Feedlot Performance and Carcass Value of Beef × Holstein Steers Superior to Straight-Bred Holsteins

A new study in Applied Animal Science confirms that breeding beef sires to dairy dams can result in steers capable of outperforming Holstein steers and qualifying for branded beef programs such as Certified Angus Beef.

Champaign, IL, February 12, 2024—Beef on dairy crossbreeding is a booming trend in the US, with national beef semen sales increasing by nearly 6.5 million units from 2017 to 2023. But how do these beef × dairy feeder calves perform in the feedlot and after processing? A new study in Applied Animal Science is helping to provide answers, and demonstrates that beef × Holstein feeder calves tend to outperform Holstein feeder calves when it comes to feed efficiency, carcass yield, and overall value—and produce value similar to beef-type steers.

“Some feeder calves for meat production in the US originate from dairy farms as crosses of the dairy cow breed and a beef breed sire,” explained David K. Beede, PhD, Editor in Chief of the journal. “Also, the majority of purebred Holstein male and some female calves are fed for meat production. This research evaluates feedlot performance and carcass characteristics of beef × Holstein crossbred steer calves meeting hide color specifications for Certified Angus Beef compared with straight-bred Holstein steer calves. Feeder calf value also is assessed.”

The lead investigator of the study, Daniel D. Buskirk, PhD, PAS, of the Department of Animal Science, Michigan State University, East Lansing, Michigan, USA, explained, “Recent research reports that, when compared with Holstein steers, beef × Holstein steers tend to outperform, but we wanted to confirm this using North American calves and up-to-date production systems and breed genetics that are truly reflective of the current calf supply in the US.”

Buskirk and the research team enrolled a total of 120 four-month-old steers into their study—split evenly between straightbred Holstein calves and beef × Holstein calves—that originated from multiple local dairies. All steers received the same management and were fed a common grower diet and then gradually transitioned to a common finishing diet. The researchers measured overall health, gain, dry matter intake, feed efficiency, and cost of gain to understand feedlot performance.
Researchers confirmed that breeding beef sires to dairy dams can result in steers capable of outperforming Holstein steers and qualifying for branded beef programs such as Certified Angus Beef (Credit: Daniel Buskirk).

After harvest and processing, the team collected carcass weight, fat thickness, rib-eye area, and marbling scores, all of which were used to calculate an overall yield grade and quality grade. Using four different pricing scenarios, the team then worked to understand the overall value of the beef × Holstein versus Holstein steers.

“Overall, our results confirm that beef × Holstein steers had a greater carcass value and breakeven feeder calf value when compared with Holstein steers,” explained Buskirk. The beef × Holstein calves had faster average daily weight gain and were more feed efficient than their Holstein counterparts, though overall health, dry matter intake, and most carcass traits were similar between groups.

Although the study team was quick to advocate for further research into how to consistently produce beef × Holstein steers that can perform at the level of beef steers, this research is an important step forward. “This study indicates that breeding beef sires to dairy dams can result in steers capable of attaining a beef-type conformation to add value over Holstein steers and qualify for branded beef programs such as Certified Angus Beef.”

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Notes for editors

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To schedule an interview with the author(s), please contact Daniel D. Buskirk at buskirk@msu.edu.
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