

## Case Study:

### Sustainable Sheep Feeding Trial at Hundleshope



Kate and Ed Rowell at Hundleshope were part of the 2012 - 2016 Monitor Farm initiative. A key objective of this project was to reduce labour and costs for the in-bye sheep enterprise. Dr John Vipond, SAC Consulting advised to focus on making high quality silage with an energy content of 11+ME to reduce the reliance on conventional purchased concentrates and feed soya as the protein source. Many benefits were identified and this regime has continued, not only at Hundleshope but on other farms throughout Peeblesshire.

High quality silage and soya has proven an excellent feed for in-lamb ewes and has continued to meet the initial objectives of reducing labour and concentrate costs whilst maintaining ewe performance. However, since the monitor farm programme has ended, Kate and Ed have had growing concerns over the sustainability of feeding soya. Soya is largely imported from South America and is synonymous with environmental issues such as deforestation. Kate found it impossible to find out the environmental credentials of the soya that they were purchasing so decided to investigate some alternative products. A product called NeoLac was sourced and a trial was conducted to determine whether it could be a direct replacement for feeding soya.

NeoLac is a Scottish by-product of cold pressed rapeseed oil which is treated with natural fruit acids and wood sugar to improve the quantity and digestibility of its bypass protein. Trials have shown that NeoLac provides 30% more grams of bypass protein per kilo than Soya and is 16% more digestible in the small intestine.



If successful, feeding NeoLac would offer all the benefits of feeding Soya to ewes pre – lambing whilst reducing the farms carbon footprint by reducing reliance on imported feed sources.

#### Trial:



A trial was set up 4 weeks pre-lambing 2021 which consisted of 94 twin bearing ewes all between body condition score (BCS) of 3.5 - 4.5. Ewes were tested for blood betahydroxybutyrate (BOHB) to measure energy supply which was normal.

The shed was divided up into pens housing up to 24 ewes with sufficient feed space. One group was fed Sopralin (a protected soya product) at a rate of 50g/lamb carried and NeoLac was fed to the other group at a rate of 100g/lamb carried with the results recorded and compared throughout the trial.

The findings of the trial are shown in the table below:

	NeoLac	Sopralin
<b>No of ewes in group</b>	46	48
<b>No of lambs born</b>	92	94
<b>Av lamb birth weight (kg)</b>	4.64	4.71
<b>Average Ewe BCS pre lambing</b>	4.1	4.1
<b>Average ewe BCS post lambing</b>	2.5	2.6
<b>No of Lambs present at 8 weeks</b>	87	87
<b>Mortality %</b>	5%	7%
<b>DLWG (birth - 8wks)</b>	0.29	0.28
<b>£/tonne</b>	£452	£560
<b>Feed rate per lamb carried</b>	100g	50g
<b>Total kg's of product fed over 6 wks</b>	386kg	202kg
<b>Total Cost per Ewe</b>	£4	£2

### Results:

- The lambs born from the NeoLac group weighed **0.07kg** less on average at birth
- The lambs born from the NeoLac group had a **0.01kg** higher average DLWG
- The mortality rate was **2%** less in the lambs born from the NeoLac group
- The ewes in the NeoLac group lost an additioanl **0.1** BCS
- The cost of feeding Neolac was **double** that of Sopralin due to the higher feed rate
- The ewes took a couple of days extra to become accustomed to the NeoLac however, there were no observed differences in ewe intakes, colostrum quantity and quality and lamb vigour.

### Conclusion:

The trial was deemed a great success from a sustainability point of view in that the diffrence between feeding Sopralin and NeoLac in terms of both ewe and lamb performance was minimal. NeoLac can be used as a direct substitutue for Soya in the pre-lambing rations.

The results of the trial were presented to the group at the Monitor Farm Legacy Farm Open day with the majority of the farmers saying they would rather feed a locally sourced product at more expense than continue to rely on imported proteins that carry a higher carbon footprint.

Whilst the cost of NeoLac appears expensive at £4/ewe in comparison to Sopralin at £2/ewe, purchased concentrates of £4 per ewe is in line with the top third producers recorded within the 2020 QMS Enterprise Profitability booklet.

*"It's a great result and it means that next year we can move everything onto the locally produced, more sustainable option of rapemeal," said Kate.*

