**BOOSTING MILK YIELD FROM GRASS KEY TO GROSS MARGIN INCREASE**

Speed of nitrogen uptake is the key to maximising milk yield from home grown forage, according to Staffordshire dairy farmer Dan Lovatt.

The 1200 acres of permanent pasture plus 50 acres of fodder beet that Mr Lovatt and his wife Natalie farm in partnership with John Furnival as Oldford Farms Ltd, supports 900 Jersey cross Friesian milking cows with an average milk yield per cow of 5200 litres with 3.8% protein and 4.5% butterfat. About 90% of the total milk yield comes from grass. The remainder is achieved from bought in feed.

“We are in the market of producing maximum protein from home grow forage, and buying in the minimum amount of concentrates possible,” he says. “We utilise soil testing to analyse potential grass deficiencies, and we maintain pH, P and K at optimum levels. We like to keep input suppliers at the farm gate bar the milk tanker.”

With an annual rainfall of only 27 inches a year Mr Lovatt utilises liquid nitrogen plus sulphur fertilisers from OMEX Agriculture based in Bardney, Lincolnshire.

“Speed of nitrogen uptake is absolutely the key to maximising grass quality. I want to be able to spray a field and see it change colour within 12 hours of application,” he says. “Our cows are rotationally grazed over a 25 day period so it’s critical that the grass is at its optimum when they move onto fresh pasture.

“Starting to graze a day too early or a day too late can make all the difference in milk yield and quality. Unlike the general rule of thumb of allowing 2.5kg/N/ha/day we aim to add 1kg N/ha/day for each day the grass is growing – equivalent to 25kg/N/ha over the grazing period.”

Immediately after grazing, harvest or mowing Mr Lovatt applies OMEX Nitroflo 26+S liquid nitrogen supplied by Agrii and applied by local contractor Steve Banks.

The farm owns one tractor, a feeder wagon and a mower, and Mr Lovatt employs five staff including his wife. Their business has enough of its own housing to accommodate 200 dry cows over the winter and another 200 cows go off farm on bed and breakfast, the remainder are out-wintered on fodder beet and bales. The business operates a spring calving regime starting on February 15th in a 12 week block. Paddock grazing is based on a three week turnaround from April onwards. Grass is not grazed over the winter from December 1st to February 1st, while the cows are dry. From Feb 1st to April 10th and from September 1st to December 1st rotation length is increased from 25-60 days.

“So many dairy farmers just see grass as the silage source,” he says. “But good quality grass can have 13.5ME, 15-25%DM and a crude protein of 18-25%. By comparison a dairy cake typically has 13.5ME and 18% protein, and costs around to £200t/DM where as grass can be grown for less than half the cost, certainly no more than £90t/DM.”

With an average five year milk price of 27ppl Mr Lovatt says he can make money, but he accepts that the price is not going to go over 30ppl so production costs have to be reduced, and the easiest way to do that is to reduce bought in concentrates and by utilising home grown forage and grass.

“I am in no doubt that the future of the UK dairy industry will rely on producing more milk from grass,” says Mr Lovatt.

Such is Mr Lovatt’s attention to detail when it comes to pasture management that every week he measures kg DM/ha in the grass with a ‘rising plate meter’, and this determines how much feed is available in a paddock. Field data is inputted into Agrinet and paddock selection is based on which one is at its optimum feed value.

“The optimum grazing is at three leaves and so we always go into these fields first,” he explains. “This will give us roughly 2800kg DM/ha.”

Mr Lovatt says that he learnt the principles of the system he operates from New Zealand where he worked for four years prior to coming back to the UK to farm in his own right. It is a system that he says is growing in popularity in this country.

Mr Lovatt operates twice-a-day milking through a 40:80 and a 30:60 herringbone parlour. The average milk yield per cow of 5200l is achieved from a fully mature cow that weighs around 450kg. He aims to produce the same weight in milk solids/year – 3.8% protein, 4.5% butterfat – using half a tonne of concentrates supplied as brewers grain, bread and Trafford Gold – a by-product of wheat processing with 50%DM, 20% protein and 13.4ME. This is all fed in troughs on a feed pad. There are no in parlour feeders.

“We are producing more DM per hectare of grass because the nitrogen in liquid form is instantly available,” he explains. “Anything that gets between the cow and the grass is costing me money, so we are always looking to reduce any bought in inputs. We are interested in working with OMEX because it doesn’t just look at making fertiliser but has extensive laboratory and trial facilities, which we hope to tap into to explore future opportunities for boosting cow output from our own grass.

“Our target is to produce 60kg DM/ha/day which is the demand of the cows. Anything above this means we have a surplus, which is good, and anything below means we’ve got to fill the gap with silage or bought in feed and therefore incurring a cost. Quicker uptake of OMEX liquid nitrogen after grazing means we are achieving higher growth rates, allowing us to be less reliant on bought in feed and to operate a higher stocking rate. We still make our own silage from about 40 hectares of dedicated fields. Additional silage is made when there’s too much grass for the cows to eat.”