

# CROSSBREEDING 102

## AN UPDATE ON CROSSBREEDING RESULTS

A handful of crossbreeding projects are underway around the country. Results from these projects will provide very useful information about the value of crossbreeding for dairy production. These studies will also provide valuable comparisons on a variety of breeds. It will take years to collect the data and summarize the results, but studying some of the early results from these projects can provide us with some useful guidance in the interim as we wait for more complete information.

### EARLY RESULTS

Some of the most complete results currently available are from seven California herds that have used Normande, Montbeliarde, Norwegian Red and Swedish Red sires to breed their Holstein cows. These dairies have provided data since mid-2002 to the University of Minnesota for analysis. Performance information through the cows first lactation are now available and provide some interesting results as shown in the figure at the top of the page.

These results are consistent with the expected results from crossbreeding. The heterosis boost of about 6 percent for the production traits allow the first generation crosses to produce close to the same levels of fat and protein yields as Holsteins. The biggest impact of heterosis is in traits like stillbirths and fertility. Heterosis levels may be as high as 10 percent in these traits. The stillbirth rates and days open in the crossbred cattle from these herds agree with this expectation. While these early results show promise, the success of crossbreeding will be determined by the ability to maintain these benefits over several generations of crosses.

### MORE RESULTS TO COME

Crossbreeding is continuing in these seven herds and additional data on crosses to Brown Swiss as well as three-way crosses will be available in the future. Also several

	Holstein	Normande x HO	Mont. x HO	Scand. Red x HO
<b>Cows</b>	380	245	494	328
<b>ACTUAL 305-DAY LBS. MILK YLD.</b>	21.511	18.806*	20,197 lbs.*	20,461 lbs.*
<b>ACTUAL 305-DAY LBS. FAT + PROT. YLD.</b>	1,436 lbs.	1,313 lbs.*	1,382 lbs.*	1,405 lbs.
<b>+CALVING DIFFICULTY OF CALF (1ST CALF)</b>	16.0%		12.0%	5.5%*
<b>++CALVING DIFFICULTY OF COW (1ST CALF)</b>	9.3%	9.2%	8.1%	4.7%*
<b>STILLBIRTHS</b>	15.7%	13.2%	12.0%	7.9%*
<b>SCS</b>	2.10	2.39	2.38	1.89
<b>DAYS OPEN</b>	150	123*	131*	129*
<b>CULLING (1ST LACT.)</b>	14%	7%*	8%*	7%*

\* Indicates a statistically significant difference from pure Holsteins. (p<.05)  
+ Calving difficulty for breed of sire when pure Holstein dams calved for the first time  
++Calving difficulty for breed of dam at first calving

universities have projects underway that will provide useful information about the value of Jerseys in crossbreeding programs. Select Sires will provide routine updates to provide you with the latest crossbreeding information.

### CROSSBREEDING PROGRAMS NEED TO BE WELL PLANNED

Crossbreeding programs do not, by themselves, produce genetic improvement and need to be well organized to produce benefits. If you decide that you want to give crossbreeding a try, the first step is to choose breeds that are competitive and have an ongoing and effective breed improvement program. The tried and true practice of using top-A.I. sires is vital in crossbreeding as it is in more traditional breeding programs. In fact, in these alternative breeds with smaller populations, using the very best proven bulls is even more important.

Capturing and sustaining heterosis is the third key part of an effective crossbreeding program. Select Sires recommends a three-breed rotation. A crossbreeding system using three breeds provides a good balance of maintaining heterosis in a manageable mating system. A two-breed approach will limit the long-term benefits of heterosis. A four-breed system will dilute the impact of Holstein genetics too much and

makes the mating system very complex.

### THE BOTTOM LINE

- ◆ Early results show the benefits of heterosis in crossbred dairy cattle.
- ◆ First generation crosses of Swedish Red and Montbeliarde appear to compete well with pure Holsteins.
- ◆ Producers that try crossbreeding should use a three-breed rotation.
- ◆ The breeds used should be competitive and have effective genetic improvement programs.
- ◆ Producers should use the best available A.I. sires from those breeds.

*For further information about these breeds and their genetic evaluations, visit the breed Web sites listed below:*

**SWEDISH RED**      [www.svenskavel.com](http://www.svenskavel.com)  
**MONTBELIARDE**      [www.coopex.com](http://www.coopex.com)



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