

# The future of animal feed

*As demand for imported soya rises, farmers are trialling forage crops like lupins and chicory*

**S**panning 600 Devon acres, Matthew Crooke's mixed farm – part beef, part sheep, part arable – has been in his family for the better part of a century.

Yet the enterprise is anything but backward-looking. In fact, it's the site of two innovative trials designed to find alternatives to soya, currently the go-to crop for high-protein animal feed.

The issue is pressing: with global demand for soya fast increasing, prices are up and availability is down, and as it's also grown overseas, its use carries a significant financial and carbon cost.

'It's becoming ever-more important to look at ways in which we can produce meat in a more environmentally friendly manner,' says Crooke. 'If we can produce it more economically as well as more sustainably, then that's a win-win.'

Long-term fans of forage crops – which livestock can graze in situ, negating the need to spend time and money on harvesting – the Crookes favoured red clover in their crop rotation.



**BABY BOOMERS** Matthew Crooke found that growing chicory and white clover as a forage crop helped boost lamb numbers

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But it wasn't until they signed up for a Waitrose-led trial that son Matthew and dad John grew chicory and white clover, which proved a winning combination.

The Crookes grazed their sheep on these leys – high in both sugars and minerals – for five years as part of the trial – and saw lamb numbers rise by 20%.

'We grazed the ewes before putting the ram in, to give them a boost; it gets them ovulating,' says Crooke. 'And we finished our lamb on the forage too.'

The Crookes also grow kale as a winter forage, 'and we've saved 40% on the cost of feeding silage and concentrate – that's significant'.

### Loopy about lupins

Paul Redmore, who runs Neston Park Farm near Swindon, is one of a group of farmers across the south of England trialling lupin crops. His 1,600-acre organic plot is famed for its 320-strong Jersey herd, which produces milk, cream and butter for the top end of the market; Fortnum & Mason, Harrods, and Raffles Hotel in Singapore are all clients.

'Soya is currently the main ingredient in cattle feed: it's a high-quality protein which the animals need to keep healthy – it's not just about producing as much milk



as possible, it's about looking after their welfare,' says Redmore. 'What we're trying to identify are real alternatives that suit our climate. Lupins are about as close to soya as any alternative crop can get.'

Through Innovative Farmers – a not-for-profit network supported by Waitrose through sales of Duchy Organic – Redmore last year joined 11 other farmers giving white and blue lupins a try. Unfavourable weather soon after sowing in April and May, followed by a weed problem, put a spanner in the works. But Redmore's lupins still yielded a tonne of seed per acre, 'which stands up against wheat and barley'.

Lupins – much loved by gardeners for their brightly coloured pea-like flowers that grow on tall stems – bring added bonuses, continues Redmore. 'There



are undoubted environmental benefits. The lupin field attracted an enormous number of bees. Plus they're nitrogen fixers, so they actually put nutrients back into the soil.'

It's still early days, cautions Redmore, 'but the signs are good. It's definitely worth persevering with.'

Soil Association chief executive Helen Browning is taking an even more forward-looking approach on her organic Wiltshire farm. A pioneer in agroforestry, which blends farm animals with trees, she's already running her free-range chickens in orchards filled with fruit and nut trees, fruit bushes and trellised grapes, and a base of clover-rich grass.

The long-term aim is for all livestock – pigs, sheep, even cattle – to live and feed as naturally as possible.

### FLOWERING SUCCESS

(Above left) Lupins are being grown in the UK as a substitute for imported soya, (above) the Soil Association's Helen Browning aims to feed animals as naturally as possible

To that end, Browning has planted the best part of 9,000 trees in the last two years. Introducing a mixture of cherries, perry pears, hornbeams, sweet chestnuts, walnuts and oaks, as well as the orchard trees, she hopes they will be a source of protein-rich feed in decades to come.

'Nuts and acorns are a really traditional feed for pigs. We'd like to see them rambling around under the oak trees foraging for acorns instead of being fed soya, or we could be harvesting acorns and nuts to go into their feed,' says Browning.

'But this is a long-term project – these oaks will produce acorns in maybe 80 years. Hopefully there's a legacy there.'

Also trialling a new animal feed is Rob Hues, who, as well as being a meat buyer for Waitrose, has a family arable farm in Wiltshire. He added beans into the crop mix last year, rotating them with wheat, barley and rape, and is seeing results.

Despite an inclement combination of wet and dry weather last spring, the first crop produced a yield of nearly two tonnes an acre, says Hues.

'We were really pleased with it. We're into year two now and we've already learned some lessons, such as using a higher seed rate for denser growth.'

Hues' bean crop is used on various livestock farms that supply Waitrose.

Duncan Sinclair, Waitrose agriculture manager, says the feed-crop trials are reaping rewards for 'UK plc'.

'These kind of innovations are exciting,' he adds, 'and we're already seeing real success. It bodes well for the future.'