



news from advanced nutrition

Autumn 2015

Future proofing

Welcome to autumn issue of 360. This issue we have kept all our contributions "in house" with a fairly major emphasis on improving forage production and utilisation.

With the lower milk prices continuing to have a major effect on all our businesses, we are trying to look at areas that will help productivity and efficiency in the coming winter.

It is understandable that with the current financial pressures that we all look at the cost of our inputs, but we also need to understand how this might impact on future productivity. Questioning what we spend our money on is never a bad thing but we must always see the bigger picture and we must be aware of any delayed effects of cutting cost. Most of you could cheapen your ration and perhaps get more milk by introducing a higher level of cheap protein. But, it will come back to haunt you as cows lose condition, become less fertile and possibly a little tender on their feet.

I was speaking to a dairy farmer at an auction mart 3 weeks ago, he told me he hadn't had his vet on the farm for nearly 3 months and had saved a substantial amount of money. This may be true, but I do worry about what problems he may be storing up for his herd. I could save money by never having my car serviced, but long term I wouldn't fancy my chances of still having it in 5 years' time.

Cutting costs and minimising losses do not always go hand-in-hand. In Debby's article she explores the benefits for prevention rather than treatment when it comes to Digital Dermatitis. Yes this requires an up-front investment, harder to justify when money is tight, but, we can demonstrate savings in costs, time and effort further down the line. If our businesses are to survive beyond the current low milk prices then we need to keep looking and planning for when things get back to normal.

In his article, Richard reports on the effect he has had taking our 360 degree approach on a new client. Looking at every aspect of a business is usually where most of the significant gains come from. Changing one piece of the jigsaw is only appropriate if it fits the bigger picture.

Anyway that's quite enough from me. We hope you enjoy this newsletter and find it useful.

Ian Brown Managing Director

Advanced Nutrition invites you to When bad things happen to good cows...

Find out more about the relationship between immune function and cattle lameness on Tuesday 13th October.

Hosts:

Advanced Nutrition's Mark Gorst, Dr. Debby Brown and Richard Bainbridge

Speakers:

Dr Dana Tomlinson, Ph.D. - Research Nutritionist, Zinpro
Dr Debby Brown MRCVS, GPcertFAP, BVMS - Veterinary Nutritionist, Advanced Nutrition

Farm Demonstration:

Venue: M & K Chippendale, Wharton Hall, Wharton, Kirkby Stephenson, Cumbria, CA17 4LD
Time: 2pm - 4pm

Evening Meeting:

Venue: The Longlands Hotel, Tewitfield, Carnforth, Lancashire, LA6 1JH
Time: 7pm for 7:30pm start

Refreshments provided.

Also in this issue...



Milk from Forage



Reseeding



Availa Plus



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Milk From Forage

Ruminant Nutritionist Rob Watkins calls for a different strategy in view of the low milk price.



We are now well into the year with the weather looking like we could have a good autumn for grass growth. Most of us will be hoping we can keep young stock and in-calf milking groups out for as long as possible to keep cost of production down in this year's environment of low milk price.

Over the last few months, I have smiled on several occasions when I have sat down on a Saturday morning with the ritual cup of coffee whilst reading popular farming press. Only to be met with articles from experts telling their audience to cut all additives from rations and, accept the lower production levels that they suggest one would get by doing this.

We do need to ensure that any additives used were necessary in the first place. If good nutritional principles are followed and attention to detail is promoted on farm, we should be able to minimise their use based on problem solving alone. Their use then, can be targeted at increasing production and efficiency.

I am also seeing the same strategy around lowering the quality of blends and inputs from companies to show a customer £10 saving per tonne. This is also met with a smile and a helping of disbelief. We need to remember it's not the cost per tonne, but the margin per litre that's important. I think I would be asking my supplier why I didn't enjoy this pricing in a good milk price year.

So what message should these gurus have been peddling this year I hear you shout!

Dare I say, how about increasing milk from forage, the all too often forgotten input that many in good years allow themselves the luxury of dismissing? If we lost 10ppl in milk price but increase milk from forage by 1,000ltrs per cow what is the difference to the bottom line?

With a £10 / tonne average producer, using 3 tonnes of concentrate will save £30 per cow, 1,000 litres more milk from forage will save him approximately £110 per cow. This won't make up the total price loss however it does take a business in the right direction.

Here are two case studies to think about:

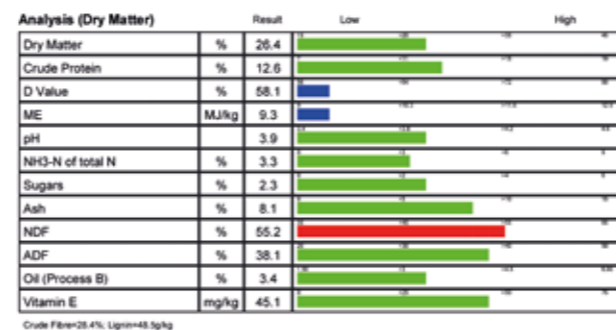
Case Study 1

This is a 100 cow farm operating on 180 acres, with cow lactation yields at 7,000 litres and 780 litres from forage, with all cows grazed.

In 2015, cows over 150 DIM were grazed, fed with parlour concentrate at 4 kg, targeting 14 kg dry matter grazing and topped up with a buffer TMR at 3 to 4 kg / cow. The Fresh and Early cows being fed 7 kg in the parlour and 18 kg TMR using 2015 first cut silage fed from 15th June.

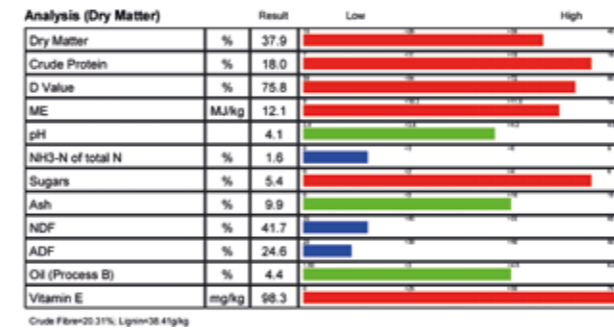
Figure 1 shows the analysis of forage from 2014 cut on the 26th May 2014. This silage is cut from permanent pastures with some white clover mostly self-sown. This silage has limited his business to only 780 litres from forage.

Figure 1



When looking at Figure 2 you would be forgiven in thinking this analysis is from new seeds with modern clover cultivars, not so, this year's silage is from the same paddocks as the 2014 analysis.

Figure 2



The vast increase in: 3.4% CP, 2.6 MJ/kg DM and 3.4% sugars, has been gained by tightening up the grazing areas and managing grazing efficiently, balancing grass growth during the winter with sheep, managing the nutrient budget using slurry and fertilizer more effectively and being ready to cut in mid-April, actually cutting on the 8th May 2015. They have then cut on average every 4.5 weeks, taking 4 cuts in total creating 18% more forage than in 2014.

We also met with the contractor giving him clear objectives to be met in chop length and how we wished to make this year's forage crops.

The result being this business is on target to produce 8,300 litres per lactation and 1,700 litres from forage at this stage, planning for next year has already begun, this has included putting together a pasture renovation plan.

This clearly goes to show how important clear targets and pasture / forage management are and will be in our industry moving forward.

Case Study 2

Case study two is a 600 cow farm, this farm historically has made good forages in comparison to its peers, using all Italian mixes, cut 4 times. Current cow performance is good at 10,500 litres milk sold and 2,000 litres from forage. This year the objective has been to make even better use of forage. Historically feeding high levels of moist grains, the herd had a feed rate approaching 0.50kg/litre.



Replacing the grains and some concentrate with extra forage and re-balancing the starch and protein levels saw some huge improvements.

The changes were done slowly in conjunction with improving the TMR presentation to allow cows to adjust sensibly.

This strategy has seen milk sold rise by 5 litres per cow and a significant improvement in fertility efficiency.

The objective here has been to bring the analysis of all 4 cuts closer to each other, Figure 3 being 1st cut 2014 and Figure 4 is 2nd cut.

Figure 3

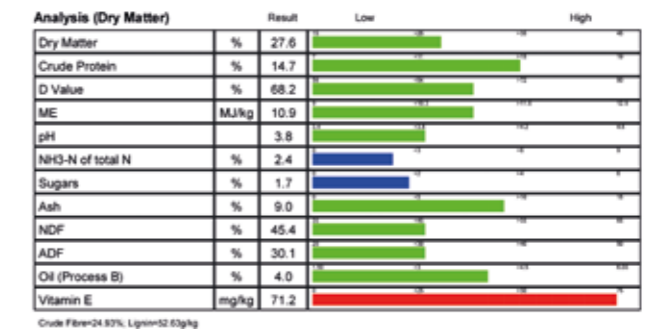
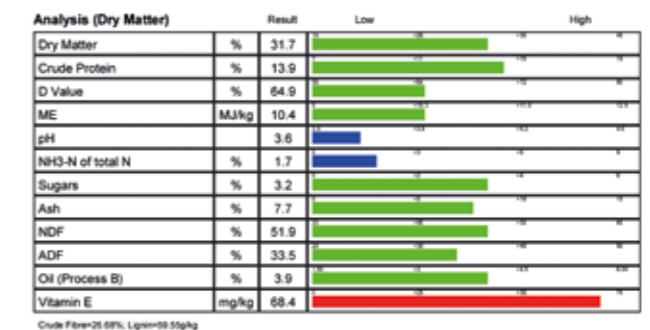


Figure 4



Milk From Forage (cont.)

Historically, this farm has managed the forage growing process well, with good nutrient budgeting, a 3 year pasture renovation strategy, good winter management and cutting every 5 weeks.

Everything seemed to be set up well so how could we produce more energy and protein per ha and lift the DM per ha production?

We were lucky enough to have a client that allowed us to put a 50 acre area of IRG, Intermediate IRG, red clover and chicory in. Planted on 8th May 2015.

We have managed to complete 3 cuts so far, the first being six weeks after drilling and we will manage a fourth cut, averaging in its first year across all cuts 5.5 tonnes cut fresh weight per acre.



Figure 5 shows the first cut analysis and Figure 6 shows second cut, 1 eagerly await analysis from the 3rd cut and hopefully a fourth cut, weather permitting.

Figure 5

Analysis (Dry Matter)		Result	Low	High
Dry Matter	%	34.2		
Crude Protein	%	17.9		
D Value	%	71.2		
ME	MJ/kg	11.4		
pH		4.0		
NH3-N of total N	%	1.5		
Sugars	%	4.4		
Ash	%	9.3		
NDF	%	41.0		
ADF	%	26.2		
Oil (Process B)	%	5.3		
Vitamin E	mg/kg	103.7		

Crude Fiber=22.53%, Lignin=1.16kg

Figure 6

Analysis (Dry Matter)		Result	Low	High
Dry Matter	%	38.6		
Crude Protein	%	15.2		
D Value	%	74.5		
ME	MJ/kg	11.9		
pH		4.1		
NH3-N of total N	%	2.1		
Sugars	%	6.1		
Ash	%	9.5		
NDF	%	41.1		
ADF	%	26.1		
Oil (Process B)	%	4.3		
Vitamin E	mg/kg	77.9		

Crude Fiber=22.39%, Lignin=0.96kg

The result being that this autumn a 1/3 of the cutting platform will be put into these types of swards.

So what will this mean to this business?
Our objectives (in no real order of priority) are:

1. Grow more forage from less rented acres
2. Increase the energy and protein from grass forage
3. Move first and fourth cut analysis closer together
4. Enable a 10,500 litre cow to produce 3,500 litres plus from forage

It will be interesting to see the results in 2016. I am however more confident that this strategy will move this business closer to making up the 10 ppl loss in milk price than offering him a tonne of concentrates at £10 / tonne less, margin per litre not cost per tonne is the key!

If you'd like to find out how to get more milk from forage please get in touch.

Rob Watkins, Ruminant Nutritionist: 07867 384 382 rob@arn-ltd.com

Reseeding

In the summer newsletter article "Growing for Success" we discussed how we have been working in partnership with DLF Trifolium and our clients to maximise milk from forage!

We have been monitoring the performance of two grass mixtures that have been planted over the last two years on one of our client's farms. Newland House Farm near Lancaster is run by the Halhead family, David, Janet, Chris and Cath. They run 160 cows through 3 robots. The herd is housed all year round and average 10,500l at 3.8% fat and 3.2% protein.

The cows are fed a total mixed ration comprising of grass and wholecrop silages, blend, molasses and minerals. Grass silage makes up the majority of the diet, therefore the quality and quantity of grass silage produced is important to maintain the performance of the cows.

The reseeding program is key to ensuring the quality of grass silage year after year. DLF Trifolium put forward suggestions to the type of mixture that would respond to the soil type and aspect of the field. The performance of the newly reseeded leys was then monitored.

The mixtures compared were the Versamax Meat & Milk and Versamax Flexicrop. Both mixtures contain a wide range of intermediate & later perennial ryegrasses. The Flexicrop mixture also contains the Advanced Hybrid Ryegrass variety called Lofa, which is very persistent, stress tolerant, palatable, and has a high sugar content so can be utilised widely.

Table 1 Compares the performance of the mixtures that were sown in Autumn 2014.

Detail	Fresh Weight (T/acre)	Dry Matter (%)	Total (Kg/DM)	ME (Mj/Kg/DM)	Total (Mj/acre)	Milk Yield (L/acre)
Field 1 Meat & Milk						
1st Cut – 20th May 15	12.95	18.5	2,396	11.8	28,273	5,235
2nd Cut – 16th July 15	6.48	16.4	1,063	11.2	11,906	2,205
Total	19.43		3,459		40,179	7,440
Field 2 Flexicrop						
1st Cut – 20th May 15	12.95	15.9	2,059	11.4	23,473	4,373
2nd Cut – 16th July 15	8.90	17.6	1,566	11.2	17,539	3,248
Total	21.85		3,625		41,012	7,595

The table shows that the Flexicrop out-performed the Meat & Milk in freshweight yield and overall energy output throughout the year. However, the Flexicrop was grazed slightly later in winter and subsequently had less fertiliser and slurry prior to 1st cut, so this may have resulted in the lower energy yield difference at the time of the 1st cut.

If we look more closely at the 2nd cut where each field was fed the same amount of fertiliser & slurry the Flexicrop out performs the Meat & Milk significantly in freshweight yield and consequently in Mj per acre (193litres). No 3rd cut is being undertaken so on the year the total energy difference of 833Mj equates to 155 litres per acre extra from the Flexicrop or £35.65 per acre at 23p per litre. There is no difference in cost of the two mixtures but it is the make-up of the grasses which show that you can get great value for money.

This exercise has shown the importance of selecting the correct mixture for the situation, and that cutting should be undertaken when the grass is ready to be cut rather than when we have always done it.

If you feel you could benefit from reviewing your re-seeding policy ready for next year please get in touch so that we can show how working together we can benefit your business.

Mark Gorst, Ruminant Nutritionist: 07880 794 004 mark@arn-ltd.com

Availa Plus

Lameness is a significant welfare and productivity concern across the UK dairy industry. Dr Debby Brown presents her lameness audit, and, trial data for Availa Plus, a nutritional solution to help manage digital dermatitis.



Some of you may have heard of The First Step® Dairy Lameness Assessment and Prevention Program. The program provides the most comprehensive assessment available of lameness risk factors on farm. I am one of very few *First Step Assessors* in the UK and on farm I have been conducting full lameness audits and evaluation to provide practical and nutritional solutions for farmers to help manage and prevent lameness.

Current Situation

Heifers are vital for herd sustainability so it is important to ensure that heifers enter their first lactation free of digital dermatitis (DD), so that they can remain a productive member of the herd for longer. In the UK, DD is believed to be prevalent in 25% of pre-calving heifers. Ideally heifers should be entering the milking herd free from DD (target 0%).

Table 1 shows the financial loss incurred by the sum of heifers infected with DD on a typical 200 cow milking herd across their first lactation.

Table 1

Milking herd size	200
Number of heifers milking	70
Number of heifers with DD	18
Reproductive performance loss	£2,700
Milk loss	£1,800
Lameness	£240
Total	£4,740

Encouraging good hoof integrity in heifers

Advanced Nutrition began a UK farm-based trial in May 2013. Pre-trial DD scoring showed that approximately 20% of heifers housed away from the dairy unit were infected with DD pre-calving.

From approximately 4 months of age, calves were fed a mineral equivalent of Availa Plus from Zinpro Corporation. The mineral is designed to improve trace mineral nutrition in order to build stronger skin integrity as well as allowing the heifers to develop an improved immune system.

It can be easily integrated into a well-fortified diet and then stopped three weeks pre-calving.



It is important that the heifers receive the minerals in the pen/building prior to where the lesions are first seen. The feed rate is dependent on the animal size but costs approximately 8 pence per day per animal.

Results of the trial have been significant. DD scoring has shown that none of the lactating heifers have any evidence of DD lesions with days in milk varying from 30 to 300 days. Therefore, protection from feeding Availa Plus carried from when the mineral supplementation was stopped at three weeks pre-calving and on throughout 1st lactation.

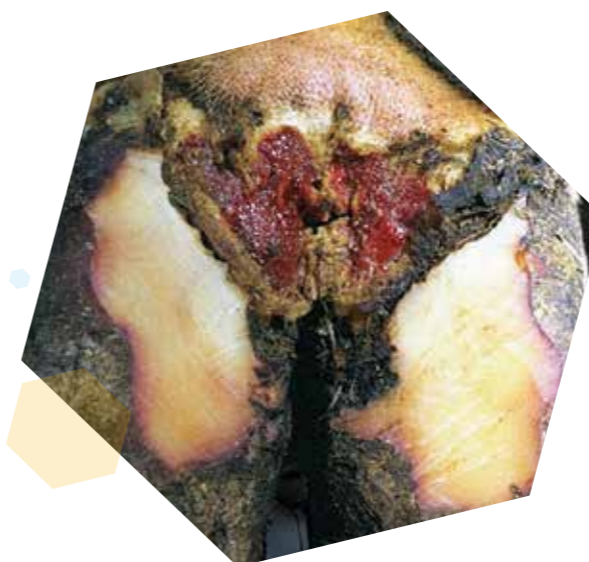
Table 2 shows the typical financial savings based on losses associated with lameness as shown in Table 1.

What Table 2 doesn't reflect are the immense benefits to animal welfare and ease of use.

Table 2

Mineral cost / day / animal	0.08p
Approx treatment days (Calving 24 months)	577
Approx cost per heifer	£46
Financial loss of 18 infected heifers (table 1)	£4,740
Cost of treating 70 heifers	£3,220
Total	£1,520

The prevalence of DD should decrease within the milking herd now the heifers are protected which will help reduce the pool of infection.



Managing hoof health in the milking herd

The results within the heifer are really positive but two-thirds of the existing milking herd on the trial farm either had active M2 or chronic M4 lesions.

For those cows with M2 lesions the recommendation is to individually treat with cleaning and antibiotic spray but, as there were multiple cases of DD, a footbath system was advised as part of management to reduce reactivation of M4 to M2 lesions.

To ensure effective footbathing it is important to evaluate and establish a protocol so that footbath location, solution and frequency are optimal.

Footbaths need to be ideally 3.5 metre long. Footbathing frequency depends on cleanliness of cows but also footbath length. We should look at 3 times a week for footbathing but chemical and frequency will tend to be farm and infection dependent.

There are a range of different products which are commonly used but in this case, Healthy Hooves Ultimate has proved most effective. This safe acid solution solubilises copper and zinc. Zinc not only acts as a disinfection agent but also promotes hoof health. Additional additives assist in cleansing the hoof.

To reduce the reservoir of infection within the herd, M4 and M4+1 cows should also be considered for culling.



Going forward

For future herd sustainability, Availa Plus must certainly be considered by farmers.

It is simple, effective and reduces reliance on other fire-brigade control methods which often bring about their own challenges. If we invest in heifers then we can reduce the infection pool on farm.

Please contact me if you would be interested in a full lameness audit and evaluation.

Dr Debby Brown, Veterinary Nutritionist
07824 395167 debby@arn-ltd.com

Watching The Herd at Milbrow Farm

Richard Bainbridge looks at cow signals as part of a whole farm approach.

There is a lot to be said about spending time watching your herd. Our Free Farm Evaluation often identifies things that farmers can do easily and cheaply to bring about improvements to cow health, performance and ultimately profit.

In 2013, Steven Holden of Milbrow Farm, Lancashire, contacted us as he thought his cows were underperforming and at risk of metabolic disorders.

Nutrition

The farm appraisal revealed some areas for improvement within the diets.

SARA: improvements were seen with some dietary tweaks and the introduction of Rumisaf yeast. Rumisaf reduces rumen oxygen levels to increase rumen microbial activity and improves fibre digestion.

Sorting: the cows were sorting potatoes out of their existing diet resulting in varied starch level intakes across the herd, so, potatoes were removed and more home grown forage introduced. Steven has said that there is no longer a rush when the TMR is fed out resulting in less stress for both him and the cows.

Transition cows: with no set regime and fresh calvers slower to get going than Steven would like, DC-Xzel was introduced into the diet two weeks pre-calving, alongside a simple silage and straw diet. Now peak yields are being reached sooner, calving intervals reduced and cows are calving down with no problems.

Environment

Steven has made some changes to improve feed-intakes. Improving lighting and having a feed passage coated with an epoxy resin have really helped maximise milk yield.

Ventilation wasn't all it could be so removing some old asbestos boarding has helped improve cow



health but also provided increased lighting from the cheapest source!

Forage

With summer buffer feeding silage was heating and being wasted. A silage additive was introduced on last year's 2nd cut. Despite only feeding out a small amount this summer for buffer feeding there has been no wastage at all which has helped increase yield from forage as the table shows.

	May-14	May-15
Yield per cow in milk (L/day)	26.9	31.7
Yield from forage (L/day)	12	19
Feed rate (Kg/L)	0.20	0.18

Lameness

Steven attended one of our farm walks earlier this year on functional foot trimming. Lamé cows typically have lower milk yields and decreased reproductive performance, so Steven has made subtle management changes to manage and prevent hoof disorders.

Going forward

We will continue to observe cow behaviour but we have already seen improvements to cow health. Yield has increased by 500 litres per cow and if we standardised milk and feed price we have managed to add £70 profit per cow.

My take home message is simply, there is a lot to be said about spending time watching your herd. With cows coming in shortly and pressure on milk price we need to make sure that nothing holds our cows back.

Please contact us on 015242 63139 if you would like a Free Farm Evaluation to see if working together could improve your herd performance.