshow discussed the horticulture opportunities available in Wales, including:

- Key factors in developing a successful horticulture business
- How 10 acres or less can sustain a livelihood
- Cropping options, such as high-value vegetables, speciality berries, orchards and vineyards
- Hydroponic growing systems
- Forecast for the future

Matt Swarbrick, who farms in Henbant in north-west Wales, also joined Farming Connect in this roadshow to share his successful business experience in the sector. This event provided people with the opportunity to network and share comments and ideas.

Support for the horticulture sector

Farming Connect held a webinar with Richard Evans, Welsh Government, explaining the support available for existing commercial horticulture producers to develop their business through the Horticulture Development Scheme. This webinar also explained the Horticulture Start Up scheme, which aims to support entry into the horticulture sector in Wales by encouraging the establishment of new commercial horticulture enterprises. Dr Delana Davies also presented results of a recent horticulture project held on one of Farming Connect's demonstration sites.

Training

There have been **four** application windows between May 2021 and June 2022, with **1326** instances of training delivered during this period.

Of this number, **18** instances were from businesses including Horticulture as their primary or sub-sector.

Courses delivered included:

Courses delivered included:
Level 2 Award in Safe Use of Pesticides (PA1) & (PA6)
Rough Terrain Telescopic Lift Truck
Responsible and Effective Control of Commensal Rodents
Book-keeping
Maintaining and Improving Soil Health
Mole Control – Trapping Techniques
Level 2 Award in Safe Use of Pesticides (PA1 and (PA2)

E-learning

Some of the e-learning courses completed within this period by businesses identifying horticulture as their primary or sub sector:

HEALTH & SAFETY

FEED EFFICIENCY

Click here to visit the website.

Cronfa Amaethyddol Ewrop ar gyfer Datblygu Gwledig: Ewrop yn Buddsoddi mewn Ardaloedd Gwledig
European Agricultural Fund for Rural Development: Europe Investing in Rural Areas
Llywodraeth Cymru Welsh Government