

Results on Production and Calving Difficulty From Recent US Crossbreeding Study

by Jack McAllister

While a number of dairy producers have started crossbreeding, others have expressed an interest and still have many questions. Hopefully, most of those questions can be answered from past research in dairy crossbreeding or from research which is currently underway. While the current interest in crossbreeding is relatively recent, many of the questions about it can be answered from sound information which came from dairy crossbreeding studies done in the US in the 50's and 60's and a study in Canada in the 70's and 80's. Briefly, those studies found that crossbred dairy cattle can be produced which are not different in production from Holsteins, have lower calving difficulty, more efficient reproduction, greater longevity and equivalent lifetime net returns per female born alive.

Now 20 years after the most recent of those older studies, one question producers have is "can I produce a crossbred, today, from some combination of dairy breeds available which will outperform my current cow herd?" Whether performance is measured in terms of various aspects of production or in financial performance this is an important question.

There are some crossbreeding studies now underway which may be able to help answer this question. One study from California involves 7 commercial herds with Holstein cows and has been analyzed by the University of Minnesota. Heifers were produced from these cows using AI matings with Holstein, Normande (a French dairy breed), Montbelliarde (another French dairy breed) and Scandinavian Red bulls. They then measured the calving performance and first lactation production for heifers calving from June 2002 through January 2005. First lactation yields are given in the table below. The Scandinavian Red X Holstein crossbreds had equivalent fat and fat + protein yields to Holstein.

California Commercial Herds Crossbreeding Trial - Production Data				
Genetic Group	Milk Yield (lbs.)	Fat Yield (lbs.)	Protein Yield (lbs.)	Fat + Protein (lbs.)
Holstein (H)	21465	761	671	1432
Normande X Holstein	18766**	702*	609**	1311*
Montbelliarde X Holstein	17060**	735**	645**	1379*
Scandinavian Red X Holstein	20418**	748	653*	1401
* significantly different from Holstein, ** highly significantly different from Holstein				

The Holstein and crossbred cows were evaluated for the calving difficulty and rate of stillbirths when they calved. When Holstein cows were mated to Holstein sires they had more calving difficulty and a higher rate of stillbirths than when the Holsteins were mated to Scandinavian Red sires. Second to fifth-calf Holstein dams had significantly higher rates of stillbirths when mated to Holstein sires (12.7%) as compared to Brown Swiss (5.6%), Normande (7.3%), Montbelliarde (5.0%) or Scandinavian Red (4.7%).

When the Holsteins and crossbred dams calved either with their first or second calf calving difficulty and rate of stillbirths were measured again. Holstein dams had a significantly greater frequency of calving difficulty when having their first calf

(17.7%) compared to Normande X Holstein heifers (11.6%), Montbelliarde X Holstein heifers (7.2%), or Scandinavian Red X Holstein heifers (3.7%). There were no differences among the different genetic groups of dams for calving difficulty or rate of stillbirths during second calvings.