

Look at alternative sources and consider forward buying

Weigh up your protein options

It's time to tackle high protein feed prices head on. So what options do producers have when sourcing quality protein feed for dairy rations, while at the same time getting the best value for money? We spoke to a nutritionist to find out.

text **Rachael Porter**

Despite recent movement in protein feed prices, the high cost of relying on soya bean meal and rape meal to meet dairy cow protein requirements looks set to continue through the summer and into next winter. According to Trident's Neil Woolf, the answer lies in combining better value alternatives with careful use of forward buying to both cut protein feed costs and improve margins. "Second guessing the feed ingredient markets and sitting back to wait for protein feed prices to fall further hasn't paid dividends for the past couple of years, and is unlikely to be the answer this year either," he explains. "What's needed is a more structured approach to protein feed buying, plus an open mind to the alternative feed options that can replace soya bean meal in the ration."

Forward buying

For any feeds, booking requirements in advance at a known price and for delivery at specific times can be hugely beneficial. Although the

absolute lowest price might not be secured, forward contracts help guard against the risk of unforeseen price rises and guarantee supply. "It's something that needs to be taken seriously this summer, with the market having risen considerably in the past couple of years. A lot of units that didn't book early in winter 2010 were also unable to get hold of the feeds that they'd normally use," Mr Woolf adds. Figure 1 shows how the forward price for November-April delivery of soya bean meal (export) varied in 2010 from March onwards (green line), with winter



Figure 1: Spot prices versus six-month forward contract prices for soya bean meal. For simplicity, prices graphed are for start and middle of each month only to show general trends.

contracts available for under £270/tonne right through until August. The spot price peaked at around £320/tonne in mid January. "Even buying winter requirements as late as August could have saved up to £50/tonne, and with current contracts

Table 1: Comparative costs of rumen degradable (RDP) and rumen-bypass protein (DUP)

	price* (£/t)	RDP value (p/100g RDP)	DUP value (p/100g DUP)	energy content (MJ ME/kg DM)
traditional protein meals				
Hi-Pro soya bean meal	275	9.7	15.3	14.0
rape meal	183	9.2	18.3	11.8
better value sources of RDP				
Spey Syrup (liquid feed)	68	5.4	42.5	14.2
wheat distillers' moist feed	70	7.6	25.0	14.0
better value sources of DUP				
Soy Pass (rumen-protected soya bean meal)	329	29.9	10.4	13.5
Proto-Tec (heat-treated rape meal)	224	14.5	15.4	12.0

* Prices quoted correct at time of going to press, 29t bulk deliveries Jul.-Oct., on-farm within 50 miles of source, prices will vary with load sizes and distance from source.

for November-April delivery of soya bean meal at around £270/tonne delivered, it makes sense to be thinking about a similar strategy this year," he says. "We're already seeing some customers booking up to 50% of winter requirements to guard against future price rises."

Forward planning

However, better forward planning and greater use of forward contracts is just one option to reduce protein feed costs. As Mr Woolf points out, most dairy producers can also make substantial savings by switching to feeding strategies based on alternative protein feeds. "A lot depends on whether the priority is supplying additional rumen degradable protein (RDP) or rumen-bypass protein, otherwise known as digestible undegraded protein (DUP)," he explains. "The high-protein liquid feed Spey Syrup, for example, is a better value source of RDP than rape meal, while

rumen-bypass proteins are more cost-effective sources of DUP."

Table 1 shows how the value of these alternative feeds compares against rape meal and soya bean meal. The table also highlights the different energy contents, with the extra energy in Spey Syrup compared to rape meal adding further value to the ration.

"This impact of extra energy on overall ration cost is an important point when considering alternative protein feeds," continues Mr Woolf. "Scottish maize distillers' feed is a good example, with the high level of energy (15MJ ME/kg DM), as well as 43% of the protein being DUP, also allowing some of the expensive energy feeds in the ration to be replaced."

This is highlighted by the example shown in Table 2, with a 60:40 blend of Scottish maize distillers' feed and rape meal directly replacing a 50:50 mix of soya bean meal and rolled wheat, for a £41/tonne saving. It means that although

Table 2: Example cost saving from an alternative protein feed strategy (freshweight basis)

	price* (£/t)	soya bean meal + wheat	Scottish maize distillers' feed + rapemeal
wheat (home-grown, rolled)**	186	50%	—
Hi-Pro soya bean meal	275	50%	—
Scottish maize distillers' feed	195	—	60%
rape meal	183	—	40%
energy (MJ ME/kg FW)		12.2	12.2
crude protein (g CP/kg FW)		290	282
DUP (g DUP/kg)		104	104
cost (£/t)		231	190
saving (£/t)			41

* Prices quoted correct at time of going to press, 29t bulk deliveries Jul.-Oct., on-farm within 50 miles of source, prices will vary with load sizes and distance from source; **Ex-farm price including £10/t for processing.

dry matter (%)	88.2
energy (MJ ME/kg DM)	13.4
crude protein (%)	48.0
DUP (%)	17.0
cost (£/t)*	250

* Prices quoted correct at time of going to press, 29t bulk deliveries Jul.-Oct., on-farm within 50 miles of source, prices will vary with load sizes and distance from source.

Table 3: High protein custom blend formulation (ingredients: 37.5% Soy Pass rumen-protected soya bean meal, 35.0% Scottish maize distillers' pellets, 16.5% Hi-Pro soya bean meal, 7.0% rapeseed meal, 4.0% urea)

Scottish maize distillers' feed might not be the best value source of protein alone, reformulating the ration to take full account of the energy supplied will produce substantial cost savings.

"An even simpler option is to use a custom blend as a direct substitute for soya bean meal, as shown in Table 3," Mr Woolf continues. "The example blend includes just 16.5% soya bean meal, and maintains the supply of high quality protein through judicious use of rumen-protected soya bean meal.

"The result is a cost saving of around £25/tonne at current prices, and without any reformulation of the ration or extra complication from using additional straights."

Rumen-bypass protein

Alternatively, if additional DUP supply is the only requirement, such as when feeding high levels of RDP-rich grass or grass silage, then it's the rumen-bypass proteins that are best value, as highlighted in Table 1. According to Mr Woolf, it's entirely possible for high yielding dairy herds to be fed no soya bean meal at all, with a very high quality rumen-bypass protein used to supply the necessary DUP at a cost that's currently 31% less per unit than from soya bean meal.

"Research has also shown that replacing soya bean meal in a dairy ration with Soy Pass can increase fat-corrected milk yield by 2.2 litres/cow/day," he adds. "And similar trial work carried out in Germany produced an average yield response of 1.4kg/cow/day during the first five months of lactation, along with a more persistent lactation curve.

"Alternatively, the same yield could be produced using a lower ration crude protein level (to reduce feed costs further), an option proven by research carried out by the University of Nebraska." |