



Rachel Lander

RPM provides pointers for more milk this winter

NWF Technical Assistant Rachel Lander explains how the RPM rationing system is helping fine tune diets this winter and considers some of the feeding challenges farmers may face before turnout.

It has been a mixed winter on many dairy farms and we have used results collected from the RPM rationing system to interpret some of the reasons for this. Data from 80 herds across the country shows that while many herds are performing well, a significant number struggled to settle onto full winter rations. The main findings include:

- Herds that were housed early are generally milking better than cows that were left out on autumn grass.
- Cows left out too long will have lost condition and when housed have diverted energy to replenishing body stores rather than to milk.
- Low NDF, high lactic acid grass silages are making cows prone to acidosis while in some cases maize has been fed earlier resulting in a higher proportion of grains passing through the cow.
- Intakes have been variable suggesting the influence of SARA
- Farms feeding to the RPM model with adequate levels of glucogenic precursors along with optimal fibre and acid load levels are seeing yield benefits and generally better rumen health.

The NWF RPM rationing system considers feeds in terms of the end products of digestion which fall into three categories. Glucogenic nutrients such as propionic acid (from the rumen degradation of starch) and bypass starch are essential for milk yield and milk protein. Ketogenic nutrients, including acetic and butyric acid (from the fibre and sugars in the

diet) and digestible fat influence milk fat production while the aminogenic end products such as essential amino acids are needed for milk yield and milk protein.

Across the herds in our sample there is a very strong correlation between the supply of glucogenic precursors and milk yield (see graph). Those herds feeding sufficient glucogenic feeds are seeing a positive yield response.

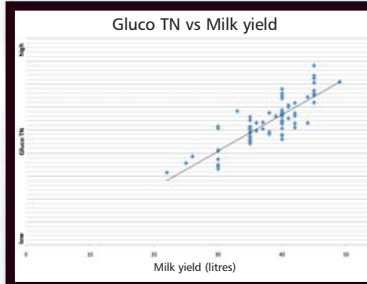
There are opportunities to increase the inclusion of high glucogenic feeds such as cereals, protected cereals, arable silages and molasses etc, but pushing levels too high can upset rumen health and increase the risk of SARA.

What is important is getting the balance right between energy sources, paying specific attention to the rate at which they are fermented in the rumen. Bypass starch such as NWF Ultra-Starch W can be used to increase starch levels in the ration while minimising the impact on rumen health.

By carefully ration formulation it is possible to ensure increased starchy feeds do not result in acidosis. The RPM system will allow us increase glucogenic nutrients but also keep the diet balanced with enough structural fibre.

Looking forward, it will be important to watch cows for signs of acidosis where maize silage is being fed. Over the winter the degradability of starch in maize increases due to the action of the fermentation acids. This means that the maize starch is more readily digested by the cow and this may cause digestive problems, particularly in diets where high levels of maize are being fed.

It is also vital to maintain the correct physical structure in the diet which is lacking in some cases especially given the low dry matters of some grass silages. To address the problems of diet structure some farmers have reacted successfully by adding straw. It will be well worthwhile assessing diets using a Penn State Separator.



Rumen health will also need to be monitored, especially if cows move onto better quality first cut silages, some of which have high lactic acid levels. The RPM system allows us to ensure diets don't compromise rumen health by taking account of new measures of the impact of a diet on the rumen including the nutrient fibre index and acid loading. In some cases it might be advisable to consider including Stable or Healthy Rumen Pak in the diet.

For more information on the RPM rationing system, talk to your feed specialist or call 0800-262397.



news

January 2011



Glass half full or half empty?

Rethinking Fresh Cow management

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Glass half full or half empty?

The dairy farming industry currently presents something of a paradox.

On the one hand we have the DairyCo farmer intention survey showing increased optimism, while there is general expansion in herd size and milk deliveries are up on previous years.

On the other hand we see vociferous dissatisfaction with milk prices and many farmers are taking a long hard look at whether to remain in milk production. Others are expressing their disapproval by taking action against the retailers.

So why the two extremes?

Talking with farmers and others in the industry I have drawn the conclusion that it is primarily due to attitude to business. Many other sectors of industry have had to cope with downward price pressure and increasing costs. The successful businesses have developed systems which take costs out of the business, allowing them to make a return at a reduced price, especially if volume output can be increased.

A great many farmers have taken the view that they want to remain in dairying and are working to develop financially sustainable systems. There is a vast range in the production costs per litre and by benchmarking and taking hard decisions they are developing a more robust business model.

Business success is not just a factor of scale and I suspect many more dairy businesses, large and small alike, could take costs out of their systems to help them survive the current level of milk prices.

At NWF we believe our role is to help our customers reduce production costs per litre and increase returns. Our

Profit for Life approach helps identify where cost savings could be made and certainly generates discussion about the direction of the business.

David Warrington
Managing Director

Commitment and dedication pay

Devon farming family Stephen and Linda Houlford from Bittadon near Barnstaple were runners-up in the recent Farmers Weekly Dairy Farmer of the Year Award. We visited them to find out more about their system.

A total dedication to dairy farming has seen Stephen and Linda move from a herd of 30 cows to a business now milking around 500 cows with yields in excess of 10,000 litres per cow with milk sold to Milklink. They have masterminded the development of the current unit on what was a Greenfield site 21 years ago.

"We have been steadily expanding and building the business," Stephen explains. *"Our aim is to get the best from our cows while focusing on cow health. We want our cows to last and achieve high lifetime production."*

NWF Agriculture has been closely involved with the business for many years with feed specialists Norman Piper and Paul Crocker advising on nutrition and providing dairy costings.

The current performance of the 480 cow all year round calving herd is 10,300 litres at a feed rate of 0.34kg/l. The cows average 31 litres per cow in milk per day while cell count averages 140 with a bactoscans of 19. The calving interval is 420 days.

The heart of the unit is a new cubicle building for 370 milking cows which was erected in 2006. The cows are housed as one group and are fed a standard TMR with dairy cake in the parlour.

The building was designed to promote ease of movement of animals to maximise social interaction and to also allow plenty of access to feed. It has three double rows of cubicles and two feed troughs which run the length of the building and which allow all the cows to eat at once.

All cows are housed by night all year round but go out to graze by day after first cut has been taken.

The ration is formulated by Norman Piper and Paul Crocker and is based on maize and grass silage. As the farm is at 650' the maize is grown on rented ground better suited to the crop and a significant proportion is grown in contract. Crimp wheat is

also grown, usually following the maize crop. But late harvests have often made it difficult to get the wheat established. Next year all maize will be grown on contract, allowing more grazing for youngstock on the rented ground.

The details of the current diet are in the table. *"The aim is to encourage high yields by maximising dry matter intakes and ensuring good rumen health,"* explains Norman Piper. *"Feeding a consistent diet across all cows means the rumen does not have to contend with changes in the diet as they move from ration to ration."*

"The blend is formulated to be 38% CP and currently contains soya, rape, protected rape and corn distillers. The proteins used are varied depending on the analysis of grass silage in winter and the supply of grazing in the summer."

Current diets	Early lactation	Mid Lactation	Late lactation
Grass silage (kg)	18	18	18
Straw (kg)	0.2	0.2	0.2
Maize silage (kg)	18	18	18
Crimp wheat (kg)	3.5	3.5	3.5
NWF 38% protein blend (kg)	3.5	3.5	3.5
18% Lactomax dairy cake (kg)	7	2.5	0
Evolution fat (kg)	0.28	0.28	0.28
Diet value	M+ 40 litres	M+ 32 litres	M+ 26 litres
DMI (kg)	24.9	20.9	18.8

Blend contains soya, rape, protected rape, corn distillers

The cows are fed once daily and the quantity fed is varied to ensure the cows finish the feed.

"We monitor feed left in the trough and adjust the amount fed by varying the 'number of cows' fed. We alter the dry matter fed, not the make up of the ration," Stephen Houlford explains.

Dry cows move into the calving shed two weeks pre-calving and are fed a consistent diet throughout the dry period. If they calve down without any problems they go straight into the main milking group, otherwise they stay in a hospital group.

Stephen operates a 100 day voluntary waiting period and believes there is little point in moving sooner. *"With the number of cows we have we can live with a slightly longer calving interval and are seeing better conception rates anyway."*



It also means we avoid the problem of drying cows off giving too much milk."

Heifers are reared to calve at 24-30 months and calve all year round in batches of 30-40. The aim is to breed strong cows that last and Stephen is looking for a wider cow as opposed to extreme Holstein type.

The cows are milked through a 20:40 herringbone but this will be upgraded to a 40:40 which Stephen believes will take 1.5 hours off each milking.

Looking forward Stephen and Linda are planning to consolidate. *"Apart from the parlour we have no immediate investment plans but in time would like to look at dry cow and youngstock accommodation. Our children Amy and George may want to come back into the business so we have to plan for the future."*

One enterprise which is set to grow is Linda's clotted cream enterprise which she started five years ago. Selling in the local area this is run separately from the farm and is seeing steady growth. *"This provides a way to add value to some of the milk and generates an additional income, something that is always useful,"* Stephen concludes.



Linda and Stephen Houlford



Rethinking Fresh Cow management



Effective management of fresh calved cows is a major challenge on all dairy farms, balancing milk yield, condition loss and getting cows ready for rebreeding. Negative Energy Balance (NEB) in early lactation continues to be a significant issue but The Fresh Cow Concept, a new approach developed by Frank Wright Trouw Nutrition International, may offer a realistic solution. We visited one of the first farms in the UK to adopt the approach to find out more about it.

What is the Fresh Cow Concept?

NEB occurs when energy consumed is less than the energy requirements of the cow and the shortfall is made up by mobilising body reserves, typically at least 0.5 of a body condition score. Traditionally the approach to reducing NEB has been to increase energy supply to try and get supply more closely in line with demand.

The Fresh Cow Concept is an approach to managing cows in the first three weeks of lactation which turns traditional thinking on its head. Rather than trying to increase energy supply, it sets out to reduce energy demand by delivering a lower milk yield in the first three weeks of lactation and also looking to reduce milk fat content.

There are three main elements to the concept:
Feed less protein - reducing crude protein content will suppress milk yield, reducing the energy required by the cow. Traditionally fresh cows are fed 18%CP in the ration but in the Fresh Cow System this is reduced to 14-15.5%.

Change the type of energy - Ketogenic energy sources (fats) drive butterfat production which increases the energy demands of the cow. Providing glucogenic energy sources such as cereals, bypass starch or propylene glycol instead will reduce butterfat and overall energy requirements, so minimising NEB.

Support the liver - we can never eliminate NEB. Body fat will be mobilised which puts a huge strain on the liver, so it is important to take care of the liver. Adding specific feeds and rumen protected nutrients to the diet can boost liver function and immunity.

Rob Slater and his father John from Lion Farm, Leigh, Staffordshire run a herd of 180 all year round calving Holsteins, averaging just over 8,000 litres. Heifers are contract reared. NWF Sales Development Manager Mike Phillips first approached Rob about trying the Fresh Cow Concept two months ago.

NWF News - Why were you interested in changing Fresh Cow management?

Rob Slater (RS) We were very concerned at the high culling rate which averaged around 35%. Of these, 38% are culled as not in calf and this is too high. As we know the true cost of rearing replacements, we have calculated that it is possible to save over £25,000 if we reduce culling, significantly particularly due to infertility and lameness.

We want to look after the cows and our objective is healthy, productive cows. We had worked on chasing yields but have moved away from that approach.

NWF News - Mike, why did you think the Fresh Cow concept might be appropriate at Lion Farm?

Mike Phillips (MP) Blood tests in fresh calvers always highlighted NEB as a problem so we knew we had to do something to reduce condition score loss. Rob had already made a decision to form a fresh cow group to focus on these animals so we would just be changing the way the cows were fed as opposed to looking at making changes to cow grouping. He had also gone back to feeding in the parlour and away from full TMR which would give more control of feed allocation.

NWF News - So what was your reaction when Mike told you he wanted you to produce less milk in the first three weeks and reduce butterfats?

RS My father wasn't too impressed at the thought, but we could understand the logic. I liked the idea of reducing stress on the cows and letting them settle into lactation and build dry matter intakes gradually. We had been expecting cows to go from a dry cow diet with 4kg of concentrates, to a diet containing up to 12kg of concentrates immediately post calving. This was a huge change.



Reducing the rate at which concentrates were introduced and accepting less milk in the first three weeks, knowing it would be recovered in later lactation was sensible, especially if we could keep cows in better condition so they came back bulling sooner. It all made sense and I could see how we could adapt our system quite easily.

MP In most cases the problem isn't in understanding the principles, but is looking at the system and deciding how it can be made to work. Understandably farmers are concerned about increasing workloads and complexity but we are already finding that they are many ways in which the concept can be applied on farm.

NWF News - How was the system changed to accommodate the Fresh Cow Concept?

RS We already had the Fresh Cow group but we decided to simplify dry cow management to release the time to let us work more with fresh cows. Dries are now run as one group on a diet made up of 50% of the fresh cow ration and straw.

We devised a special fresh cow diet and we mix this and feed the fresh group before adding the straw and feeding the dry cows. In this way we aren't making too many mixes and feeding the fresh cows does not take too much extra time. We will be adding a special Frank Wright Trouw Fresh Cow premix early in the new year.

In the parlour we build compound levels very gradually. Day five after calving they get 300g per day and we increase by 300g per day until day 20 when they are getting 6kg/day. They move into the main milking group at around 24 days. The group is small and the most we have had is 10 which means we can give real attention to cows and make sure they are eating.

MP The fresh cow and main milking diets are very similar (see table). The fresh cow group is formulated to be higher glucogenic energy and low protein. It is 14.6% CP compared to the main milking diet which is

Lion farm diets	Fresh Cow diet	Main milking ration
Whole crop silage/maize silage	20kg	10kg
Grass silage	6kg	16kg
Crimp maize	1.5kg	3kg
Brazilian soya	1.5kg	2kg
Propylene glycol	100g	-
Molasses	-	2kg
NWF blend	-	5kg
Dairy compound	-	1kg
Diet worth	-	M+28 lbs
Crude protein	14.6%	17.7%

17.7% protein.

NWF News - What results have you seen?

RS The cows are certainly keen for the feed and cuddling well. On average fresh calved cows are giving around five litres per day less than they were on the old system but are holding condition far better. It is too early to be specific about fertility performance but we are seeing better signs of bulling. When they move to the main group we see yields quickly recover to where they would typically be so I am confident we will not lose overall yield as a consequence of the change.

Interestingly, dung has been more consistent which tells me that rumen function is good. On the old system fresh cows were often very loose as they tried to get to grips with a rich diet.

NWF News - Finally, how applicable do you think the system is to other herds?

MP The concept should be of interest to any farmer looking to reduce early lactation condition loss and improve fertility. The evidence is that the concept can make a significant difference without affecting lactation yields.

The skill comes in deciding how best to implement it. All farms are different and there is no standard solution. But by looking carefully at their system I am confident we can develop a practical way to apply the Fresh Cow concept on our customers' farms.



Rob Slater and Mike Phillips

Is it time to focus on things you can change?



National Sales Director Ian Simpson suggests the key to success could lie in focussing on the aspects of your business that are under your control, rather than those you can not change.

The farming press is full of articles and letters complaining about the milk price and the tactics of the retailers. While this level of angst is understandable, it is perhaps worth considering how much of a change complaining about milk price will actually make to your margins, and over what timescale?

Most business consultants tell you that successful farms focus on what they control and can change rather than expending effort on things they can't. For example they make sure they maximise the price they receive within their contract by ensuring every 0.1ppl of available bonus is achieved.

Take hygiene quality bonuses as an example. A recent report by Diversey Ltd calculated that every year over £50M is lost due to cell count and bactoscans deductions and missed bonuses! Surely this would be a good place to start looking?

But it is also important to focus on controlling your costs. The Tesco milk price tracker puts the average cost of production (including allowances for unpaid family labour and reinvestment) at around 27.7ppl. But there is a huge range around this average.

The leading businesses know all their costs in detail and constantly fine tune their operations to maximise the gap between milk price and cost of production. For example they ensure they use feed accurately to reduce feed rate per litre.

Our Profit for Life scheme identified numerous areas where cost savings could potentially be made on most farms and is a good way to challenge the farming system. Two of the biggest opportunities are reducing culling rate and calving heifers down younger. Together they can have a major impact on the size of the heifer rearing enterprise, reducing costs and freeing up capital.

Our work suggests that it there will be opportunities for many farms to identify possibly sizeable savings in production costs. This, and working to maximise the price received within the contract will have an immediate effect on margins and profitability. It is totally within your control and not beholden on the will of the politicians, the processors or retailers.

For more information on NWF Profit for Life, talk to your feed specialist or call 0800-262397.

Keeping track of feed costs

Feed Specialist Pete Foxley believes it will pay to monitor feed costs per litre carefully.

Pressure on margins is going to increase and talking to customers I have stressed the importance of using costings data carefully to make informed management decisions.

With feed prices rising many farmers have said they will be looking to reduce price per tonne, perhaps by looking at cheaper straights or reducing the inclusion rate of protected proteins or cereals. But in most cases this strategy will have a minimal impact on feed costs per litre and could potentially have a damaging effect on performance by altering the balance of the diet.

Feed costs per litre are a function of feed price and feed rate so it is important to look at these together and not in isolation. It might be that keeping feed quality up but looking at

feed use will be a more beneficial approach. Or it might be worth looking at feed allocation, which is what one customer did this year.

Having fed TMR for several years, this customer was concerned about increasing feed rate so took the decision to install out of parlour feeders. The results are in the table and are significant.

By improving accuracy of feed allocation, this customer has increased milk yields, reduced feed rate per litre and increased margin per litre, despite a virtually static milk price and a rise in concentrate price.



Through management he has negated all the feed price rise.

Given the challenges facing dairy farmers this winter, it will be important to take a hard look at production systems and accurate dairy costing data will be an important management aid.

	Yield/cow/day (L)	Milk price (p)	Feed rate (kg/l)	Feed cost (p/l)	Average purchased feed price (£)	MOPF/litre (P)
Nov 2009	27.6	24.66	0.43	8.14	188	16.52
Nov 2010	28.8	24.71	0.33	7.41	213	17.30
Diff	= 1.2	+0.05	-0.1	-0.73	+25	+0.78

Make the right maize choice



Sales Specialist Leigh Berrisford offers some timely advice on selecting the right maize variety.

There is now a wide range of maize varieties available in the UK and choosing the optimum variety can have a significant impact on the quantity and quality of forage produced. Breeders take account of a number of criteria when selecting new varieties including early vigour, stress and cold tolerance. Maturity, energy content and dry matter yield.

One of the key considerations when selecting varieties will be the length of the growing season. On heavy soils where harvesting may need to be early it will be advisable to select an ultra early maturing variety. On light soils the growing season will be longer allowing the use of varieties with earlier drilling and later harvesting dates.

The number of heat units will also affect growth and maturity of the crop. Base your variety choice on estimated

heat units and soil conditions. Ultra early varieties require as much as 20% fewer heat units than medium early varieties.

It is also important to consider the feeding system. In predominantly grass silage based rations it will be worth considering maize varieties that have a high starch content to balance the protein in grass silage and increase overall energy levels.

In maize based rations where the growing objective is to maximise overall energy and dry matter harvested, it may be preferable to select a later maturing variety combining high dry matter yields and moderate starch levels.

Taking the time to plan your maize varieties should help ensure you maximise the forage produced this season.



For more information on our range of maize seeds, talk to your feed specialist or call 0800-262397.

Producing award winning lambs

A focus on producing quality lambs has paid off for Devon sheep farmer Linda Sillifant who farms near Halwill.

Linda and Kevan run a flock of around 190 ewes, made up of Polled Dorsets, Texels and Texel Mules. They are all put to Texel tups with lambing planned for the end of December to produce lambs for the Easter market.

The ewes have scanned at 166% this year but last year 242 lambs were sold from 160 ewes - 1.51 lambs sold per ewe.

"Our aim is a quality carcass to make the best of the early prices," she explains. "The ewes are fed on NWF ewe nuts or rolls depending on ground conditions. They are brought indoors to lamb and then go out again as soon as the weather allows.

"The lambs are fed NWF creep feed from three weeks old before moving onto a grower feed."

Lambs are sold in batches to Randall Parkers and last year they mainly graded at U and E, averaging £92 per lamb at an average weight of 20kg. In June Linda was persuaded to enter a carcass competition and agreed despite having only the last 30 lambs on farm. But she won first and second prize in the upto 20kg class from an overall class of 307 carcasses.

"The system shows the benefits of focussing on the market," comments NWF Feed Specialist John Cann. "Linda is producing the type of lamb the market wants. Carcass quality means she is able to command a better price which helps ensure good margins."



Linda Sillifant and daughter Claire