

# Adoption of alkasystems helps cut feed costs

**A move away from maize silage to alkalage and alkagrain has helped a Cheshire farmer improve herd health and boost milk production from home grown cereals.**

Over the last 14 years Cheshire milk producers Steve and Claire Roston have progressively streamlined the feeding of their pedigree Holstein herd to produce as many litres as possible from what they grow on their own farm. But as the bought-in concentrate bill has fallen slightly, performance has also steadily improved. It now stands at an impressive 10,700 litres sold per cow per year and rising on a twice-a-day milking system.

Steve and Claire run the all year round calving Cassia herd at Marton, near Winsford. Back in 1998 they both felt cow performance had plateaued at 8,000 litres and were looking to change things.

“We were definitely stagnating, whilst at the same time looking for a simpler system for both cow and man,” Steve recalls.

“About the same time I read an article about producing alkalage and as we had 25 acres of wheat in the ground I decided to make some that year. We introduced it into the ration the following winter and the yields increased.

Everything came together and we now look back and say it was the missing piece in the jigsaw,” he says.

Since then the Rostons have tried to build on the ‘make more from what you grow’ principle, making alkaline preservation of home-grown cereals the cornerstone of their cow forage system.



*Reliance on 'alkasystems' has helped Steve Roston boost cow numbers.*

## ALKASYSTEMS IN FOCUS

Alkalage has been produced successfully on farms in the UK for over 20 years. The system utilises the whole cereal crop, mixing it with Home n' Dry feed pellets based on processed urea and selected soya sources that release ammonia into the harvested crop to preserve it.

The process is now being extended to conserving grain harvested from a dry, mature cereal crop to produce alkagrain, which is a highly stable, high energy/high protein concentrate feed that can replace purchased feed materials and improve the utilisation of home-grown crops.

Addition of the specially formulated urea/soya pellets aggressively releases ammonia into the crop, killing off moulds and bacteria, raising the pH to the alkaline range (pH 8.5 to 9.0). It also increases the protein levels in the grain and improves fibre digestibility. And this can all be done without the need for bespoke on-farm equipment, specialist storage or drying.

“During the first few years after we changed things, the forage portion of the ration was a third maize silage, a third grass silage and a third alkalage on a dry matter basis. But three years ago, when we had quite a lot of forage available, we decided to make some alkagrain too,” Steve says.

Alkagrain can be produced from all types of cereal grains at harvest. The grain should be mature and, ideally, in the dry matter range 80-85%. This is much drier than for conventional crimping, giving a wider harvest window, delivering higher nutrient capture and potentially an improved combine work rate. The crop can also be harvested in damp conditions, as a little surface moisture can actually speed up the preservation process in storage.

“From both the alkalage and the alkagrain we now

make we also get a significant protein contribution, which helps save on bought-in protein. We harvested about 30 acres of wheat in 2009, which produced about 120 tonnes of alkagrain, plus the baled straw. Again it worked like a dream and we ended up saving £15,000 on bought-in concentrates the following winter,” Steve says.

Reliance on ‘alkasystems’ has also helped Steve and Claire to increase cow numbers to 185, plus 135 followers, which Steve believes is the maximum the farm can carry. “We only have about 80 acres around us, with another 240 rented away. Our land is sandy and peaty, and wet most of the year because of the high water table, so we now operate an all-year-round housing system for the cows. This also helps us exert more control over the diet.

“We did make the decision

last year to turn the milkers and dry cows out to try and cut feed costs, but it was a big mistake. Cows lost their overall healthy status and it took us four months to get them back on track.”

### No maize in 2011

Last year saw another significant feeding change. “2011 was our first year without maize,” Steve says. “We went back over the last five years’ forage analyses and compared what we were getting from the maize versus the alkalage and found our maize had been yielding three quarters of a tonne less starch. With wheat prices last year running at around £160 per tonne that was potentially costing us around £12,000 over the 70 acres of maize we were growing. “It made me question why on earth we had been growing maize. What’s more, if you grow cereals

for alkalage you can spread your slurry on it, as well as have time to do a grass reseed immediately after harvest to winter youngstock on. I was a little concerned that we wouldn’t have enough forage, but it worked out brilliantly. In the end we actually had 300-400 tonnes more forage and this ensured diet continuity throughout the summer too.”

This home-grown crop re-jigging is allowing Steve to grow 70 acres of winter wheat this year, plus 30 acres of spring barley. And this takes two slurry spreads, which has enabled a saving on fertiliser costs too.

Milk is sold to Tesco on a level liquid supply contract. “If supply volume moves up or down by a certain percentage we get penalised, so we need a consistent diet 12 months of year to maximise the benefits of this contract,”



*Alkagrain can be produced from all types of cereal grain at harvest.*

Steve points out. With such a reliance on an alkaline forage treatment system, the Rostons have had few acidosis problems with the cows.

“Alkaline forage treatment really does seem to help the health and well-being of the cows. SARA cases are few and far between, although last October we did think the cows were not ruminating as well as they could. There were no obvious signs of SARA, but we felt there was potential for more yield and an improvement in overall cow health.

“After a discussion with Alan Sayle from FiveF who are pioneering alkasystems in the UK, we tried introducing 0.5kg of AlkabupHa per cow directly into the ration in place of other protein sources to try and boost rumen performance. When added to damp forage sources, this product rapidly releases ammonia to neutralise any excess acid in the diet from well-

fermented grass silage. We knew the amount of acid around in the system was controlled by use of the alkalage and alkagrain we were feeding, but we thought it might further help rumination.

“Shortly afterwards average cow daily yields went from 32/33 litres to 35/36 litres. And we saw a butterfat and protein uplift too. Herd fertility and health is definitely better as well, and that is thanks also to the proactive involvement of our vet Rob George from Nantwich Veterinary Group. Our calving interval has come down from its 427-day average to 410 days and is still falling. The muck is more consistent too and even the cow tracking is better – they just don’t seem to have ‘hot feet’ when fed an alkaline diet. All of which has convinced me that the alkasystem approach really does make a difference to the overall production performance and well-being of the cows,” Steve says.

**As seen in British Dairying, June 2012**

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