

Changing courses in California

Participant of the crossing experiment Jack Hoekstra: 'Use breeds closely to the Holstein cow'

The Californian crossing experience has gotten, unintentionally, immense international attention. Dairy farmer Jack Hoekstra kindly explains the figures and motivator Mike Osmundson predicts a great growth of the three-way-crossing. 'Try to combine the best breed-characteristics'

From tiger print to even brown, from the typical Holstein-markings to cows with white heads. You can't think of a colour patron or it is present in the extensive herd of William (63) and his sons Jack (35) and Curt (34) Hoekstra in Oakdale in the American state California. 'We are one of the seven herds participating in the meanwhile internationally known Californian crossing experiment', tells Jack, whose grandfather shortly after the Second World War emigrated from the Friesian (Dutch) village Broeksterwoude. He still understands Dutch, William even speaks still some words of the Friesian language, but the conversation is preferably in English. 'You don't recognise the crossing-farms by their colour variation but on their number of young stock. Thanks to crossbreeding our replacement rate decreased from 40 to 28 percent. Farms using crossbreeding do have more young stock than dairy cows thanks to less stillborn calves.'

Grazing is cheaper

The family Hoekstra are keeping 1250 dairy cows, 150 dry cows and 1400 maiden heifers and calves on their house-parcel of 100 hectares. Besides growing their own alfalfa, grains and GPS on 300 hectares they use practically their whole house-parcel for grazing. 'Letting dry cows and maiden heifers graze cost 0,75 dollar cent per animal per day. When we would keep them inside and calculate feed and labour, the costs will be 1,65 dollar per animal per day' calculates Jack. He discloses himself quickly as a man of figures. 'Definitely with today's feed prices, these contribute for about 60 percent to the total cost price of one kg of milk. Therefore we use grazing. That is cheap and the crossbreds appear to be good grazers.' A conversation with Hoekstra quickly turns to the topic of crossbreeding. 'Ten years ago we belonged with our Holstein cows to one of the top farms in this area', narrates William. The production was above 11.000 kilograms per cow. Since 1971 we hadn't purchased any cows and we increased our herd on own strength. But the growth was more and more difficult because there were so many cows that dropped out because of fertility, feet and leg problems and udder health. We are breedinglovers but we saw that regarding health, the Holsteinbreed didn't help us quick enough. The course had to be changed, there had something to happen!' Crossbreeding with another breed was an option, but not with the, in the US famous breeds Jersey and Brown Swiss. 'Those breeds have the same health problems like the Holstein breed', thinks Jack. 'Moreover, is the variation of the animals born out of a Holstein x Jersey to large and causes the cross with Brown Swiss too much difficult births.'

The Hoekstra's decided to cross to profit from the heterosis effect and to combine the willingness to produce a lot of milk of the Holsteins with the good secondary traits of other breeds. 'We have carefully started with the Normande breed from France', tells Jack. 'The reason was the good 'usage traits' of this breed, but in the meanwhile we know that their will to produce meat is too high.'

Mike Osmundson: 'In ten years, 85 per cent of the dairy farmers here will use crossbreeding'

'Originally I am a real Holstein fan', starts Mike Osmundson. It appears to be a special statement for the man behind the company Creative Genetics in Oakdale, that started the distribution and sales for European milk breeds in the US in 1997. 'However, the Holstein has problems with inbreeding depression and the health characteristics. My goal is to help the American dairy farmer breed for a profitable cow. For this we have searched for breeds who can give a little extra to the Holstein breed.' Osmundson is a stark motivator of crossbreeding and with the publicity on the crossbreeding experiment the demand for semen increased dramatically. Meanwhile, there are working six people at Creative Genetics who take care of the shipment of 2000 doses daily to the whole US. 'We have a newsletter, which we sent to more than 10.000 addresses. The interest is increasing, my prediction is that in ten years about 85% of the farmers in the US will be crossing.'

Osmundson has bearded much criticism. 'It is thought too often that only one breed is superior. We just try to combine all the good characteristics of the different breeds. Holsteinbreeders also forget that good values for calving ease, udder health and durability bring money. The time of more milk more money is over.'

Osmundson discourages two-way crossing as well as the breed Fleckvieh. 'With two-waycrossing (you banish the Heterosis effect and Fleckvieh has too much muscularity. Crossbreeding with Fleckvieh causes too much variation. Use the breeds consequently successive and choose the best bulls based on their local estimated breeding values. Keep breeding simple and uncomplicated, also that becomes more important.'

The change in breeding direction occurred actually after the visit to a French show to look at the Normandes but they got interested in the Montbéliarde-cows. 'The Montbéliarde-cow stands close to the Holstein-cow', informs Jack. 'She is stronger and has better health characteristics and crossing with Holstein results in less variation in the new generation. With crossbreeding it is also important to strive for a uniform herd because of the labour convenience. For us, the Montbéliarde x Holstein cross is the ultimate crossing.'

Hoekstra underlines that the use of good bulls are important with crossbreeding. 'You have to use the top-bulls of the breed. We have often used the bull Micmac, he is one of the best conformation inheritors. That he inherits good udders is well seen in our crosses'.

Hoekstra was one of the first farmers in California that started to cross with European breeds. Gladly he saw the results grounded by figures. Together with six other farms in the area they had agreed on keeping track of their farm results. 'Actually were these results meant for ourselves, but thanks to Les Hansen, researcher of the university of Minnesota, they got worldwide attention', tells Jack. 'It brought us a lot of criticism out of the Holstein world. About the reliability for example. It are indeed only seven farms, however we do milk on average a 1000 cows. But we aren't trying to convince everybody about crossbreeding. We mainly use the data to manage the farms, and on the other hand we show the world what the possibilities are.'

Three way crossing

The results (see Table 1) showed Hoekstra that the production of the Normandes decreased and that a third breed was necessary to keep taking advantage of the Heterosis effect. After crossing Holsteins with Montbeliardes Hoekstra uses bulls of the Swedish Red breed.

'Swedish Red's lead into easy calvings, good solids and a fine udder health. We have got great B Jurist offspring, while we are now using Peterslund and Orraryd.' The first crossbreds have calved in the meanwhile for the fifth time and Hoekstra searched for some results in the

computer. 'Five years ago the calving interval was 15 months, now it is 13,5. The somatic cell count decreased from 300.000 to 200.000 and the replacement rate is under 30 percent.' It doesn't take Jack Hoekstra much time making the right mating. 'We consequently use the three-way-crossing system. We do use lately Danish Holstein bulls because in Denmark they are more focussed on secondary traits.'

Satisfied Jack oversees his colourful herd. Despite the diversity in fur colour, the cows are remarkably uniform in height and especially the feet and legs look very strong. 'In udders there is more variation,' ascertains Jack, 'but if we loose the influence of the Normande breed it will become better.' He bases the story again gladly on figures. 'When we started crossing, we took a milk production decrease into account. The increased lifetime and lower health costs had to compensate this decrease. Finally, the production decrease was limited: on average the 365-production is about 10.600 kg milk with 3,95% fat and 3,30% protein. These solids are obviously higher than the milk factory average; we get on average a one cent higher milk price. It was us about improving the health of our herd. The higher solids and the better process for the slaughter cattle we see as a bonus.'

Earliest results from the crossbreeding trials in California

The Holstein cows in the crossing experiment produced in their second lactation on average 800 kg fat and protein in 305 days. That is twelve per cent more than Normande crosses, seven percent more than the Montbéliarde crosses and six per cent more than the Scandinavian Red crosses, presented Les Hansen this summer at an international conference in Sweden. Although the crosses seem to be less productive they seem to be more durable than purebred Holstein cows. The survival percentage during the first lactation was for Holsteins on 83%, for Normande-crosses on 90 per cent, for Montbéliarde-crosses on 93% and for Scandinavian Red-crosses on 90%. The figures for stillbirths and interval calving- first insemination show a comparable image.

Table 1.

	Holstein	Normandie x Holstein	Montbeliarde x Holstein	Scandinavian Red x Holstein
Number of cows	310	217	432	274
Kg Milk	9891	895	9202	9309
Kg fat	427	375	400	404
Kg Protein	373	326	342	347
Kg Fat + Protein	800	701	742	751
Compare with Holsteins (%)		-12	-7	-6
Survival (1 st lact)	83	90	93	90
Stillbirths	14	9,9	6,2	5,1
Calving-1 st ins	156	133	137	142