

# Rhôs Pasture Products Feasibility Study



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## **Report information collection methods and results**

A meeting was held in November 2021 in Rhayader with local farmers identified by the Wildlife Trust who are farming within the project area. A few people attended who were farming just outside the project boundary.

Presentations were given by Tony Davies, a farmer from the Elan Valley, about his Biochar business, Hilary Kehoe about the Anglesey Wildlife Friendly Produce brand and the potential for marketing of other products from Rhôs Pasture and Emma Douglas spoke about her experience of marketing beef from her farm.

A local vet also gave a talk about animal health and worm control.

Discussion followed about the viability of establishing a local Rhôs Beef brand and whether attendees would like a visit from us to talk about a potential scheme.

A questionnaire was circulated for people to register an interest and give further information about their farming systems and produce available. (See Appendix for completed questionnaires).

A few weeks later we visited to meet up with several of the farmers, speak to Angela and Tony Davies about biochar, and talk to shop and café owners in Rhayader as well as Bob, the butcher on West Street, Rhayader. E-mail correspondence was carried out with other producers who were not at the meeting.

The questionnaire responses allowed us to assess the area of rhôs pasture within the project and the number of livestock grazing it.

There was a positive response from one grazier with regard to marketing beef and good support from Bob the butcher for processing and marketing produce. The Dŵr Cymru visitor centre at the top of the Elan Valley was interested in marketing a range of local produce on their local produce display stand in the visitor centre and there is potential to work with the café to bring the produce onto the menu although this has not been the practice for several years.

## **Assessment of the viability of a local market for Rhôs Beef**

### [Exploring the Market and Processing Options for Rhôs Pasture Produced Beef](#)

From initial discussions with farmers, it became clear that there was a problem with power supply to many of the farms, therefore they would be unable to run chilling facilities and courier services to and from these remote farms is very challenging. A chiller unit and base within the local town of Rhayader would provide a consistent power supply and a reliable base for courier collection. Such a unit would need to be financially supported by a project. Further discussions made it clear that Bob the Butcher, located on West Street, Rhayader is integral to the success of a red meat marketing scheme.

In order to send finished beef animals for processing through Bob the Butcher, finished beasts must be delivered by the farmer/ grazier to AH Griffiths Ltd, Leintwardine, Craven Arms (abattoir). Bob will collect from the abattoir, keeping the carcass whole at his chiller and will break it down after 14-28 days. He has space in his chiller to hang 8 beef carcasses. His preferred fat class would be R4L and O+4 (see the EUROP matrix below for grades). The

weight of the carcass would ideally reach 300kg, although he realises that many of the traditional breeds finish at lighter weights. He would prefer the animals to be under thirty months (UTM) because this would represent a saving on vet fees, as they have to be present when the spinal column is removed. Bob would not rule out purchasing and processing cattle over thirty months (OTM). The extra cost for OTM processing is approximately £20-£30. Bob's preferred breeds are traditional, native breeds such as Galloway, Hereford and Beef shorthorn. The cost of processing is £200 per carcass for cutting and labelling, for vacuum packing it is an extra £20. Mail order is not an option due to the time commitment of dealing with online ordering and courier services.

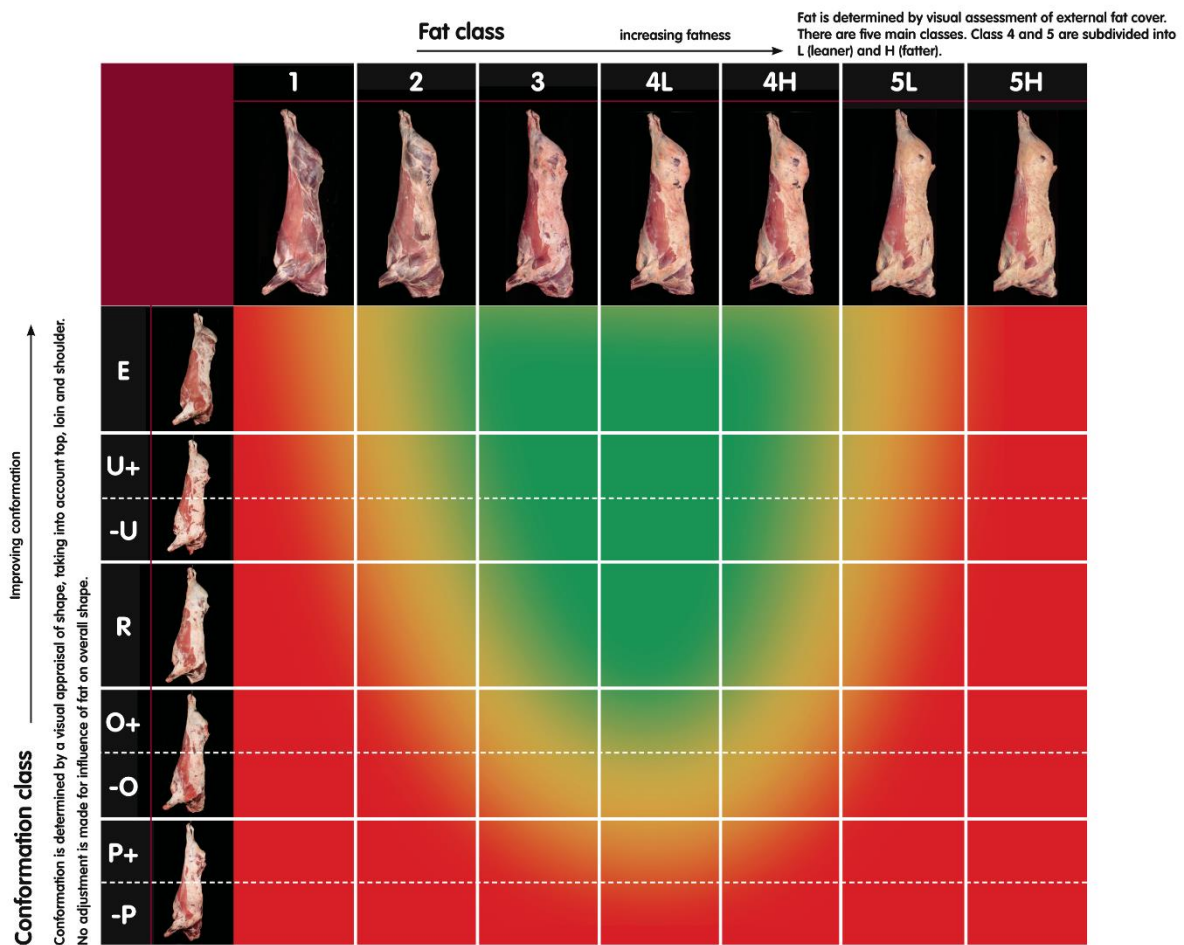


Figure 2. EUROP grid, showing the commercial desirability of beef carcass (green = highest demand, amber = moderate demand, red = little or no demand). AHDB, accessed 2022.



Figure 3. Hereford carcass finished on Rhôs pasture (right) and Dexter forerib (left).

Cattle grazed on species rich sward are able to derive trace elements and beneficial medicinal compounds from their diet. The beef produced from these animals, as long as they are pasture fed have high levels of compounds which are beneficial to human health. To support these claims, it is recommended the cattle used in the Rhôs products scheme should be Pasture for Life certified. A project officer/ facilitator could assist farmers/ graziers in attaining the standard and a project could subsidise the certification fees.

**Direct selling** of rhôs beef is an option for producers, they would realise a higher price than selling to Bob the Butcher, but the process entails more work. The producer would need to set up as a food business with Powys County Council. They would then need to become acquainted with hygiene rules and regulations and produce a HACCP plan. They would be subject to inspection by the Local Council thereafter. The processing may be carried out by Bob the Butcher or producers could find the funds to establish their own processing facility on farm or at another suitable location. Menter a Busnes provides support for food businesses in Wales through Cywain. Cywain can offer the following support through a network of Regional Managers:

- One-to-one action planning and consultation
- Sector specific workshops and events
- Access to specialist mentors, market intelligence and brand development
- Coaching on sales, routes to market and up-scaling
- A mechanism to challenge barriers to growth
- Market development activities, study tours and specialist projects

Food Centre Wales in Ceredigion offers technical support to food businesses. Currently there are two projects providing funded support in Wales, Project Helix and Food Innovation Wales.

### **Retail Outlets and Hospitality**

Penbont House, a tea room and bed and breakfast situated in the Elan Valley at the Pen y Garreg dam would be interested in using seasonably available, locally produced beef. The story and provenance would be an important selling point.

The Lost ARK café in Rhayader was interested in the story of the beef and its ethical, environmental credentials. They said, reluctantly, that they wouldn't be able to manage to purchase the beef if it commanded a large premium over the cost of beef that they currently purchase from Bob the Butcher.

The Elan Valley visitor centre shop were interested in having a meat chiller in their shop, selling local meat. They were also interested in selling other Rhôs products in their shop. The café at the Elan Valley visitor centre is not likely to use locally produced red meat for cost reasons currently but this situation may change in future.

The centre adds an additional 40% to the price paid for produce to sell through the shop. Producers would need to charge the going rate for their produce, with any premium they need to add and let the visitor centre decide whether buyers would pay the price they charge them.

Various farms have diversified into B&Bs and campsites. Lists of local suppliers of Rhôs pasture produce could be supplied so that tourists can easily attain the products direct from the source. Barbeque boxes could be produced containing Rhôs Friendly Beef or Lamb BBQ cuts and Rhôs charcoal packs.

The mailing lists/ social media accounts of Radnorshire Wildlife Trust, National Trust and Elan Links could be utilised to advertise Rhôs Pasture Beef boxes, if farmers/ graziers decide to choose the direct sales route. These lists are likely to contain people who value the ecological and welfare credentials of the Rhôs Pasture Beef. The mailing lists could be used to advertise other produce when available too.

A website and social media presence would aid the marketing of produce, these are easier to keep up to date than printed booklets and leaflets. They can contain and advertise existing businesses producing Rhôs Pasture produce and advertise new producers. These would need to be controlled by a Facilitator/ Project Officer.

Cambrian Mountain produce have made significant progress in creating a brand for produce from the Cambrian Mountains. There may be scope for Rhôs beef to be included in the brand. The craft fairs organised by Cambrian Mountain Produce would be a useful outlet for Rhôs products when the project regains funding.

A facilitator/ project officer could enable rhôs products to be sold at local events and festivals. A project funded stand at the Royal Welsh Show and the Winter Fair in Builth Wells, selling rhôs products would gain a wider audience, however the volume of produce may not be sufficient to supply such events. Local outlets are likely to suffice. Sales may be made at a stand at the Landed Festival, held in late July between Doldowlod and Llanwrthwl.

## What qualifies as Rhôs Pasture Beef?

Optimal management of rhôs pasture involves grazing between May and October at 0.4LSU/ Ha/ year, sheep grazing is ruled out as they tend to graze the palatable herb species, and do not produce a complex sward structure. There are some benefits to winter grazing of Rhôs pasture by ponies and cattle, but this needs to be carefully balanced with the poaching and creation of mud in wet winters. It is considered that there may have been a tradition for grazing the Rhôs pastures of the Elan Valley during the winter only, as during the summer the cattle grazed the higher ground, but returned to graze the lower ground during winter. This grazing pattern would have a limited impact on the Molinia but may have a beneficial impact on rush and encroaching scrub. The participants in the scheme have explained how they would benefit from some assistance in fencing sheep out from the rhôs, and in certain cases insertion of culverts, bridges, crossing points, water troughs, scrub control and cattle handling facilities to make the prospect of appropriate management feasible.

Optimal rhôs pasture habitat would have an average sward height of 10 cm tall with no more than 25% of the sward taller than 15 cm, including rushes. In rush dominated swards, aim for an average height of 7 cm with no more than a quarter of the sward being taller than 40 cm, including rushes. Over and under grazing must be avoided. Poaching must be limited to 10% of the area. (Natural England, 2010). This management should give rise to optimum species diversity, however, sites that have a long history of overgrazing, particularly by sheep, may require seed or plug planting of Rhôs pasture herb species if they fail to return naturally after a number of years of appropriate management.

In order to make the criteria the cattle need to have grazed on the rhôs for a part of their life e.g. two grazing seasons, mirroring the standards of Anglesey Grazing Animals Project. See the table below for standards.

Table 1. Suggested Rhôs Pasture Beef Certification Standards

Standard	Molinia Dominated Rhôs	Rush Dominated Rhôs
<b>Average sward height of Rhôs pasture</b>	10cm (no more than 25% taller than 15cm, including rushes)	7cm (no more than 25% taller than 40cm, including rushes)
<b>Poaching of Rhôs Pasture</b>	No more than 10% of the area	No more than 10% of the area
<b>Sheep excluded from Rhôs Pasture</b>	Yes	Yes
<b>Cattle grazed on Rhôs pasture for two seasons minimum.</b>	Yes	Yes

The project area contains 120ha of rhôs pasture, which could support 96 cattle from May to October if managed at the desired stocking density.

It is pertinent to mention that Rhôs beef is likely to be a seasonal product, the majority of the product will be available from mid-summer to December. Rhôs pasture has a metabolizable energy content of between 6.5 and 8 per day, it is considered that growing cattle require 11-12 per day. However, this data is based on continental cattle; native breeds, such as Welsh Black have been found to gain more daily live weight on purple moor grass than continental breeds. (Shellswell, 2017).



It will therefore take longer for the cattle to finish on rhôs pasture than on improved grassland, it is possible for them to reach the desired weight and fat class for slaughter under 30 months but it may not be achieved. The premium price and guaranteed outlet may sufficient for some farmers/ graziers to make a financial case for grazing rhôs pasture with cattle.

Figure 4: Hereford cattle grazing Rhôs pasture with a closed sward and tall, uniform Molinia.



Figure 5: Devil's bit scabious in rhôs pasture in August



### What about Rhôs lamb, hogget and Mutton?

Over grazing of the Rhôs pastures within the project area by sheep is one of the primary reasons that the rhôs is not in favourable condition. If a scheme moved away from the name 'Rhôs Pasture Beef to Rhôs Friendly Produce, it would allow sheep produce to become part of the brand, incentivising positive sheep management on rhôs pasture and creating a wider range of products. In order to qualify, sheep must be excluded from the rhôs pasture and the rhôs managed positively for species diversity, as set out in the previous section.

## Case studies

Case studies have been collected from a range of Welsh brands to give an idea of the different ways of working and assess their success or failure to give an understanding of available techniques.

**Name of brand:** Pembrokeshire Heathland Beef



**Who /What project:** National Trust. Launched in 2010.

**Management:** The National Trust had a project officer to support the farmers and organise the branding and marketing of the produce. The project officer formed and supported the running of a producer group and provided training and activities to stimulate an interest in marketing and production of the heathland beef.

**Number of participants:** Six farmers who are graziers of the heathland in Pembrokeshire. 170 cattle finished annually.

**Brand Identity/ produce available:** Local beef from cattle grazed on the heathlands to manage the habitat

**Timing:** Sold all year round

**Route to market:** The beef was sold through a local supermarket originally, later a North Pembrokeshire butcher took on the marketing.

Labels were supplied by the project for sales.

**Species:** Cattle. No specific breeds.

**Criteria:** Cattle had to have grazed the heathland during their lives but were not finished there because the low-quality forage couldn't fatten them to the required finish

**USP:** Heathland grazed for environmental benefit, locally produced

**Success:** The produce sold well and was popular with local people.

**Issues:** The original supermarket was found to be selling beef bought in from other places under the Pembrokeshire Heathland beef label. This was undermining the branding so the project withdrew their produce from the shop.

A second supermarket took on the sales but the farmers found it hard to finish their beef to the 3L fatness required by the shop so they stopped working with them.

They sold through a north Pembrokeshire family butcher for a few years, which worked well but eventually stopped because there were not enough animals to guarantee continuity of supply.

Very few cattle are finished on the heathland, their main reason for grazing is to manage the habitat and improve biodiversity.

### **Reason for failure or success**

#### **Success**

Good sales- There was good demand for the produce through the supermarket and butcher and in local restaurants. The farmers received a small premium for the produce and were very keen to be selling produce locally.

Good USP- People supported the produce because they understood the role of the livestock in good management of the heathland for biodiversity. The marketing was done very effectively with TV coverage and articles in magazines as well as a website that gave recipes and further information about the cattle, the farms and their relationship with the National Trust. It created an identity and exclusivity to the farmers who graze the heathland and thus are the only farmers who can supply such a brand.

#### **Failure**

The brand stopped being available through the butcher in around 2017 due to:

Lack of continuity- it was not possible to produce beef all year around from the heathland and the numbers of animals produced couldn't meet the demand. Stocking rates on heathland are low so there is no option to increase supply.

Inability to finish livestock on the heathland. This may have been possible if they had used native or traditional breeds.

Nutritional benefits not achieved- Livestock fed on species rich and unimproved pastures produce meat that is high in omega 3 and gamma linoleic acids, these compounds don't

persist after a few weeks off the pasture so there is no nutritional benefit in the meat by the time the cattle are finished on grassland or forage and cereals.

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**Name of brand:** Anglesey Wildlife Friendly Produce



**Who /What project:** Anglesey Grazing Animals Partnership launched 2008

**Management:** The scheme was organised and managed by the AGAP project officer over an 8-year period. Farmers were given training in food hygiene legislation, meat cutting and marketing. Field trips were organised to see other schemes in Wales and visit butchers.

A cutting room and meat trailer were purchased through the project and the local college was involved in the training. Cywain and Agrisgôp were very helpful in helping to run the scheme and offer

advice to the farmers.

Annual checks were carried out by the project officer to ensure compliance with the scheme criteria and NRW worked on habitat management with the project.

Since the project finished there is no external management but the farmers who still use the label are managing their livestock as they always have and have taken over the use of the meat trailer.

**Number of participants:** 28

**Brand identity/ produce available:** A range of products from farms that were part of the Anglesey grazing animals partnership, a project that worked with farmers to manage habitats for biodiversity using their livestock across Anglesey.

**Timing:** Sold all year round but some items promoted as seasonal produce

**Route to market:** One farm established a farm shop and sold produce from their own farm and from other farmers in the group. They also purchased store animals from group members who didn't finish their own livestock.

Other farms established box schemes, selling through mail order or to local people.

A butcher in Valley sold meat for some producers under the Wildlife Friendly Produce label

**Species:** Cattle, sheep, pigs. Also selling honey

**Criteria:** Traditional or native breeds of livestock had to have spent 2 seasons grazing for wildlife benefit on heathland, species rich grassland or fens on Anglesey. Other aspects of the criteria were designed to reflect the brand's high conservation and welfare standards.

The full criteria can be seen in the Appendix.

**USP:** Traditional and rare breed livestock managing habitats for wildlife, locally produced.

**Success:** The produce sold well and realised a premium price for producers. The farm shop has closed now due to illness in the family but the box sales from other farms continue now even though the project finished in 2015.

**Issues:** None

**Reason for failure or success:** The project officer was able to work closely with the farmers and with organisations that supported training and offered marketing advice.

There was money available to purchase equipment and pay for training to engage all those taking part in the scheme.

There were enough producers to ensure plenty of produce was available and it could be marketed seasonally because the butcher had other suppliers.

There were a range of habitats where livestock could graze- they could be on the fen in the summer and on sand dunes during the winter. Because the project included land belonging to organisations such as the NRW, RSPB and National Trust as well as their own farms the stock could be grazed extensively all year.

The farmers were very committed to the brand and one was willing to establish a farm shop and cutting room.

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**Name of brand:** [Gower Meadow Beef](#)

**Who /What project:** Douglas Family, Gower, South Wales

**Number of participants:** One

**When:** 2017 until the present

**Produce available:** Beef

**Brand identity:** Pasture Fed, conservation grazed native breed beef, Dexter and Welsh black predominantly.

**Habitats grazed:** Coastal grassland, waxcap grasslands, fen, meadow, coastal heath, lapwing habitat.

**Marketing system:** Food Hub – Sell through FarmCo, a local food hub where Gower Meadow Beef are the sole beef producer

**Criteria** – Working towards Pasture for Life certification, youngstock conservation graze locally and the meadows on the farm are restored.

**USP** – 100% Pasture fed, conservation grazed and native breed.

**Success:** Yes

**Issues** – None to report, difficult to keep up with the demand whilst retaining the integrity of their values and products.

**Reason for success** – A small business with select, reliable outlets and loyal customers. Sell frozen to ensure a near continuous supply. Customers understand the seasonality of the product.

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**Name of brand:** Farm Wilder

**Who /What project:** Farm Wilder is a Community Interest Company, a non-profit organisation that works to make farming more sustainable and better for wildlife

**Number of participants:** 11

**When:** 2019 to present

**What they market:** Beef, lamb, venison and chicken

**How?** Farm Wilder selects farmers who meet their criteria, each of those farmers must have a farm conservation plan. This is under continual revision. The organisation is a Community Interest Company and therefore is able to seek funding, it is not for profit.

Farm Wilder purchases beef and lamb from selected local farms and sells the beef online and through local butchers and retailers. Any surplus beef is sold as mince to Ember, who create charcuterie products, sold at supermarkets in the South West of England.

**Shop –** No (sell through local supermarkets and shops)

**Online Sales -** Yes

**Postal –** Yes

**Criteria –** In order for farmers to be eligible for Farm Wilder Fritillary Butterfly Beef production, they must either:

- Have at least 4ha of habitat for marsh fritillary butterflies and records of marsh fritillary butterflies breeding on the farm within the last 5 years from a recognised wildlife conservation organisation\*.
- Be restoring a minimum of 8ha purple moor grass and rush pasture into a condition that is suitable to attract nearby populations of marsh fritillaries under the supervision of a recognised wildlife conservation organisation

**Criteria monitoring:** On Farm Habitats for marsh fritillaries must be monitored annually either by a recognised partner conservation organisation, or where that is not possible by Farm Wilder under the condition assessment criteria outlined below.

\*Conservation organisations recognised by Farm Wilder include Butterfly Conservation Trust, The Farming and Wildlife Advisory Group South West, Wildlife Trusts, Natural England.

### **Habitat**

Marsh fritillaries breed in open grassy habitats where their larval food plant devil's bit scabious can be found. In Devon and Cornwall, they are found in purple moor grass and rush pastures, dominated by purple moor grass and jointed rush. These are species-rich, semi-natural grasslands with abundant purple moor-grass and/or jointed rushes (sharp-flowered rush, jointed rush or blunt flowered rush) on poorly drained neutral and acidic soils of the lowlands and upland fringe.

Purple Moor Grass and Rush pasture is often associated with springs, seepage lines and slopes surrounding waterlogged depressions and hollows. The habitats can occur on the upland fringes and above the moorland line, but should not be confused with species-poor, rush-dominated flushes and semi-improved pastures (where soft rush is often the most



abundant rush), or species-poor, purple moor-grass wet acid grassland, which lacks most of the wildflower indicator species.

Typical grasses include: creeping bent, crested dog's-tail, purple moor-grass, quaking-grass, red fescue, sweet vernal grass, tufted hair-grass, velvet bent and Yorkshire-fog. Typical wildflowers include: bog asphodel, bugle, common meadow-rue, greater bird's-foot-trefoil, marsh cinquefoil, marsh valerian, meadow thistle, meadowsweet and water mint.

### Condition assessment

1. Pastures should be grazed with cattle or ponies to create an uneven patchwork of vegetation, broadly between 8 and 25cm.
2. A high density of devils bit scabious is present.
3. Cover of undesirable species (creeping thistle, spear thistle, curled dock, broad-leaved dock, common ragwort, common nettle, cow parsley, marsh thistle and marsh ragwort) less than 10%.
4. Cover of large sedge species less than 30%, and cover of large grasses such as tufted hair grass and reeds, less than 20%.
5. Cover of invasive trees and shrubs less than 20%.
6. Cover of non-jointed rushes (soft, hard and compact) less than 50%.
7. At least two indicator species are frequent and two occasional (see table 5 in Key 2b of Higher Level Stewardship FEP Manual).

Where pastures are within a Countryside Stewardship Scheme, management of marsh fritillary habitats must meet the prescriptions of the scheme. Any failure to do so will result in an assessment of the farm to supply Farm Wilder.

**USP** – 100% Pasture fed (PfL certified) beef and lamb from Devon and Somerset, positively managing habitats of Marsh Fritillary Butterfly and Cuckoo whilst encouraging regenerative agriculture.



**Success:** Yes

**Issues** – None reported

**Reason for failure or success** – Directors are passionate and well connected in the fields of nature conservation, marketing and the food retail industry. Farm Wilder is a CIC and therefore eligible for funding from external bodies.

**Species:** Marsh Fritillary Butterfly and Cuckoo

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**Name of brand:** Elan Valley Mutton

**Who /What project:** Private individuals

**Number of participants:** 1 farm

**Brand identity/ produce available:** Mutton from the Elan Valley

**When:** Year round

**Route to market:** Boxed mutton sold direct from the farm or by mail order

**Species:** Sheep

**Criteria:** Grass fed, extensively grazed mountain and meadow mutton from 3 to 4-year-old sheep

**USP:** Elan Valley naturally grazed mutton

**Success:** The produce sold well and was profitable

**Issues:** There were some issues with accessibility to the farm for courier vans to collect the boxed mutton so Tony arranged to have it collected from the butchers in Rhayader. Some boxes were not delivered on time or were damaged in transit which resulted in total loss.

### **Reason for failure or success**

The product sold very well, it won a True Taste award and was featured on BBC TV. Tony Davies and his wife Angela were good at marketing online and had an attractive website.

They stopped the mutton business when the price of sheep rose and they were able to realise a good income from sales through the market.

They were also finding the unreliability of couriers a problem because they had to refund people who didn't get deliveries on time or who had damaged boxes delivered.

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**Elan  
Valley  
Mutton**

Discover the superb taste and flavour of premium mutton from Welsh mountain sheep that have slowly matured naturally on the wild moorland pastures and herb rich meadows in heart of Wales.



Welsh mountain Mutton that's succulent, tender and bursting with flavour.



**Name of brand:** Clwydian Range Food and Drink Group

**Who /What project:** Clwyd AONB and Cadwyn Clwyd Rural Development Agency have worked to get local producers to form a co-operative

**Number of participants:** Over 30 businesses

**Brand identity/produce available:** Beef, Lamb and mutton, beer, honey, ice cream, cheese, preserves, pate, cafés, B and Bs and restaurants

**When:** Established in 2012

**Route to market:** Food fairs and events where shops and businesses can display their produce. Shops and restaurants, farm shops, online.

**Criteria:** Local produce, no specific criteria but most businesses advertise their commitment to the local area and welfare/ high quality production credentials. Seasonality is promoted.

**USP:** The brand aims to raise the profile of the range of high quality, local seasonal produce available to local people and visitors to the area. They encourage hospitality, retail, accommodation and tourism providers to work closely with food producers to create an excellent reputation for high quality local food.

In April 2016 they launched their Clwydian Range Breakfast, as they were able to demonstrate that over 90% of the produce came from the Clwydian Range area.

**Success:**

The brand has managed to survive the Covid pandemic. They hold regular events (which have been online over the pandemic) and attend shows. There is an annual hamper competition to promote the produce.

The Clwydian Range Food Trail was founded in 2012 and now has 25 members, mostly small-scale producers and business owners, some of which offer tours and tastings to visitors by arrangement. Trail users have a self-drive itinerary which takes them around a variety of shops and cafés where they can sample the produce. This is a good way to bring customers in and raise awareness of produce for sale throughout the AONB.

**Issues:** No issues have been highlighted so far. The brand is now hopefully well established and able to continue if the Rural Development Agency has to stop operating now that we have left the EU. Loss of project officer support could have a negative impact on the producer group.

**Reason for failure or success**

The project carried out extensive research into what produce was available and what the producers wanted from a brand before launching it. Producers have great commitment to the local area.

The criteria are not too restrictive.

The support offered by Cywain and the local authorities was invaluable in supporting producers, training and coordinating them from the start of the project.

The catchment area is large and the number of producers is sufficient to maintain supply of produce throughout the year. Some produce is marketed seasonally.



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## Research on the potential for a range of products from Rhôs Pasture

Other products that could be produced from the Rhôs Pasture are:

- Biochar
- Birch sap
- Hay for laminitis-prone equines
- Charcoal
- Bedding
- 5<sup>th</sup> quarter products
- Rhôs pasture seed

A brief description of each with a discussion of how they could apply to the project area follows:

### Biochar

Biochar is a form of charcoal that presents enormous opportunities to lock up carbon, improve soils and water quality, increase fertility of the soil and benefit plant growth.

Biochar is made using a process called pyrolysis which involves placing biomass into a special oven called a retort before heating in the presence of little or no oxygen.

The result is a stable solid material with a high carbon content that can effectively capture carbon and lock it into the soil for hundreds of years.

Other by-products of the pyrolysis process include oils and methane that can be captured and used as an environmentally friendly fuel.

There are a range of products that can be created from Biochar such as pharmaceutical products such as skin care preparations and face masks as well as the soil improver. The grade of Biochar determines its final use.

Tony Davies and his family at Henfron farm in the Elan Valley have been making biochar on their farm for a few years. They use Molinia (Purple Moor Grass) that grows on the farm's Rhôs pastures to create biochar soil improver which is marketed online.

Tony also travels around Wales giving demonstrations of the process.



*Handling the Molinia before loading into the retort*



The retort at Henfron



Biochar



Home Shop What is Biochar? Renewable Energy Henfron Farm Gallery More...



Webpage for Biochar Wales

### Application for Rhôs pasture project

Tony has established a market for his biochar, selling it under the brand of Biochar Wales. He says he could buy in any amount of biochar from other farmers in the area to sell through his brand if it is up to the right standard.

Tony is willing to work for the project to train people in using the retort and he could take biochar either made from Molinia (the finest grade- less than 1mm) wood or coppice up to 1" diameter- which could be harvested from rhôs pasture under restoration.

Different equipment is required for the various different ingredients- chipped wood can be processed in a continuous flow retort kiln which costs £250,000 and produces surplus heat. (this can be used by large buildings such as schools or sports centres).

Tony's retort cost £12,000 to £15,000. He is developing a low cost, open top one which would cost between £1,000 and £2,000 and which could be used by the project to loan out to producers.

Alternatively, the producers could form a Co-operative group to apply for grants to purchase equipment and the bags to package the product which could be branded with a project brand or with the Biochar Wales branding.

The analysis of the biochar is important to determine its potential use, it must be 80% Carbon and can be sold for cosmetics, if it has a hygiene and water analysis and complies with their legislation, when it has a much higher value.

Biochar soil conditioner sells for around £7.50 for a 1kg bag or £45 for 10 kg.

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### Birch Sap and other products



Spiles kit for Birch tapping

There is an increasing market for products made from Birch trees including Birch water for drinking or skin and hair care, Birch Syrup, Birch wine and Birch bark for animal feed or for tea.

Birch tapping involves drilling a hole into the side of a birch tree, with a minimum trunk diameter of 25cm, about one metre from the ground, drilled at a slightly upward angle and about 3cm deep. The best technique for birch tapping is to use a spile, this is a tapered metal tube with a hole at one end, a spout at the other and a hook to hang a bucket or a bag. After drilling a hole, the spile is tapped into place, and the bucket or bag is hung to collect the sap. If the tree is ready, sap will pour out as soon as the drill is halfway in, it can then be left for 24 hours before plugging the hole with a wooden peg to prevent the tree from losing too much sap.

The best time to harvest the sap is in the month before the leaves appear, generally starting around the second week of March. Each tree can produce up to 5 litres in 24 hours and should be rested for a couple of years after tapping.



Birch tapping

The sap looks and tastes very much like water with a hint of woody sweetness. It can be drunk 'neat' as a tonic, reduced down to make birch sap syrup or made into birch sap wine. It takes 110 litres of birch sap to make 1 litre of syrup. In Wales Llais y Goedwig has been producing birch sap for sale- advertising online as follows:

"We now have a very limited supply of 100ml (£29) and 200ml (£54) bottles available. Birch syrup is rich in flavour with dark treacle tones, and incredibly distinctive. It is quite different to maple syrup and can be used in a variety of ways, from marinades to cocktails, making a unique gift option for any discerning foodie!"

To order a bottle please contact Lucy Kew, Dewis Gwyllt Project Manager: [lucy@llaisygoedwig.org.uk](mailto:lucy@llaisygoedwig.org.uk)

### Application for Rhôs pasture project



Llais y Goedwig Birch syrup

There are plenty of Birch trees growing on and around the rhôs pasture. Where these are in the centre of the rhôs they should eventually be cleared to allow the habitat to thrive but trees around the edge could be left and harvested to gain an income from the land. The birch water has quite a short shelf life, the syrup is more stable but requires boiling down and filtering before bottling. It would take the sap from 22 trees to produce 1 litre of syrup.

Llais y Goedwig is a community woodland organisation that has been marketing products from local woodlands in Wales and would advise on techniques for any community woodland areas.



*Birch bark rabbit food*

Other products such as wood chip and birch bark could be collected from trees that are being cleared, for sale through local outlets such as the Elan Valley Visitor Centre and local shops.

If a Co-operative group could be formed so that harvesting could be carried out across the whole area's rhôs pastures this would be the best way to maximise the amount of produce that could be harvested. They would probably need a project officer to help to co-ordinate harvesting, processing and distribution.

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### Pony Hay

There are many horse and pony owners around the Rhayader area. One of the common issues that affects equines is laminitis.



*Species rich meadow hay*

Laminitis is a painful disease affecting the tissues connecting the hoof wall to the pedal bone in the hooves.

Equines have evolved to ingest in large quantities of low-quality forage, they need to eat for 12 to 20 hours of the day, therefore when they consume agriculturally improved grasses and conserved forage they can become obese.

Weight control and a low carbohydrate diet are required to prevent this disease.

The industry surrounding laminitis and equine obesity is vast, so there is room to fit local produce into the product range.

Hay taken from Rhôs pasture has low sugar levels, which is essential for weight control and managing insulin levels (precursors of laminitis).

The range of other herbs which would be found within the rhôs hay are nutritionally beneficial and contribute to a healthy gut biome, cutting down on the requirements for mineral supplementation and therefore cost.

### Application for Rhôs pasture project

The project could recruit site managers and owners to produce good quality rhôs hay which could be labelled with the Rhôs Pasture Product logo. They could work with them to get the forage analysed and produce a document containing a short literature review and the forage analysis to back up the low sugar claims.

Connect with nutritionists such as Forage Plus, advertise on Facebook pages and hold local open days to promote the product.

Price per conventional bale of Rhôs hay - £7/bale (£2 premium on standard hay).

## Charcoal

High quality, local, sustainable charcoal is a sought-after product.

Retort or ring kilns may be used to turn timber into charcoal. This can be done on site as trees are harvested. A small kiln can be purchased at prices starting from £610.00 plus VAT. Larger retorts can cost significantly more.

Small scale charcoal production has been difficult to profit from in the past, the use of retort kilns makes a less time-consuming occupation and will more efficiently yield a consistent quality product.

Sourcing of bags has been difficult in the past because they can only be purchased in large quantities at high cost.

Locally produced, sustainable charcoal sells for around £3.50 to £4.50/kg

### **Application for Rhôs pasture project**

The birch and willow saplings felled during scrub clearance on the Rhôs pastures may be turned into charcoal. If the project could assist with the purchase of paper bags for any charcoal makers to try, which could then be branded with the Rhôs Products logo, it would remove the financial barrier that the purchase of bags provides.

The charcoal could be bagged and sold in local outlets such as the Elan Visitor Centre, the Garage at ESSO EG Halt on the A470 or Crundles, West Street, Rhayader.

It may be possible to combine with a BBQ beef pack for local campsites and B&Bs.

This enterprise could be supported by a project with officer time used to help a group of producers to combine their timber harvests and co-operate with marketing.

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## Bedding- wood chip

Wood chip can be produced as part of the Rhôs clearance. If this is clean and packaged it can be used for small animal or pony bedding.

### **Application for Rhôs pasture project**

The price of straw is very high now so cattle farmers could take bulk chippings for bedding cattle sheds to reduce costs.

Assistance from the project would be helpful if farmers want to cooperate and package branded chippings for small animals.

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## Wool and 5<sup>th</sup> quarter products

The fifth quarter (QUNITO QUARTO in Italian) is the remaining pieces of an animal carcass which are not being used for meat production. This includes the organs, hide, intestines, feet, the head, horns, hooves, bones, fats and anything left once all the good meat is taken away. There is a growing “nose to tail” ethos which encourages the use of every part of the animals.

Tallow, from the suet surrounding the kidneys can be made into soap and skin care products, hides can be turned into leather goods although there is a shortage of tanneries for cattle

hides in the UK currently. Sheepskins can still be processed through the Welsh Organic tannery in Pembrokeshire.

Marketing the 5<sup>th</sup> quarter products is a good way to increase the income from meat sales but it requires commitment for the processing and support and training.

There is local interest in wool, which can be hard for craftspeople to access through the wool marketing board. There is a company called Wild Welsh Wool in Newtown which is a small business using British native breed sheep wool to make woven rugs and seat cushions as well as supplying wool and equipment to make hand spun art yarn and tapestry weaving pictures.

They run courses for peg loom weaving, spinning and tapestry weaving, sell rare breed sheep and organic sheepskins.

### **Application for Rhôs pasture project**

Although sheep grazing is not appropriate for the Rhôs pastures there could be an opportunity for sheep related products to be marketed through the project as part of a wider scheme as discussed earlier.

Local spinners and craftspeople could be brought in to events and to run courses. Sheepskins, peg loom rugs and other wool products could be sold at local outlets.

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### **Rhôs pasture seed**

The current agricultural support payment scheme, Single Farm Payment, is to be replaced by 2025 with a new Sustainable Farming Payment. This will be a payment for outcomes scheme designed to encourage sustainable management for soils, air and water as well as habitats and biodiversity rather than a scheme that simply pays a standard rate for the area of eligible land farmed.



The scheme is still in development but Welsh Government have indicated that they want to encourage Welsh family farms and keep rural communities and the Welsh language thriving. There is a strong possibility that habitats such as well managed rhôs pasture will be eligible for payments to encourage good, active management.

This may open opportunities for the supply of seed from established rhôs pasture to sow new pastures where the seed source has been lost.

Techniques for doing this could be through seed collection using a seed harvester or through collection of green hay in the late summer.

We have seen a return of £1,200/acre for seed supply from species rich grassland in north Wales. The fields can be harvested every two to three years, taking seed from alternate rows in the field.

Organisations such as the National Trust or RSPB or Plantlife may have seed harvesters available for loan or they can be purchased for between £2,500 and £6,500.

The suitability of a pasture for seed production would need to be assessed. Emorsgate seeds may be willing to visit to assess or a local ecologist could be asked.

### **Application for Rhôs pasture project**

Seed could be collected from a good rhôs pasture and used to seed more areas where the soil type and hydrology are suitable or it could be harvested and sold to an organisation such as Emorsgate or Naturescape (seed companies) for them to distribute.

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### **Pasture Fed Livestock Association**

The Pasture Fed Livestock Association owns the certification mark, Pasture for Life. Certified farms guarantee that their livestock are fed 100% pasture their entire lives (including conserved forage). Pasture fed livestock are better for the environment, as their diet does not use fossil fuels in the production of grain, as conventionally farmed cattle do. The red meat is healthier as it has;

- Lower total fat levels
- Higher levels of conjugated linoleic acid (CLA)
- Higher vitamin and mineral levels than meat or milk from grain-fed animals
- Higher levels of Omega-3



These effects are reversed after only a few weeks of grain feeding.

Farmers/ graziers/ food processors may want to become certified to guarantee any claims made about the health, nutritional quality and environmental credentials of the red meat that they sell.

### **Creating an identity, branding and marketing**

#### **Local food**

Research in north Wales has shown that the term “local food” can vary between different people. A supermarket may define local food as produced in Wales but shoppers usually use easily defined and well-known geographical areas such as counties or National Parks.

People associate environmental advantages with local food, in terms of a lower carbon footprint but also appreciate the healthy, fresh produce, seasonality and the benefits to the local economy.

The experience of eating out is a vital part of the appeal of a food serving business. For the customer, especially a visitor, tasting a local delicacy can enrich the experience. Local interpretation or attractive notices at the point of sale, giving information about the importance of rhôs pasture management and the role of livestock would help to raise awareness of the brand.

The farmers and local residents around Rhayader and the Elan Valley have a strong sense of pride in their area and recognise its unique habitats and wildlife. The project needs to increase awareness of the definition of the term “locally produced” and “environmentally sustainable systems”. This term should be used as a way of branding the beef from the rhôs pasture and to establish a niche market for the brand.



Beef boxes could be advertised through Radnorshire Wildlife Trust contacts as is done with beef from Dartmoor through their Wildlife Trust. There could be an advertisement at Gilfach or other local visitor centres giving information on the importance of cattle in managing Rhôs pasture to strengthen the message.

Opening some local farms and pastures to visitors during the summer months through holding farm open days can be another way to engage the local people and visitors and raise awareness of the relationship between livestock and the habitats.

### Strengthening a sense of community

Committing to support local producers can strengthen the tie between businesses and the local community. Forming a Knowledge Exchange group can really help with enthusing farmers in nature friendly farming and equipping them with skills that will enable them to become more resilient in the ever changing and uncertain climate of the agricultural sector.

Funding could be made available for a series of farm walks, talks and discussions surrounding nature friendly farming, red meat production (grading and butcher's requirements, i.e. live to lead days at a local abattoir), biochar and charcoal production and many more topics of interest.

This group would serve to produce new ideas and ways of working as well as social benefits. It would show support for the local farming community and foster good relationships between RWT (or other organising body) and the farming community.

The questionnaire circulated to the farmers within the project area identified several training courses that the farmers would be interested in attending.

Course	Rhôs Pasture management	Wildflower ID	Insect ID	Faecal egg count	Worms and liver fluke	Livestock checking	Biochar production	Produce marketing	Total
Name	x	x	x	x	x	x			6
Name		x	x				x		2
Name	x	x	x	x	x	x	x	x	8
Name	x	x				x			3
Name		x	x	x	x				4
Name									0
Name									0
<b>Total</b>	<b>3</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	

Several farmers have said that they support the idea of Rhôs products and establishment of a local brand but more work needs to be done to encourage them to develop their produce and establish routes to market.

### Promote a culture of respect for food

One regular criticism of modern-day life is a lack of connection between people and the food they eat. Movements such as 'Slow Food' are attracting growing support from people in Wales as more people rediscover the underpinning connection between a healthy existence and diet.

A thriving network of local producers working closely with restaurants and shops can contribute toward developing a better understanding of food and, as a result, more respect so this could also be done through the Knowledge Exchange group.

## Recommendations

In order to develop the branded locally produced beef supply chain there needs to be leadership from one body, possibly RWT, with a dedicated project facilitator who can drive the project forward. This could initially be 3 days a week, reducing as the project progresses.

They need to:

- Identify farmer group needs and wants within the project- some progress has been made through this research.
- Discuss with the farmers the criteria of the brand of beef to be produced and supplied and how other products could be produced from the rhôs pastures.
- Highlight that for part of their lives beef cattle act as grazing managers on the rhôs pasture and also show that sheep play a part by NOT grazing.
- Establish if the group would like to join the branding with beef sold to the local butcher under the Rhôs Products name, similar to other successful UK meat marketing groups
- Consider a study tour for producers to look at another area where they have developed the red meat supply chain
- Establish a production protocol which is agreeable to group members, inclusive of the farm assurance standard. This will give strong traceability, enabling the brand niche to be kept apart from other locally produced beef and help establish the uniqueness of the brand
- Prepare a marketing plan for the group and establish links with the retailers contacted in this study in order to discuss the beef brand, additional products and the marketing aims.
- Attend shows and carry out chef demonstrations with the produce

## Funding opportunities

It would be a good idea to start looking for organisations that may be able to support the marketing scheme in the future by offering training, or funding a project officer who could work with farmers on management and habitat restoration of their Rhos Pastures and get the alternative produce and meat marketing schemes off the ground:

The Esmee Fairbairn Foundation: <https://esmeefairbairn.org.uk/applications/> may be worth trying, they are in the process of changing their funding at the moment but they have an online suitability checking questionnaire which could be completed to see whether it is worth putting in an application. They supported the Anglesey Grazing animals Partnership project for 7 years between 2008 and 2015 which was a habitat restoration and local produce marketing project.

Cywain is a business-led programme dedicated to developing new and existing micro businesses and Small and Medium sized Enterprises in the Welsh food and drink sector. They help with projects working on supply chain intervention. They offer a one-off grant of £750 towards branding and one to one mentoring to businesses. Cywain (meaning to gather or to harvest), focuses on maximizing opportunities and growth potential.

For further information, contact: [cywain@menterabusnes.co.uk](mailto:cywain@menterabusnes.co.uk) Phone: 01745 770036  
[www.menterabusnes.co.uk/cywain](http://www.menterabusnes.co.uk/cywain)

The Welsh Government has a good budget available for grant funding over the coming year but have had difficulty spending it. They will be releasing information about funding opportunities after May so it will be worth keeping an eye on their website:

<https://businesswales.gov.wales/search/all/food%20and%20drink%20marketing%20support/2>

There is an initiative starting up called the Mid Wales Growth Deal, Coleg y Drindod, Lampeter University, is setting up a network of food businesses so it would be a good idea to watch out for development of that scheme.

LEADER groups (originally set up to encourage rural innovation) are still working across Wales, they have been moved under the control of local councils, some of whom have contracted the work out to local groups. Caerphilly and Torfaen have a group called Glasu which has funded a pilot project to research a route to market for local heathland lamb so you could have a look at what they have been doing and see whether it is transferable to you.

LEADER groups will finance pilot projects so that may be applicable to establishing branding and marketing for the Rhos pasture project.

Water and utility companies are keen to raise their profiles now so maybe it would be worth contacting the Severn Trent company to see if they have funding available.

### Summary

There is scope for a Rhôs Friendly produce brand and for farmers to benefit from marketing additional products from their pastures to increase the income whilst maintaining and enhancing the habitats and their biodiversity. The local farmers and several retailers are willing to work with the project, receive training and develop the brand.

Similar initiatives have been successful in Wales where there is a strong local brand identity and where producers, retailers and organisations work together effectively.

The project would need financial and practical support to establish the brand, buy resources and equipment, help the farmers to carry out work on the sites, adjust their farming practices and get the marketing off the ground.

Funding may be available from future Welsh Government grant schemes for rural businesses, utility companies or charitable foundations.

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