The numbers in the bulk tank

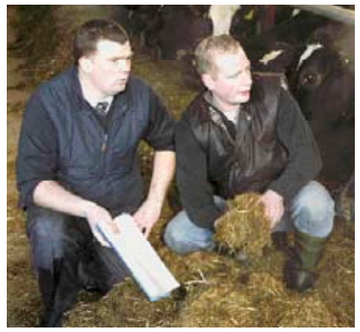
Innovative new monitoring system provides daily performance indicators

Feed company John Thompson & Sons has introduced a computer program based pioneering system that sets targets for milk output through the bulk tank and allows customers to closely monitor their herd's performance.

Up to date, relevant information is the corner-stone to the successful management of any business – and on a dairy farm you cannot get any more up-to-date information for management purposes than the last bulk tank reading. These readings provide an excellent means of assessing herd performance on either a daily, or every other day, basis. And herd milk output is one of the best guides as to the overall nutrition and management on today's dairy units.

Thompsons has used this concept to develop its new Performance Monitor computer program. This program sets targets for the total daily (or every other day) milk output through the bulk tank for the herd.

One such customer seeing the benefits is the Semple family at Dungiven, Co Londonderry. Ian, Jean and son Wesley manage a commercial herd of 190 Holstein Friesian cows under the shadow of Benbradagh Mountain, 425 metres above sea level. They also rear all their heifer replacements to calve at 24 months of age, as well as running a flock of 320 ewes.



Wesley Semple discusses his herd's performance with Thompsons' Richard Moore

Management changes

Upon returning home from Greenmount College in 2005, Wesley was very aware of the importance of continuing to improve herd performance, physical and financial, in order to maintain the economic viability of the unit in what was becoming a more difficult economic climate. The herd had a rolling average of 6,800 litres and in Wesley's own words: "We had to up our game."

With this in mind, some key changes were made to the production system.

From a practical point of view the key changes were the introduction of quality maize silage into the diet, batching of animals into high and low yielding groups and the housing of high yielding cows during summer months, which had an almost immediate impact on herd performance. Dry matter intakes increased, herd yields began to rise and cow condition improved and, combined with a focussed nutritional support programme, herd yields were up 750 litres by the end of the winter period.

This two-batch system continues at present. The high-yielding group are currently fed for maintenance plus 30 litres in the TMR (formulated to 17.5% crude protein) while the low batch is pitched at maintenance plus 18 litres. Cows are fed to yield, above these levels, in the parlour at a rate of 0.5kg/litre with a 19% compound nut. The highest yielding cows in the herd currently receive a maximum of 17 kg of concentrate.

The current feeding and management system has seen the herd average yield increase to 9,100 litres

Summer management has also seen some changes since 2005. In summer 2007 the winter batching regime was continued.

High yielding animals less than 150 days in milk were continually housed and fed a winter diet, while lower yielding later lactation animals were grazed night and day at grass with no buffer feeding of forage. This system sees fresh animals achieve their potential in terms of milk yield and quality while at the same time achieving good standards of fertility.

"The 70 cows kept indoors initially took a few days to settle when the others were turned out, but the consistency of their diet certainly paid off for us in terms of overall performance," says Wesley. "The later lactation animals, all confirmed back in calf, were challenged hard to maximise milk from grazed grass. By controlling feed rates and stocking rates this batch of 100 cows certainly helped to maintain satisfactory herd milk from forage figures during the summer period."

Herd performance

During the past two years the herd has also been run monthly on Thompsons' monitoring. This uses information on the initial herd calving profile, plus subsequently the monthly input data from the company's milk manager financial costing service, to calculate target daily bulk tank output for the month ahead.

This enables herd performance to be monitored almost daily and remedial action to be taken before a problem fully develops – and with a large herd of cows a loss of just one litre per cow per day can soon become a major financial penalty.

"The system has been invaluable to us durng the past two years. We know exactly how things are going at every milk lift, as well as on a monthly basis, and it certainly adds greatly to the precise management of our herd."

This system, in conjunction with the technical back-up has seen the herd rolling average increase to its current level of 9,100 litres on 3.1 tonnes of concentrate, while achieving an average butterfat of 4.00% and a protein of 3.30%. More importantly, the data from the costing service proves that, in terms of margin over concentrate per cow it has made good business sense to do so, with rolling margins up 40% on two years ago," adds Wesley.

Herd expansion plans are currently on-going at Derryduff Farm, with a new shed for 260 cows in construction and a milking parlour in the pipeline. These plans are founded, and reliant on, the continued high performance of the dairy herd, particularly milk yield and being able to continually assess production against preset targets, making adjustments where necessary.

Richard Moore

A visual view of herd performance

An instantly visual view of the herd's performance is provided by Thompsons' Performance Monitor Programme. A target monthly output of the herd, with a 5% deviation above or below, is shown with the blue line in Figure 1. This is then compared to the red line of the actual monthly output of the herd allowing a month-by-month account of performance.

Figure 1: Thompsons' Performance Monitor