Project Summary:
For the last 8 months, the PA Beef Producers Working Group, a collaboration of the PA Beef Council, Penn State Extension, Center for Beef Excellence, and the Pennsylvania Cattlemen’s Association, with support from the PA Department of Agriculture, has been completing a demonstration of calf-fed Holsteins reared for beef. The PA Beef Producers Working Group partnered with PA Department of Agriculture and JBS to provide the Holstein calf-fed demonstration and offered tours of the demo in conjunction with Ag Progress Days.

Sourcing:
All Holsteins (44 head) were sourced from a single location, Cold Springs Farms, LLC, and placed on feed at the PDA Livestock Evaluation Center (LEC) on April 21. Calves weighed 546 ± 85 lbs upon arrival and were 9 months old. Prior to feedlot entry, steers were already started on grain and consuming approximately 10 lbs of grain per head per day. Holsteins had also been previously implanted with Ralgro (36 mg zeranol; Merck Animal Health, Parsippany, NJ) in February of 2016. Calves were transitioned on to a 62 Mcal ration (containing corn, silage, distillers dried grains, and minerals) over the course of 10 days. Cattle consuming the 62 Mcal ration ended up consuming approximately 20 lbs of corn per hd and 4 lbs of distillers grains per hd each day. Calves were weighed at arrival and data on growth performance were collected over the course of the demonstration.

Growth Performance:
Cattle consumed 28 lbs of dry matter, ~ 36 lbs as delivered, on average for the 209 days they were at the LEC. As a group, the calves gained 3.96 lbs per day (without shrink) for the entire duration of the demonstration. There was some variation in gain with the calf gaining the least amount throughout the demo at 3.46 lbs on average and the one gaining the most at 4.51 lbs per day on average. These tremendous gains led to a feed conversion ratio of 7:1. Feed conversion is an important economic indicator in the feedlot and this means that for every 7 lbs of feed these calves ate, on a dry matter basis, they gained 1 lb of gain. This was equivalent to approximately 9 lbs of feed delivered for every pound of gain. More often the expectation would be that Holsteins have closer to a 7.5 to 8 lbs feed intake (dry matter basis) for every lb of gain. Why did the steers at the LEC perform so well?
Discussion of Success:

A large part of the success of this demonstration has to be attributed to the health of the calves. These Holstein calves were well started and came in with no health issues. The group as a whole dealt with very few challenges throughout the course of the demonstration. Management also played a role in the performance of these calves. The staff at the LEC ensured that these calves always had fresh feed in front of them. Every day. For 209 days. They never ran out of feed. In addition to feed management, these calves were implanted. They were implanted initially with Raigro (described above) and then implanted again, 28 days after feedlot arrival, with Encore (44 mg of estradiol, Elanco Animal Health, Greenfield, IN). This is a mild, long duration implant that is labeled for up to 400 days; however, we chose to reimplant these calves again with a terminal implant 105 days later (133 days after feedlot entry) and used Component TE-S (24 mg estradiol, 120 mg trenbolone acetate; Elanco Animal Health). These implants helped sustain average daily gains in these Holsteins throughout the 209 days.

There is some concern in the industry over the use of implants and their effects on meat quality. However, as a group, out of 44 Holsteins, 38 of them qualified USDA Choice when they were slaughtered at just 15 months of age. The cattle weighed 1343 ± 130 lbs when they were weighed off at the LEC and their carcasses ranged from 677 to 861 lbs. On averaged the group dressed at an averaged 58.9%, with 33 carcasses obtaining USDA Yield Grade 1 or 2. Rib eye areas averaged 12.2 inches for the 44 head and there were no Yield Grade 4 carcasses.

Economics:

The economics on these cattle are variable depending on the scenario you choose to look at. In the LEC production system, feed cost $140/ton delivered. Additional costs of implants, bedding, yardage etc. led to a cost of $2.96/hd./d. Because cattle were bought by JBS when the market was on an upswing at $1.50/lb and sold on a down swing at $0.97/lb the 44 hd. on this demonstration did lose approximately $188 per head. However, had these calves been forward contracted in April at $1.11, they would have broken even. Subsequently, calves at 550 lbs were only valued at $0.85 at the end of this trial, so buying and selling these calves in the same market (buying at $0.85 and selling at $0.97) would have netted a profit of $176 per head.

The point being, cattle economics vary daily and the market shifts can be unpredictable. Being in the cattle business, whether its a calf-fed Holstein or native beef business, is not a one season option. It is a revolving cycle that one must ride, both the highs and the lows. These calves outperformed our expectations, but they could not outperform the markets. However, forward contracting would have absorbed some of the risk of the high priced calves and would have helped improve profitability by reducing the end losses.