How a medium sized ewe can tackle the anti-meat agenda

With one of the main themes of today been climate change, British livestock farmers have seen unprecedent focus on their businesses and along with it calls to reduce or even stop the consumption of red meat. For lamb producers this is particularly frustrating when the majority of our product is produced from **grass-based systems.** When carefully managed, grazing with ruminants can improve biodiversity as well as capture carbon in the form of improved soil organic matter.

However, despite the inherent sustainability of lamb production in the UK we are likely to see increased pressure to reduce the sectors carbon footprint.

In practice this means tackling methane emissions. The challenge is that methane is a natural by-product of what makes the rumen so amazing – the ability to take roughage in the form of grass and turn it into a high-quality source of protein that humans can consume (and thrive on).

The bad news is that there are currently limited options for reducing methane emissions on a per animal basis. The good news is that reducing methane output on a 'per kg of output' basis can be achieved by improving efficiency of production.

Improving efficiency of production is therefore one of the over-arching principles behind reducing the carbon footprint of red meat and includes practices such as:

- Maximising utilisation of feed
- Using best practice in the management of soils
- Improving growth rates through improved lamb health
- Optimising number of lambs reared per ewe
- Genetic improvement in production and health traits

So, where does the Lleyn breed fit into this scenario? By focusing on the efficiency of performance, the breed can deliver a high-quality protein to the consumer whilst minimising the carbon footprint of on a per kg of product basis.

One of the best ways of doing this is to breed sheep with a mature size big enough to produce lambs which meet market specifications but small enough to minimise the amount of feed needed over a 12-month period. In-turn this will reduce methane emissions per kg of lamb produced.

Efficiency improvements can be made through optimising ewe live-weight.

A 60kg ewe rearing two lambs to 32kg each is 15% more 'efficient' than a 75kg ewe rearing two lambs to 34kg each.

This is why a significant amount of the energy an animal needs is used simply to maintain it in a healthy state – an animal's maintenance requirement. Once maintenance is met, energy is also needed for production, for growing, for pregnancy, for lactation and for wool. The total amount of energy required therefore increases with increasing production, but the energy required for maintenance generally remains constant. Methane production is linked to energy requirements and feed intake. So, although increasing production increases the total energy requirement (and methane produced), the proportion of energy that is required for maintenance is reduced. When levels of production are taken into account, the overall methane emissions per unit of output e.g. kg of lamb or wool is lower for more productive animals.

Ewe attributes for reducing methane emissions per kg of output:

- Lambs at 12 months of age
- Rears two lambs as a mature ewe
- Weighs between 55-65kg as a mature ewe
- Can perform on a grass-based diet
- Good immunity to worms and Footrot
- Successfully lamb over 5-6 years

By Catherine Nakielny, KN Consulting