

Why Commercial Producers Are Crossbreeding To Jerseys

Some of the most convincing promotion of the Jersey breed today is coming from the folks who are choosing Jersey bulls for their commercial black-and-white females.

Whether they're talking in articles published in *Western Dairyman* or *Dairy Today*, or participating in panel discussions at dairy meetings, or simply visiting across the fence, the story is the same.

They're using Jersey sires because they need a higher value product from a cow that stays healthier and breeds back earlier.

They're using Jersey bulls because Jersey genetics improve their bottom line.

A Long History

For more than a century, dairy producers in the United States have been conducting a long-running undesigned experiment in crossbreeding. The American Jersey Cattle Club, almost from its very beginning in 1868, recommended the use of purebred Jersey sires for improving the multitudes of nondescript cows kept for dairy purposes in this country.

Jerseys performed well in the early years of this experiment. At the 1921 National Dairy Exposition, the Jersey association sponsored a live display demonstrating "the benefit of breeding better dairy cows by the use of a good pure-bred Jersey bull."

On display was the grade herd of John Geraghy and Sons, the highest averaging herd among all cow-testing associations in Iowa over the previous two years. It was,

by all accounts, an impressive display of what Jersey genetics could contribute.

"The herd consisted of a grade Short-horn, whose record was 220 lbs. butter as a mature cow, her daughter by a Jersey bull, 421 lbs.; a second cross, 544 lbs.; a third cross, 400 lbs. after her first calf; and the latter's daughter a yearling, 438 lbs."

It was a compelling demonstration of a compelling argument. Jersey bulls improved production, and added beauty to the grade cattle in the United States. At the close of 1941, there were 10 million animals living in the United States identified as Jerseys, but only 1.8 million animals had ever been registered by The American Jersey Cattle Club. The 1941 registrations totaled 61,498 animals.

Once the modern dairy industry, as it was defined after World War II with the adoption of volume-fat producer pricing, took hold, Holstein genetics were favored and over the next three decades came to dominate the genetic make-up of the national dairy herd. Today, better than 94% of the genetics are of Holstein origin and matings between cattle of different breeds diminished.

But, according to research by the Animal Improvement Programs Laboratory—and supported by semen sales data from the National Association of Animal Breeders—crossbreeding is on the rise again. The number of crossbred births doubled in the decade from 1980 to 1990, and Jerseys were more often the sire breed for

Holstein matings than any other breed.

So, what are the producers saying about why they're breeding to Jersey bulls? And what do they think they're gaining?

Why Jersey

Commercial producers tend to recite two reasons:

- To reduce calving problems in their virgin heifers; and
- To increase the fat and protein component levels in the milk they produce.

They've discovered some others:

- Improved reproductive performance;
- Fewer health problems; and thus
- Increased productive life.

And, while they talk about the gains due to heterosis, they seem to talk equally as much about the gains that are contributed by the Jersey breed.

What They're Saying

Most Registered Jersey breeders across the United States have had the experience of selling a breeding-age Jersey bull to a commercial producer, so that he can breed his heifers. It's a well-known fact that calving ease is taken for granted in the Jersey breed, and also that Jersey-sired crossbred calves are easier, safer births for the first-calf Holstein heifer.

Borges Dairy in Tulare, Calif., has been breeding its Holstein heifers to Jersey bulls since 1981.



These first-lactation crossbreds at Odyssey Farm were all sired by Registered Jersey bulls. Daily yield of milk of Odyssey crossbreds equals that of their black-and-white contemporaries. The average fat test and true protein tests, however, are considerably higher (4.33% and 3.29%, respectively) than market-average milk in the Northeast Federal Order. Under Federal Order multiple component pricing (September, 1998 through October, 1999), the net difference in market price would have been \$2.22. Photo by Maggie Murphy.

"We noticed we were having a lot of calving problems with our Holstein heifers," says David Borges. "After we started breeding our Holstein heifers to Jersey bulls, we have had to pull calves on very few heifers."

It's the same story on the opposite side of the continent. At Odyssey Farm in Copake Falls, N.Y., Holstein heifers were bred A.I. to a calving ease bull. But, as manager Bob Kimmel told a joint meeting of the Chenango County Holstein Club and Chenango District Jersey Cattle Club last December, "We had some problems with calving big calves on a heifer. So we started breeding with Jersey bulls.

"Since then, it's rare that we lose a heifer to calving problems. They just have them."

They Produce

In most commercial herds, Jersey-sired calves weren't the goal and so were not raised to replacement age. Their importance came primarily through helping managers reduce caesarian deliveries and death loss from calving, along with other less obvious, but still costly stresses from calving that lowered milk production.

But the occasional Jersey x Holstein heifer that did get raised in some of these commercial herds made a big impression after they calved themselves.

"They did milk very well, so we started raising more and more of them," remarked Bob Kimmel. "We're milking right now 100 first-generation crossbreds, and another 20 or 30 that are second, third, some fourth generation."

Added Karen Kimmel, "They kind of earned their respect in the herd grudgingly. They have earned their place in the herd.

From the DHI test records, "We got an education on how well they're doing with butterfat and protein. We have two-year-olds finishing with 1,000 lbs. fat and 800 to 900 lbs. protein."

"It's pretty difficult to tell any difference in production between the crossbreds and Holsteins," concludes Bob Kimmel.

Near Odyssey Farm, Antonie and Michael Ooms of Valatie, N.Y., were making similar observations. They had been purchasing Jersey bulls from different members of the Chittenden Family for years to use on Holstein heifers, even as they were maintaining purebred, registered Jerseys and Holsteins.

Many of the Jersey-sired crossbreds in the Oomsdale herd have now been identified through the Jersey Expansion program



Cows like 9103, sired by a Registered Jersey bull and out of a red-factor Holstein dam, are impressing visitors to New York's Odyssey Farm. She calved at 24 months of age, and was projected to over 33,000 lbs. milk m.e. when this picture was taken. Component levels were 4.6% fat and 3.3% protein.

of the American Jersey Cattle Association, like J1 Oomsdale Joe Joe 36, with records of over 23,000 lbs. milk (365 days, calving at 22 months of age) and two more of 29,000 and 30,000 lbs. Or, there's J1 Oomsdale George Kessa 204, by a homebred "Lester" son, that made over 28,000 lbs. milk in 365 days calving at 24 months of age, then coming back at 39 months of age to produce 31,263 lbs. milk.

Back in California, the picture in the April 1998 issue of *Western Dairyman* showed what a high-producing Jersey-sired crossbred could look like. The 36,000-lb. producer, #171, was nothing less than impressive, and prompted a good many questions for commercial producer Walter Stornetta of Point Arena.

About a quarter of his 975-cow herd is purebred Jersey, and half are purebred Holsteins. The balance are crossbreds, some of them Jersey-sired, others Holstein-sired. All fit into his production scheme.

The higher component milk from the Jerseys and crossbreds is segregated and shipped to a cheese manufacturer. It tests around 4.4% fat, 3.7% protein and 9.3% solids-not-fat. That's in comparison to the Holstein tank test of 3.6% fat and 3.2% protein.

A producer that "goes by the milk stick," Stornetta says, "I like any of them. But now that they've gone to the component pricing, it's different. The Jerseys are netting

me more. On a per animal basis, the crosses are giving more."

After The First Generation

At Borges Dairy, which produces for Hilmar Cheese Company, the Jersey-sired females have been bred back to Jerseys. The Jersey-sired cows—from 50-50 on up to over 90% Jersey genetics—average approximately 18,000 lbs. milk with tests up to 4.8%. The Holstein herd averages around 21,000 lbs. milk at 4.0% fat.

"I think it's a myth that each generation decreases in quality," notes David Borges. "We have not experienced that." He thinks a contributing factor to the maintenance of quality in crossbreds is the use of A.I., which Borges uses for all members of the milking herd.

That's similar to Gary de Graaf's thinking.

When the Pixley, Calif., producer switched to Jerseys, he sold his milking herd at private treaty. A few Holstein cows were kicked out of that sale and bred back to Jersey sires, and their calves raised as replacements. He also picked up some Jersey-sired replacements in the process of expanding the Jer-Z-Boyz operation to its present size of 2,700 milking females.

"A good cow is a good cow," says de Graaf. "I've really enjoyed working with the crossbreds. We haven't seen a significant decrease in performance or the suc-

cess of crosses after the first generation. We feel that if you're doing a good job mating and using good A.I. sires, you can make improvements each successive generations.

"We're going straight through to Jersey with our crossbreeds."

That's the same approach being taken at Odyssey Farm.

Crossbreeding with Jersey bulls "just seems to have worked for us. We have decided to bite the bullet entirely," Karen Kimmel told the audience at last December's Chenango County (N.Y.) joint breed meeting. "We're using bulls like 'Barber' and 'Berretta' straight across the board."

Another factor in making a large-scale transition is herd uniformity. "Because we plan on having to build a parlor in the future, we want all of our cows pretty much the same size."

Other Factors

Reduced calving stress, preventing loss of milk production and animals and saving on labor costs, plus the value of higher component milk under multiple component pricing—these are factors enough for the commercial producers who use Jersey sires.

But breed-specific characteristics are also becoming apparent to them as they get more experience in milking Jersey-sired cows.

There's first of all a sense of improved general health.

Paul Chittenden, President of the American Jersey Cattle Association and participant in the New York panel discussion, recalled: "Anytime I ever went down to Odyssey to visit Bob, the thing he always had as one of the selling points on Jerseys was their health. He'd tell me that his vet costs were lower on the Jersey cow than



Jersey Genetics: Adding Months Of Productive Life

U.S. dairy producers have been quietly conducting an experiment with crossbreeding in greater numbers over the past 20 years, according to a study presented at the 1995 annual meeting of the American Dairy Science Association.

What they appear to be discovering is that Jersey sires are contributing to increased productive life of the cows in their herd.

Paul M. VanRaden, Research Geneticist with the Animal Improvement Programs Laboratory at Beltsville, Md., focused upon productive life for 41,131 crossbreeds and 726,344 herdmates of all breeds.

"Researchers recently reported that some crossbreeds can be as profitable or more profitable than Holsteins," he said, "but few researchers have ever attempted to compare longevity of purebred and crossbred dairy cows directly."

What VanRaden found was that for productive life (computed as total months of milk production limited to 10 months per lactation and seven years of age), differences due to breed proved to be greater than the heterosis (hybrid vigor) effect.

In earlier years of the study, the productive life of Holsteins was longer than all other breeds. In more recent years, Jerseys and Jersey x Holstein crossbreeds have remained in the milking herd nearly one month longer than their Holstein herdmates.

Approximately 17% of the F₁ animals counted in the study were sired by Jersey bulls. This was the second largest sire group of crossbreeds, exceeded by Holstein (48%) and followed by Brown Swiss (15%). Among the other dairy breeds, Jersey bulls were selected most often for matings to Holstein and Red-and-White females. Holstein bulls were crossed most often on Guernsey cows, then on Jerseys (2,356) for all births from 1960 through 1991.

This study is summarized in the *Journal of Dairy Science*, Vol. 78 (Supplement 1): 159.

the Holstein cow." That seems to have been transmitted to the Jersey-sired crosses at Odyssey. "Those crossbreeds are hard to kill," Karen Kimmel stated admiringly. "They're strong."

The Jersey crossbreeds also function better in the Odyssey facilities, due to their better mobility and black hooves. "The Jerseys will take the concrete," commented Karen Kimmel, "whether it's less weight

or the black hoof. We spend a lot of money doing feet (on the Holsteins). And we spend a lot less money on the Jerseys' and crossbreeds' feet."

One factor mentioned is reproductive fitness. Owners are noticing that Jersey-sired crossbreeds are quicker to return to service and more fertile.

As Walt Stornetta of California says, "The Jerseys breed the best and the crossbreeds hang right in there with them. The days open on the crossbreeds, it's 111. The Holsteins are higher, at 127."

Or consider the experience of Riverview Dairy in Morris, Minn. Last year herd manager John Metzger told *Dairy Today* that the Jersey x Holstein breeding-age heifers had a higher fertility rate compared to straight Holstein heifers.

Finally, at least one manager is seeing a considerable difference in mastitis. "One of the things I like is (the difference in) somatic cell count," Bob Kimmel said last December. "For the last six or eight years, I've been keeping track of it. The bulk tank sample at the milk plant is usually between 200,000 and 250,000 somatic cell count. The Jersey herd has averaged somewhere between 75,000 and 80,000."

The Differences Are Real

Because they are, it's likely that Jersey genetics will be introduced and concentrated increasingly in U.S. commercial dairies.

Their impact will be felt through heterosis to be sure, but it's also quite likely Jersey genetics will be preferred over the long run because they offer the best results for increasing efficiency and functional fitness in commercial operations.