

# Bumper beet yields underpin low cost beef system

Out-wintering cattle on fodder beet has for Powys livestock farmer Marc Jones been a game-changer in his quest for a beef rearing and finishing system that virtually eliminates the need for bought in feeds and keeps overall costs to a minimum.

With crops yielding up to 25 tonnes of dry matter per hectare, just 22ha are required to support 350 Angus x Holstein Friesian growing cattle from November through to the end of March.

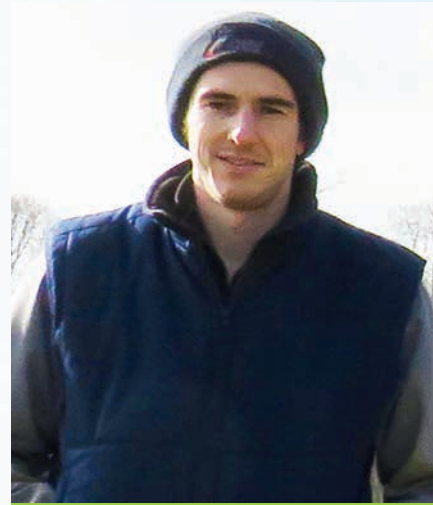
Cattle are supplemented during this period with nothing more than high quality round bale grass silage, at around 2kg of dry matter per head per day, yet even during this current excessively wet winter growth rates of 0.75 – 0.8kg/head/day have been maintained.

“We’ve been out-wintering cattle for a number of years, using various brassica fodder crops, but there is nothing to compare with fodder beet in terms of its output,” says Marc. “We’re using around half the acreage that would be required if we were growing kale, for example.

“It costs around £1,200/ha to grow, but with the dry matter yields that we’re achieving it is without doubt the cheapest winter feed available.

“With all aspects taken into account, I estimate a saving of around £150/head from out-wintering on this system when compared with housing cattle.”

Marc farms just over 200ha with his father David at Trefnant Hall, near Welshpool, running 800 Romney X Lleylly ewes as well as the beef finishing enterprise on land rising to over 335 metres (1,100ft). Routine reseeding ensures high levels of productivity during the spring and summer, with rotationally grazed cattle on quality mixed species leys achieving growth rates of 1.3kg/head/day in their finishing period.



Marc Jones found that fodder beet grown from primed seed produced an additional one tonne per hectare of dry matter compared with the same variety un-primed

Fodder beet integrates well with the grassland reseeding programme, with the root crops typically being grazed through to the end of March then creating the opening for spring establishment, though in some cases Marc will grow a second crop of beet.

“When following grass, we ensure we spray out perennial weeds in the preceding year,” he says, “and then we spray off with glyphosate in the spring before ploughing. Fodder beet is a hungry

crop, so we’ll usually apply plenty of broiler manure before ploughing, and up to 400kg/ha of agricultural salt is also important.”

The fodder beet variety Geronimo is grown at Trefnant Hall Farm, this being very high yielding and suited to grazing due to its medium dry matter and relatively high proportion of root sitting out of the ground.

Drilling into a fine seedbed in April, when soil temperatures are at or above 7 degrees C for three consecutive days, Marc further enhances establishment by using primed seed, which has been

through a controlled process of pre-germination before being dried and pelleted.

“In the past we’ve compared primed and un-primed fodder beet seed,” says Marc. “There is additional cost with the primed seed, but this is justified as it accelerates the establishment process and reduces the risks of disease in the early stages. We have seen an additional tonne of dry matter per hectare as a result of using primed seed.”

Marc also uses 370kg/ha of 16:16:16 fertiliser in the seedbed and will apply additional nitrogen two

or three times (125kg/ha at each pass) as late as mid-September.

“We’re aiming to maintain the green leaf for as long as possible, to protect the bulb, so it is important to keep feeding the crop. We’ll also apply pre and post emergence herbicides, a fungicide usually in August, and – now that the seed treatment options have been removed – we’ll spray against flea beetle and aphids. It’s worth investing in the crop, however, because the potential is there for 25 tonne/ha of dry matter.”

To maximise the value of this crop, the transition from grazing to out-wintering is critically important. Cattle coming off their first grazing season, when they will have maintained growth rates of 0.8kg/head day, are introduced gradually to fodder beet over a two week period.

“We give them a taste of fodder beet whilst they are still at grass, just by sprinkling some smashed roots onto the ground in the week or so leading up to out-wintering.

“Then, for the first few days on the fodder beet, we allocate 1kgDM/head/day, keeping them shut on the crop until it is gone before letting them back onto grass,” explains Marc. “We then increase the allocation over a period of days, up to 7 or 8kg initially and eventually up to 10kgDM/head/day. This is supplemented with good quality grass silage bales that have been placed in the crop during the summer.

“We allow one metre per animal along the fence line, to avoid cattle being bullied, and having portable water supplies is important. When conditions do become very wet, as we’ve seen this winter, it’s good to have the flexibility of moving them to a fresh area or even getting them onto hard tracks for a few days. Having a three or four metre buffer zone around the fields is also helpful.”

Although the system at Trefnant Hall has previously involved buying in calves pre-weaning, the plan in future will be to buy weanlings in the spring at around 150kg liveweight, with these going straight out onto rotational grazing. They’ll then have the winter on fodder beet and a second grazing season, being finished over their second summer to produce a target 300kg O+ and 3 or 4L beef carcass on a supermarket contract.

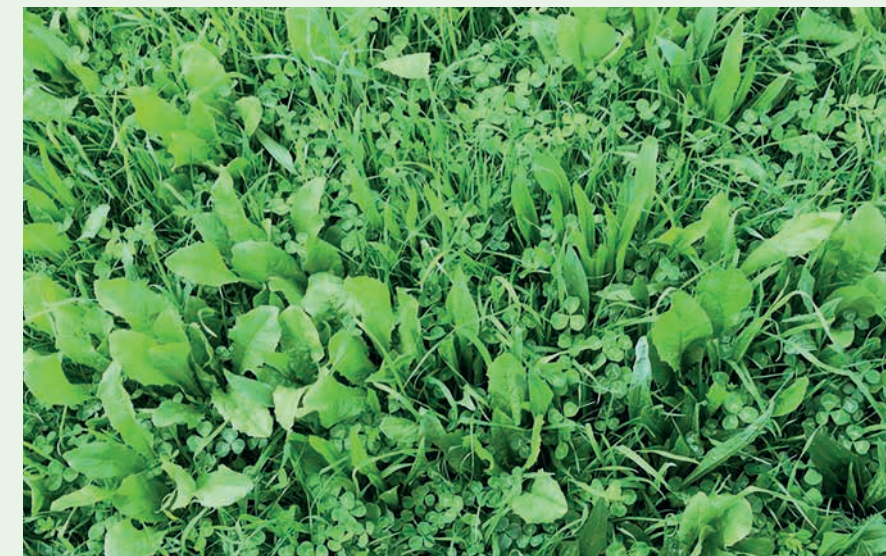
## Quality leys

High performance mixed species leys supplied by Field Options are rotationally grazed at Trefnant Hall Farm, with cattle achieving growth rates of 1.3kg/head/day in their second grazing season. Using mixtures based on the best available perennial ryegrasses, with additional species selected for specific conditions, is allowing maximum performance off forage.

Using the Endurance II mixture, which combines high performing perennial ryegrasses, more drought-tolerant timothy and modern cocksfoot, this adds an estimated 2.5 to 3 tonnes of dry matter production in a dry season. White clover and trefoils are another important inclusion

in this mixture, increasing summer yield and palatability as well as growth rates in the cattle whilst reducing the farm’s need for bought in nitrogen. On some of the most drought-prone slopes, Marc uses Endurance Herbal, which includes recently introduced Boston plantain and Puna II chicory, whilst on his better ground he opts for Preference Pro-Nitro, a version of the successful long term mixture with additional red clover to optimise yield, finish more lambs and improve soil fertility.

By maintaining quality grassland for rotational grazing and out-wintering on fodder beet, the farm is meeting its target of producing one tonne of liveweight per hectare with minimal bought-in feeds.



Including alternative species such as plantain, perennial chicory and clovers in grazing leys, alongside the best available perennial ryegrasses, ensures the best cattle growth rates, even in drought-prone conditions

Angus and Hereford cross cattle have averaged 0.75 – 0.8kg DLWG when out-wintered on fodder beet at Trefnant Hall Farm