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# Improving the totality of the flock through performance recording and EBVs

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Adding value for the commercial buyer is the ultimate aim of Simon Thompson when seeking to improve his flock of Lleyn sheep. Chloe Palmer visits Culland Hall Farm to learn more.

When Simon Thompson was persuaded to sell his flock of Mules in 2003 in favour of starting out again with Lleys, he could not have anticipated how his enthusiasm for the breed would develop.

Mr Thompson says: "I met John Roberts, a highly respected Lleyn breeder and judge, at the Royal Show when I was looking at Lleyn entries. He introduced me to a number of breeders and then I bought a flock of 100 ewes."

After experiencing up to 40 per cent lameness rates in his Mule flock, Mr Thompson thought it might be beginners luck when lameness rates were less than 5 per cent in the newly established Lleyn flock at Culland Hall in Ashbourne, Derbyshire, but the trend has continued.

"We no longer use a footbath or any topical treatment. Last week I checked every ewe in the flock and just six of the 335 ewes had to be held back for treatment for foot problems."

Mr Thompson has been impressed by the health status of the Lleyn flock. "The ewes seemed to show a high level of immunity to worm infestation and disease and they are also very long-lived."

Careful monitoring of flock health includes regular condition scoring, particularly of the older ewes which Mr Thompson

believes have something to offer to the future bloodlines within the flock.

"We have a few eight-year-old ewes with full mouths which are still producing two healthy lambs each spring so they must have very high immunity. If we can gain an extra productive year for every ewe in the flock, this reduces depreciation costs substantially and adds directly to the bottom line of the business."

Capturing these traits along with the ability of progeny to achieve the desired liveweight and carcase grade from grass is Mr Thompson's goal.

"I have been performance recording for almost 10 years, and using Signet for three years. I use Estimated Breeding Values [EBVs] from a management perspective rather than a marketing angle."

## Risk

He admits there is a risk of allowing figures to have too great an influence over decision making: "Being blinded by statistics is as dangerous on its own as looking only at the size or appearance of an animal. I hope EBVs will point me in the right direction and using them shortens the odds of getting it right."

The purchase of a weigh crate a year ago together with the electronic identification ear tags and software has made monitoring the flock much quicker and more accurate, says Mr Thompson.

"Whenever we bring the sheep in for any reason, we run them through the weigh crate. The eight-week weight shows us the strength of the maternal ability of the ewe prior to weaning at 12 weeks.

"The 21-week weight shows us the growth which is attributable to the genetics from the sire and demonstrates the ability of the animal to convert grass."

Mr Thompson will not send any of his ram lambs to slaughter until he has studied the 21-week weights; this allows him to start the selection process for next year's shearling rams. A similar analysis for his ewe lambs is carried out, with the poorest few going to meat.

The overall performance of the entire flock has always been Mr Thompson's focus, rather than aiming for a small group of exceptional animals.

"I am interested in the median rather than the average and I want to improve the totality of what I have here. We can all turn out one or two outstanding individuals but I think most producers looking to buy females are more interested in the performance of the whole flock."

To achieve this, he adopts a scientific approach to choosing which ewes go to which of his five rams.

"I have a suite of information about each of the ewes in the flock so I know which characteristics I am looking to improve in each one. Based on this data, I divide the ewes into five groups and choose the ram for each group so he will bring the desired genetic attributes to improve their performance."

Running only one ram with each group brings its own risks. Mr Thompson says: "We semen test all our rams each year because running a ram which turned out to be infertile would be a very expensive oversight for us."

Mr Thompson maintains his strategy of using a single ram for each group is essential to his breeding plan.

## Breeding for performance

"If I am line breeding for performance, I have to know what the sire and the dam are because only that way will I know what I want to keep and what has to go."

When selecting 20 per cent of the female lamb crop as ewe replacements, Mr Thompson uses a similarly rigorous approach.

"I draw up a list of a 100 ewe lambs based on an objective appraisal of the recorded figures. I will then physically screen them in turn as they come through the race, using my subjective judgement to narrow it down to the best 60 or 70 females."

Mr Thompson is aiming for a ewe in the range from 65-75kg but is conscious tendency in the flock is towards an increase in the mature ewe size. He believes scrutinising EBVs will allow him to select females of an optimum size which produce fast growing lambs.

"I do not want to end up with a ewe which is too big; she would require more feeding and would not be as economical."

Efficiency of production is central to Mr Thompson's business model.

"Labour is in short supply on most farms and buying in feedstuffs is very expensive. I am looking to produce an animal which requires minimal labour input and can achieve the target liveweight of 42-45kg at slaughter and a R3L carcase grade from grass alone."

The conformation of the Lleyn with its narrow head and shoulders coupled with its strong maternal ability means very few ewes need assistance at lambing, according to Mr Thompson.

He believes running the rams in a field adjacent to the ewes in the weeks up to tupping accounts for the 90 per cent of ewes conceiving in their first cycle.

Ewes lamb indoors in the last week of March but are only housed for three weeks before lambing unless it is exceptionally wet or snowy.

"We only feed a premium ewe nut for the last two weeks before lambing. Once the lambs are up and thriving, we turn them out onto grass and they receive no creep at all."

In an entirely grass-based system, maintaining the quality of home-grown grazed and conserved forage is important, says Mr Thompson.

"Selecting the right genetics is important when choosing a mixture for reseeding. Plant breeding has progressed so much over recent years so I try to use it to my advantage.

"I want a sward containing later flowering grasses which are resilient under the weather conditions we get here – typically droughty summers but it needs to withstand some over-grazing during our wet winters."

As a member of the newly-established Performance Recorded Lleyn Breeders group, Mr Thompson is keen to embrace new technology. He recently volunteered to participate in a trial part-funded by Eblex to explore the genetic connectivity of resistance to roundworms in sheep.

"We are doing faecal egg counts and saliva tests on our ewe lambs to try and identify those which are most susceptible to roundworms."

Mr Thompson explains researchers have identified significant heritability traits which can, by selectivity, have major implications for flock management.

"To be able to select replacements over a number of years with high resistance will bring significant advantages to my flock. This is what I am trying to achieve here because I want to constantly improve and add value to my sheep for the commercial buyer."

## Culland flock facts

- The Culland Lleyn flock was established in 2003 and comprises 340 breeding ewes and five rams. Mr Thompson is a founder member of the Performance Recorded Lleyn Breeders
- Mr Thompson's wife Lucy also runs a small flock of 20 pedigree two-horn Jacob sheep
- Up to 20 per cent of ewe lambs are retained as replacements and about 200 shearling ewes are sold privately each year from the farm; 15-20 shearling rams are also sold each year
- Prime lambs are sold deadweight to Dunbia; this year, currently about 75 per cent of the lambs have made a carcase grade of R3L at a liveweight of between 42kg and 45kg, killing out at a deadweight of between 22kg and 23kg
- Mr Thompson has five stock rams, of which two are home-bred and the others are bought-in from performance-recorded flocks. Ewes are tupped in late-October; one ram runs with a group of 60-80 ewes and 90 per cent of ewes are conceiving on the first cycle
- Average lambing percentages this year were 195 per cent at scanning, dropping very slightly to 187 per cent within 24 hours of lambing; less than 2 per cent of lambs are subsequently lost through to sale
- The flock is MV accredited

## Culland Hall Farm

- Culland Hall Farm extends to 67 hectares (166 acres) of grassland, with a further 49ha (120 acres) of winter grazing rented from a neighbour

- The family have lived at the farm since 1930 and prior to the establishment of a Mule sheep flock, Mr Thompson's father had a commercial herd of pedigree Jerseys
- The owned grassland is reseeded on a seven-year rotation, although a small area of permanent ridge and furrow grassland remains around the farm
- One cut of haylage (with hay in a good summer) is made. Ewes are only fed supplementary forage when housed before lambing and in extreme winters. Lambs are all finished on grass

## Worm resistance trials

Eblex is part-funding trials examining worm resistance and resilience in performance-recorded Lleyn flocks. Participants in the trial are undertaking faecal egg counts of all lambs to identify the presence of strongyles and nematodirus.

A small proportion of animals in any flock are responsible for a significant percentage of eggs shed onto pasture. Similarly, it has been shown some sheep are better able to thrive with a worm burden. The genetic component relating to both traits is relatively high.

It is now considered possible to select those animals which shed very few eggs and which are also most able to cope with worms. Within a closed flock, selecting these characteristics will bestow considerable advantages, not least because it would reduce the drenching frequency and increase flock health and performance.



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