



## The elephants go from strength to strength...

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In 2001 John Allen addressed the Semex Conference in Glasgow at a very difficult time for the industry. Milk prices had fallen by 7ppl over the previous 5 years as the full impact of deregulation became apparent. It was clear then that businesses were going to have to become more competitive to survive and succeed in the industry. Dairy farmers at the conference were challenged as to how they would “eat an elephant”, how would they build their businesses for the long-term? The answer – in bite sized chunks.

Piece by piece, Kite clients have reviewed their businesses, understood their strengths and weaknesses and sought out the opportunities to grow. Along the way the threats of fluctuating milk prices, rising costs and finding good labour have all had to be addressed.

In January John and I were invited to speak again to the conference and give our vision for the next 10 years. It is clear that the challenging market conditions will remain. Volatility is here to stay but fundamentally the outlook for food and farming is positive. Those businesses that began to “eat the elephant” in the last decade will continue to do so in the next.

A shining example is Shanael Farms Ltd, run by the Millers at Greville Hall Farm, Evesham. They are a great family with a fantastic herd of cows who have invested over the last 6 years to take output from 1m litres to 2.6m litres today. Further growth is planned in the next 2 years to continue the trend of 18% annual increase in turnover. This rate of development takes huge commitment and the conditions of the next decade will demand that dairy farmers become more professional about running their units. This by no means freezes out the family farms as they are usually the most efficient and dynamic businesses.

Dairy producers will need to be professional about achieving good profits. There is a difference of more than



*Building a business for the long-term is like eating an elephant - best done in bite-sized chunks!*

6ppl in profit between the bottom and top 25% of the industry. This is not as a result of optimising one single factor but it is about good management throughout the business.

Professionalism in finding and retaining good staff is also key. We are trying to help the supply of good managers through the Dairy Manager Scheme (DMS) but utilising labour to assist the growth of the business is the secret.

Finally no business can expect to be successful by 2020 without investment. Legislation and cost inflation will destroy the business that does not meet those challenges actively. The Kite Accounts Database records capital expenditure and has demonstrated that long-term investment should be a minimum of 3ppl per year over the 10 year cycle.

The vision for 2020 is for an industry that is more profitable and positive about its own destiny. Dairy businesses will have to be more professional to deal with the market conditions but, as ever, the success will lie in their own hands.

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# Feeding stuffs regulations – how useful are they?

By Tim Davies  
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*Farmers work hard to milk cows every 12 hours and to ensure that they are well fed and looked after to maximise health, fertility and production. Can you be sure that everyone in your team working as hard as you are, including your feed supplier? If you were to buy a 2 litre car and the garage supplied you with a 1 litre engine labelled as 2 litres, you would not be too happy. However, with the current Feeding Stuff Regulations, this is what can and has happened when people buy some specialist feeds, and in particular minerals, on price.*

Nutrition has become a very specialised area and some micro-nutrients have a huge effect on health and performance. For instance, where we combine higher than normal levels of key vitamins and trace elements with a specialist complex of zinc, copper and manganese amino hydrate, we have found that somatic cell counts are reduced by an average of 33%, clinical mastitis cases are reduced and lameness rates fall, while fertility and production is improved. What is more, these reductions in cell counts and improvements in performance are backed up by independent research studies.

However, some of these micro-nutrients are very expensive, vitamin E alone costs around £25,000 per kilogram! The limits of variation permitted by the Feeding Stuffs Regulations for certain micro-nutrients are very wide where declared (or non-existent if not declared), as shown below:

	Limits of variation, in case of deficiency, of the amount declared by the manufacturer
Copper	50%
Cobalt	30% (for declaration above 200 mg/kg)
Iodine, Manganese, Zinc, Selenium	50%
Vitamins A & E	50% for declarations < 4,000 IU/kg 30% for declarations > 4,001 IU/kg

Therefore, with individual ingredients being so expensive, some mineral distributors with good quality control systems could declare and quote for one thing on the bag and very profitably manufacture to a lower specification while still staying within the limits of variation permitted by law.

After all, who tests for or would notice if some of the micro nutrients were short, or absent all together? In reality, it would take time for anyone to notice the health and production breakdown that would follow, by which time the silage or weather would be blamed!

The specifications used for Kite's Advance minerals are based on the latest science and research from around the world combined with forage mineral analysis results we have collated from our clients' farms in the UK. The specifications are put out to tender to provide high quality minerals for the best value for money and then we test them to make sure that they meet declared levels by collecting random samples for independent laboratory analysis. Some of the results from the latest round of testing are given in our February Advance update and show that apart from copper, which was 3.5% below the declared values, all the other elements were on target or slightly above the declaration. However, when we have sampled minerals and blends used on our customers' farms from sources other than Advance, some of the results have been very disappointing.

In North America, mineral manufactures work to stricter tolerances (in the 20-25% range) but most work to even tighter ranges than this, to be on specification or slightly over, just as our Advance suppliers do. The moral of this is that while the regulations have such wide tolerances, you should never buy minerals on price if you are feeding for performance and want to guarantee that your cows are getting what they are supposed to.

“You should never buy minerals on price if you are feeding for performance”

Tim Davies



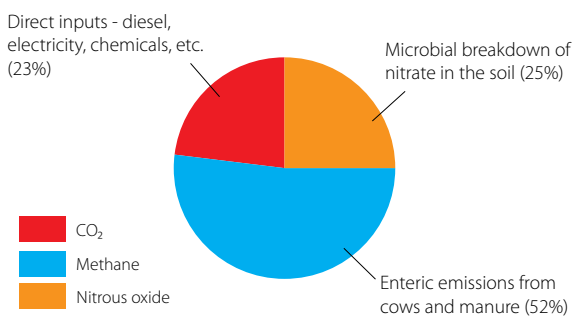
professional about your business

# Carbon footprints - threat or opportunity?

By Joss Fawcett  
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The Government has recently indicated its intention to reduce carbon output from UK agriculture through the publication of the 'Food 2030' policy. The dairy industry will not be exempt from this and has in fact already taken significant strides to ensure these reductions are made. There are three greenhouse gases (GHGs) which contribute to the carbon footprint of a litre of milk - carbon dioxide, methane and nitrous oxide. Methane is 22.25 times more potent than CO<sub>2</sub> as a GHG, whilst nitrous oxide is a massive 298 times more potent. The diagram below shows the relative importance of greenhouse gases within a dairy system and their main sources:

Greenhouse gas (GHG) components per conventional litre of milk



As the diagram shows, methane accounts for more than half of the emissions involved with a litre of conventional milk and much of this is attributable simply to the dairy cow maintaining life. The table looks at holstein friesian cows at different milk yields and shows that cows with a higher yield produce less methane per litre of fat corrected milk.

Milk yield litres	Methane kg/cow/ year	CO <sub>2</sub> equivalent kg/cow/year (methane x 22.25)	CO <sub>2</sub> equivalent gms/ litre
9000	125	2813	312
7000	114	2565	366
5000	103	2318	463
3500	95	2138	611

This demonstrates that more carbon efficient dairy production is linked with higher milk yields per cow. Taking this a step further, some recent work with a group of farms involved calculating the average carbon footprint per litre of milk produced and the cost of production for the same financial year.

What this work showed is that farms with lower carbon footprints also have lower costs of production. The average difference between the ten lowest carbon output farms and the ten highest was more than 2ppl. One of the key differences between the groups of farms was yield (more than 1400 litres per cow). This is clearly having an impact on the cost of production, but it is also having a significant effect on the farm's carbon emissions per litre of milk produced. If units can lower replacement rates, calve heifers earlier, feed more by-products, optimise the use of fertiliser and slurry and reduce energy consumption then the carbon footprint will be reduced and profitability improved. The key message is that there is nothing to fear in carbon footprinting - if anything it will simply provide an incentive for farmers to improve efficiency, which will bring associated financial benefits.

## Grazing update

By Paul Macer  
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Despite the fact that at the time of writing there is still snow on the ground (and very little sign of any grass growth) it is vital to stay ahead of the game with your grazing management. Be prepared to get fertiliser sown as soon as soil temperatures start to rise and ground conditions allow.

The first few weeks of the grazing season set the tone for the rest of the year as far as grass quality is concerned, so as soon as it warms up start walking grassland and be prepared to turn cows out before you think that there is sufficient grass available for them and buffer feed to make up for any shortfalls. Leaving it until there is 'enough' grass to go at will mean that you have left it too late and will have a surplus to deal with. The optimum pre-grazing cover is 2800-3000 kg DM/ha once the season gets going but do not be afraid to turn cows out onto 2000-2200 kg covers (ankle high) for the first round if ground conditions permit.



# Managing maize silage stocks to optimise milk from forage...

By Cath Woods  
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Did you experience poorer than anticipated performance around housing in the autumn? Did you see undigested maize grains coming through in the dung? Did milk pick up through the winter period? Is acidosis now becoming a problem? If the answer to any of these questions is yes, it may well be down to the digestibility of your maize silage.

If actual figures for starch degradability are not available from the silage analysis, winter rations are often based on standard figures for starch and dry matter degradability for maize. Recent research has shown, however, that these standard figures can be more than 10% higher than the true value in freshly ensiled crops, only reflecting the true degradabilities after 6 months in the clamp. If these standard figures were used early in the feeding period, it is highly likely that the ration will have been energy deficient and performance may have been impaired.

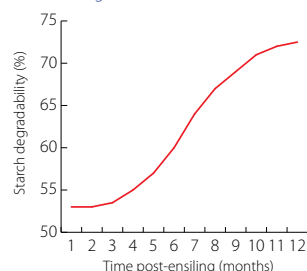
Maize starch found in the grains is encapsulated by prolamin proteins. This protein matrix is largely insoluble in the rumen liquor making the starch less available to the cow. It is, however, degraded by fermentation acids in the clamp and research shows that only after 3 months will the starch start to become more rumen degradable, with peaks reached around a year post ensiling.

Maize is a relatively expensive crop to grow so it is important that it is

managed to optimise its feed value. Whilst it will not be practical to grow 2 years worth of maize in one season, there are things you can do to ensure you make the best use of your maize stocks:

- Grow extra maize where possible to carry over to the following Christmas or even later to allow maize to be ensiled for longer pre-feeding.
- Consider growing earlier varieties and drill as soon as conditions allow in the spring to bring forward the harvest date and lengthen the period to feed out.
- Avoid clamping over-green or over-mature crops to avoid the problems

Estimated rumen starch degradability of maize silage



associated with acidic or indigestible silages. If you have experienced bulky green crops for the last few years due to warm, wet summers, consider choosing earlier maturing varieties or varieties with a lower stay green score and/or raise the stubble

height to increase the dry matter of the material going into the clamp.

- Test your silages! It is important to know the true starch and dry matter degradabilities of your maize silage so rations can be correctly formulated. Retest maize silages in January/February as starch becomes more degradable and adjust the ration accordingly.
- Where you do not have maize stocks from the previous year, reduce the inclusion of maize in the ration for the first few months and



supplement with another starch source e.g. cereals. This will also make this year's stocks last longer.

- Monitor cows and react to signs such as maize grains in the dung, or acidosis as maize starch becomes more rumen degradable. Rumen health is the key to optimising cow performance.
- Consider using an additive to optimise fermentation for rapid starch degradation
- When the data becomes available consider using varieties which degrade more rapidly in the clamp.

## SUMMARY

To maximise the milk potential from maize, plan to have an overlap period of maize stocks of three months or more, either by growing more maize or by stretching existing stocks.

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