

Milk from grass: a genuine alternative

The case for boosting utilisation of grass and reducing reliance on cereals

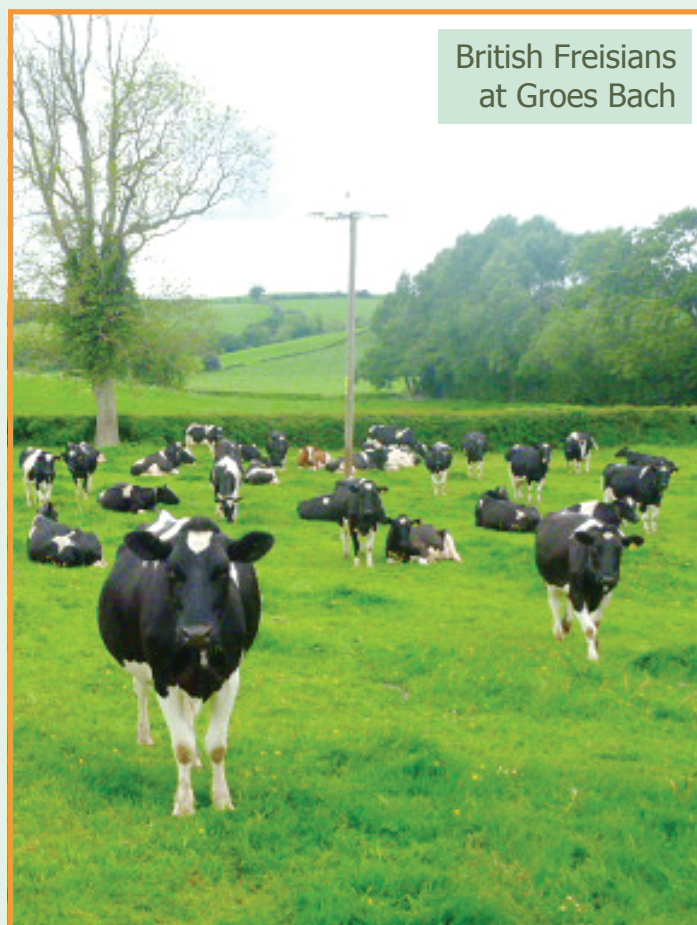
With reduced reliance on bought-in feeds and cows spending more time outdoors, producing milk from grass is seen as a win-win for farmers and animals alike. It's also attracting growing interest. "There must be 20 or 30 grazing groups focusing on it if not more," says Iwan Jones of Groes Bach, an organic farm in North Wales that has produced milk from grass since 1980. "It's partly due to the cost of production, i.e. the fact that it's cheaper than producing milk from cereal-based feeds."

There are benefits in terms of animal welfare too. "Cows have evolved to digest

cellulose and long fibre found in grass," says Ruth Layton of the EFN. "A high dependence on grain, in contrast, can lead to an increased risk of digestive problems such as rumen acidosis, which can be linked to other health issues like laminitis."

Sustainable land use is another plus. "The land used to produce grain to feed to cows could be used to grow crops for human consumption," says Ruth. "Whereas grass can be grown on types of land where crops cannot."

It is for these reasons that Iwan is among those advocating 'milk from grass' systems.



British Freisians
at Groes Bach

Milk from grass: the four principles	Key benefits
Maximise grass growth and utilisation.	Improved utilisation reduces reliance on bought-in feed, improves grass quality and eliminates the need for topping.
Rotate grazing according to grass DM availability (tons of dry matter/ha).	Grazing rotationally every three weeks maximises grass volume and quality. Monitoring grass DM availability makes it possible to forward plan and deal with potential grass shortages e.g. in drought periods.
Extend grazing period (Feb – Nov, March – Nov for organic).	Cows can remain outside longer, reducing feed and housing costs.
Block calve using a healthy, fertile breed.	All cows get an equal amount of feed at the right time.

Table 1: Milk from grass – four principles as adopted at Groes Bach farm.

Pasture to profit

Groes Bach is a family-run farm with 90 ha of grassland and 10 ha of woodland and semi improved hay meadow, set 600 ft up in the hills of Denbigh. Its 110 organic British Friesians and followers are fed on clover/ryegrass leys and milk is sold through the [Calon Wen Organic Milk Co-op](#).

The farm adheres to four key principles – see *Table 1*. As a result, cows fed on grass plus 1.2 ton of concentrate (wheat, sunflower, maize, oats and <5% soya) produce 6000 litres of milk per lactation, with 456 kg milk solids, see *Table 2*. Milk solids demonstrate the quantity of fat and protein contained in the milk, excluding the water content and act as an

indicator of rumen health.

While this may not compare favourably to the high yield Holstein producing 670 kg milk solids per lactation, Iwan believes this fails to reveal the full picture. "Typically, industry quotes milk solids per hectare, but that's just the hectares the cows graze or live on; not the land used to grow the feed that they eat."

Accounting for this he calculates that his organic British Friesians produce 440 kg milk solids per hectare, compared to 555 kg per hectare for the Holsteins. His farm also produces beef; calves from the dairy herd are fed on grass and barley with a lifetime use of cereals of ~300 kg, finished at 20 months at ~280 kg dead weight.

	UK average	High yield (Holstein)	Conventional British Friesian (grass system)	Organic British Friesian (Groes Bach)	Jersey Cross
No. of cows	143	138	154	111	184
Yield per cow (ltrs/lactation)	7406	9500	6000	6000	3750
Concentrate feed per cow (tons/cow/lactation)	2.4	3.3	1.2	1.2	0.8
Milk solids/cow (kg/cow/lactation)	537	670	456	456	341
Milk solids/ha – all land – including that required to grow cereals (kg/cow/lactation)	542	555	637	440	606

Table 2: Comparison of milk solids per cow and per hectare, dependent on system. Based on a hypothetical 80 ha farm, with all 80 ha used for forage (grass). For full workings see the [EFN website](#).

Milk from grass: sustainability

Iwan believes milk from grass has a number of benefits. These include:

Landscapes: with continued use for grazing, the agricultural landscape is unaltered, supporting biodiversity and maintaining the area's tourism value.

Profitability: it is much cheaper to grow grass than to buy in grain.

Food inflation: the cost of dairy production is not so influenced by the cost of oil and cereals, thus food prices do not fluctuate to the same degree.

Rural skills: farmers continue to develop a variety of skills – environmental, mechanical and business-based – as opposed to the specialisation associated with more intensive production. Thus future generations are more likely to consider an agricultural career.



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Iwan Jones,
Groes Bach farm

The future, the challenges

Despite the benefits described above, producing milk from grass is not challenge-free. The main hurdle is the seasonal nature of production. Reliant on the grass cycle, such systems may result in high milk yields during summer but consumers will be without fresh milk for approximately two months per year. Thus an alternative to fresh milk is required for

this time period.

Farm layout also requires consideration. “Ideally the milking parlour would be in the middle of the farm,” says Iwan. “In reality, you may have some land by the buildings, some a mile down the road, more elsewhere... So you may want to graze fields rotationally but you can't get the cows to them. Land swaps are an option.”

But despite the challenges, he firmly believes in the approach. “Our only advantage as a country, in terms of dairy farming, is that we can grow grass. It's the one crop we're really good at. If we're to enjoy the environmental benefits and keep any economically competitive advantage, we must make the most of what we've got.”