

# What are the options for

Public concern around the environmental impact of food production is increasing the focus on feeds sourced from within the UK. But what options are available? And how do they affect milk production and feed costs?

TEXT ROLY MARKS

**T**he issues around soyabean meal are a good example of how public concerns can influence feed choice. So says KW nutritionist Charlotte Ward. “The rate and extent of deforestation associated with South American soyabean production has been big news, and some milk producers are already feeling the pressure. “Those supplying Waitrose, for example, are no longer allowed to use soyabean-based feeds, and both Sainsbury’s and Barber’s have surveyed their producers about the source of any soyabean-based feeds being included in rations,” she says. And the level of scrutiny being applied to dairy feeds is only likely to increase in the future. Carbon footprinting is becoming viable within the agricultural sector, and the Brexit-induced weakening of Sterling has highlighted the price risks associated with imported feeds. So what are the alternatives? “Most of the rapeseed



meal sold in the UK is likely to be locally grown and processed, though if supply is tight, any one of the three UK crush facilities may import rapeseed to meet demand,” says Ms Ward.

## Alternative proteins

Of the other protein feeds grown here, whole peas (19,000 tonnes) and field beans (768,000 tonnes) are poor value for ruminants, while all domestic sunflower seed (3,000 tonnes) goes into bird seed. And there are limits to how much of linseed (52,000 tonnes) can be fed because the high unsaturated oil content can negatively affect butterfats. Sourcing high quality protein to replace soyabean meal (annual imports exceed one million tonnes) is a particular challenge.

“Around 12,000 tonnes of whole soyabeans were grown in the UK during 2018, but the most promising alternatives are the rapeseed expeller-based feeds being processed in Stratford-Upon-Avon from UK-grown rapeseed,” says Ms Ward.

“Rapeseed actually contains better quality protein for milk production, in terms of amino acid profile, than soyabean meal,” she adds.

The xylig-treated rapeseed expeller, introduced in 2019, is a genuine UK-sourced alternative to soyabean meal. The process involves treating the rapeseed expeller with a wood-derived natural sugar (xylig) under heat and pressure.

According to University of Nottingham research,

Table 1: Comparison of nutrient supply from UK-sourced proteins

	DM (%)	energy (MJ ME/kg DM)	CP (g/kg DM)	DUP (g/kg DM)	DUP value (p/100g DUP) <sup>1)</sup>
Xylig-treated rapeseed expeller	89	12.9	348	190	15.1 <sup>2)</sup>
rapeseed meal	88.5	11.8	375	113	20.7
rapeseed expeller	89	13.2	354	113	20.6
field beans	86	13.1	280	39	59.3
peas	86.6	13.5	236	32	71.1

1) Based on Apr-Jun delivery, 29t tipped bulk loads, 50 miles haulage. Correct at time of writing and subject to change.  
2) versus 17.4p/100g DUP for soyabean meal at 200g DUP/kg DM.

Table 2: Comparison of nutrient supply from UK-produced energy feeds

	DM (%)	energy (MJ ME/kg DM)	CP (g/kg DM)	starch (g/kg DM)	p/10 MJ ME <sup>1)</sup>
rolled wheat <sup>2)</sup>	87	13.6	120	660	15.05
rolled barley <sup>2)</sup>	86.5	13.1	116	595	13.85
sugar beet feed (molassed)	89	12.5	9.5	10	16.36
sugar beet feed (unmolassed)	89	12.5	9.5	0	16.36
sodawheat <sup>3)</sup>	65	13.2	11	600	18.94

1) Based on Apr-Jun delivery, 29t tipped bulk loads, 50 miles haulage. Correct at time of writing and subject to change.  
2) Includes on-farm rolling cost of £10/t.  
3) Predominantly UK-grown wheat.

# UK-sourced feeds?



it can potentially increase daily milk output by up to 1.7 litres per cow. It contains similar levels of rumen-bypass protein – digestible undegraded protein or DUP – as those in soyabean meal and is better value (see Table 1). The Stratford-produced rapeseed expeller meal is also a higher energy alternative to rapeseed meal.

“These feeds are already used widely to reduce compound usage and extend forage stocks, but their value beyond simple nutrient supply is often overlooked,” says Ms Ward. “When you factor in the greater price stability, the potential improvement in nutrient intake and the lower environmental footprint, their appeal is even greater. In fact, in one University of Reading trial, replacing a third of the grass silage in a ration with brewers’ grains increased average daily milk yield by 3.7 litres per cow.”

## Energy options

For dedicated energy feeds, the most obvious option is home-grown cereals. But it’s important to realise that substantial volumes of wheat are imported into the UK each year. If you want to buy feeds that are genuinely UK-sourced, you’ll need to check their origin carefully, according to Ms Ward.

“Caustic soda-treated wheat, or sodawheat, is manufactured in the UK and uses predominantly UK-grown wheat, but some of it is imported. So there’s a difference between UK-manufactured and UK-sourced,” she explains.

In contrast, sugar beet feed is both UK-grown and manufactured, with around 100,000 hectares of sugar beet grown annually. Available molassed or unmolassed, it’s recognised as a valuable source of digestible fibre that can improve rumen function and increase butterfats, and is great for balancing starchy feeds in the ration (see Table 2). “Imported sugar beet feed is also widely available and, in years of high demand, it is often the only choice at certain times of the year. If you want to secure UK-sourced material, it’s worth booking early,” says Ms Ward.

## Co-product feeds

There is a wide range of co-product feeds produced in the UK as secondary outputs from the food industry. Examples include the confectionery, biscuit and breakfast cereal blends, and processed bread.

“But since the origin cereals are just as likely to be imported as UK-grown, or a mix of the two, they’re not strictly UK-sourced feeds. They’re probably a lower carbon footprint alternative to imported feeds, and typically don’t suffer the same price volatility. So they are worth considering as part of an overall strategy to reduce reliance on imported feeds.”

There are also a number of UK-produced dual-purpose feeds, primarily moist and liquid co-products.

The main UK-sourced options all add considerable palatability to rations and reduce sorting. And they have the added advantage of driving intakes and improving nutrient intake consistency. |

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