

Cross-breeding dairy cattle in the USA

FOUR-PAGE SPECIAL FEATURE

In California - the largest milk producing state in the USA - a handful of farmers have turned their backs on the Holstein and are instead milking three and four-way cross-bred cows. While the movement is now beginning to be supported by some scientific research, it was initiated by just one man - Mike Osmundson.

JOANNE PUGH travelled to America to meet him, his dedicated followers, and the scientists who are now backing him up.

'Breaking the Holstein mould to improve herds'

LIVING and working in a state that has built its entire dairy industry on the Holstein cow, Mike Osmundson is not popular.

He has barely a good word to say about the breed and sees it only as one component of a far superior cross-bred cow that has all the answers to the health, fertility and longevity problems seen in Holsteins around the world.

He believes the Holstein is fundamentally flawed, a result of in-breeding and a 'vain' desire to produce top show animals rather than commercial milking cows.

But by crossing that black and white cow, first with a Montbeliarde and then a Swedish Red and/or Red Dane, farmers can instead milk a three or four-way cross that is 'a slight shorter, very strong cow with way

better health traits', he claims.

Mr Osmundson experimented with 20 different breeds and eliminated the ones that 'did not measure up' as the first, second and third generation crosses emerged.

He has a long history as an AI technician and, more recently, owner of a semen company - Creative Genetics of California, founded in 1983 to sell semen from different dairy breeds.

In 1999, he convinced 13 of his clients to let him inseminate their cows with non-Holstein semen. They agreed to allow him to use a different breed each day for a year - Jersey one day, Brown Swiss another, Normande the next, and so on.

The mainstay of his business is now Montbeliarde semen (purchased from the French company Coopex Montbeliarde) and Swedish Red and Red Dane (purchased from the Scandinavian company Viking Genetics).

Business is booming. In 1999, not a single cross-bred animal was being milked in California. Today, Creative Genetics is working with 25 farms in the county of Oakdale (a total of 75,000 cows) and 50 in the state as a whole.

With 2,600 dairy farms in California, averaging 800 milking cows each, that is not a large market share.

Creative Genetics now operates nationally (aided by an affiliation with Select Sires and supported by ongoing research at the University of Minnesota) and Mr Osmundson claimed he had the names and addresses of 12,000 farmers across the USA who had requested more information about cross-breeding.

"That tells us there's definitely a problem," he said. "Most of the Holstein world is in denial, but we know at least 12,000 people are not completely happy."

When asked if the Holstein's issues with longevity and reproduction could be addressed within the breed rather than by crossing, he said, 'yes - but only if you've got 350 years'.

"There's only so much time to turn the ship around before it

sinks and already now it's got water on board," he said.

"We've sounded the alarm. What we have done is told the Holstein world 'look, you've got a problem'. We've identified it for them and I think that has helped them respond.

"When we first started crossing, people just laughed at us - and now we're big enough to affect them."

But Mr Osmundson is far from gaining universal support in America. He said he and his clients had largely been ostracised by the Holstein world, although that mattered very little, as their 'best friend was now the banker'.

He said not a single herd he was working with had seen a marked drop in milk production - although none of the herds had been pushing for particularly high yields.

More important was the progress made in health and fertility. Mr Osmundson quoted lower cell counts, shorter calving intervals, reduced use of breeding hormones (commonly used in California), fewer services to conception, lower cow and calf mortality rates and more lactations per cow. Some of this had been supported by data collected by the University of Minnesota, he said.

But how can someone hope to run a successful semen company if all his clients are getting their cows pregnant with less services? Mr Osmundson said he had projected (and seen) a 33-34 per cent fall in sales once all his clients were milking cross-breeds.

However, he said, a reduced calving interval meant each cow was bred every 12 months instead of 14. That not only meant a higher semen requirement, but an entire extra heifer crop every 5.5 years, meaning even more cows to inseminate.

All his clients had expanded their milking herd by 30 per cent, he claimed, as there were so many more replacements coming through.

That meant sales had in fact increased by 4 per cent, in addition to more and more customers coming on board.

GETTING THE 'BEST' CROSS

HAVING started out with 20 different dairy breeds, and eliminating most of them, Mike Osmundson has decided upon his best four-way cross animal: F1 - Montbeliarde cross Holstein
F2 - Swedish Red cross F1
F3 - Red Dane cross F2
Meanwhile the University of Minnesota claims the Swedish Red and Red Dane are interchangeable and a three-way cross (F2) is enough to attain a high enough level of hybrid vigour - see page 71.



Montbeliarde, Swedish Red and Red Dane semen is imported from Europe in large canisters and then separated into smaller lots for distribution within California.

How the cross-breeds fared

ALONGSIDE its own cross-bred herd, the University of Minnesota has been working to collate figures from Mike Osmundson's work in California.

This has proved difficult as many different breeds were used in the early days and it is too early to make conclusions about the three-way crosses.

However, research student Brad Heins has analysed the figures from seven herds with a total of 380 pure Holsteins, 245 Normandic cross Holsteins, 494 Montbeliarde cross Holsteins and 328 Scandinavian Red (a mixture of Swedish Red and Red Dane) cross Holsteins.

His conclusions so far include:

- Pure Holstein cows giving birth to cross-bred calves (F1s) all had reduced calving difficulties. The least problems were with the Scandinavian Red and the most with Brown Swiss; the Brown Swiss was soon eliminated from the trial.

- When those F1s gave birth, they also calved more easily than pure Holsteins. This was particularly true if the dam was a Scandinavian Red cross Holstein (only 3.7 per cent had difficulties) or Montbeliarde cross Holstein (7.2 per cent).

- The milk production of all F1 crosses was comparable to the Holstein in first and second lactations, as was butterfat and protein. The Montbeliarde crosses had the highest yields.

- Production was comparable in the third lactation, although by then only 56 per cent of the original pure Holstein had



Brad Heins.

survived, in comparison to 64 per cent of Normandic crosses, 62 per cent of Montbeliarde crosses and 59 per cent of Scandinavian Red crosses.

- Between first and second lactations, 44 per cent of Holsteins got pregnant again within 14 months, and 63 per cent within 17 months. In comparison, Normandic crosses were 61 and 79 per cent, Montbeliarde 63 and 78 per cent and Scandinavian Red 59 and 72 per cent.

- Days open were less for the crosses - a range of 122-131 for the three breeds in comparison to 147 for Holsteins. The USA average is 150 days. Estimated cost of one day open is \$4-5.

- Preliminary results for the three-way cross show 'little if any' milk production loss.

Mr Heins said further studies would look at lifetime milk production and average production per day.

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- Mike Osmundson



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