



DAIRY BEEF MANAGEMENT GUIDE

Products and answers that work®

FINISHER MANAGEMENT GUIDE

Hubbard Feeds helps beef producers optimize their dairy-beef programs by providing a cost-effective program that meets or exceeds customer expectations.

GUIDE SUMMARY

Beef vs. Dairy

Feeding strategies/Performance outcomes

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The Dairy-Beef Cross



INTRODUCTION

Dairy beef steers make up roughly 14% of the U.S. fed-cattle market, and with their relatively low purchase price, they can be an attractive option for cattle feeders. Dairy steers are not dairy cows, replacement heifers or medium-framed beef calves. Because of their dairy make-up, they have a unique set of nutritional requirements and should be fed differently than traditional beef steers.

| | |
|---|-------|
| Holstein steer component of fed steer and heifer supply | 13.8% |
| Holstein steer component of USDA Prime carcasses | 33% |

BEEF VS. DAIRY

Holstein cattle differ from beef cattle in several ways, which means that they also need to be fed and raised differently. Some of the characteristics of Holstein cattle versus beef breeds are:

- Less muscle
- Larger internal organ mass
- Higher energy requirements for maintenance
- Large frames and mature weight

Due to their large frames and extended growth curve, Holstein cattle perform best when fed a high-energy diet throughout their entire lives, from weaning through finishing. Continuously feeding a high-grain ration increases the potential of grading choice and successfully meeting energy demands for frame growth and maintenance — without incurring heavy-weight discounts. Additionally, proper feeding helps produce adequate marbling with minimal back fat at an acceptable weight and age for market. Figure 1 below outlines Holstein performance at various weight stages.

Figure 1. Holstein Performance from Start to Finish

*Chester—Jones *et al.*, 1996

| Start weight (lbs.) | End weight (lbs.) | Daily gain (lbs./day) | Feed/gain |
|---------------------|-------------------|-----------------------|-----------|
| 346 | 441 | 3.1 | 3.8 |
| 441 | 542 | 3.3 | 4.2 |
| 542 | 654 | 3.7 | 4.4 |
| 654 | 766 | 3.7 | 4.8 |
| 766 | 872 | 3.5 | 5.2 |
| 872 | 975 | 3.4 | 5.6 |
| 975 | 1070 | 3.1 | 6.4 |
| 1070 | 1154 | 2.8 | 7.2 |
| 1154 | 1227 | 2.4 | 8.8 |
| 1227 | 1297 | 2.3 | 9.1 |
| 1297 | 1364 | 2.2 | 9.5 |
| 1364 | 1428 | 2.1 | 10.0 |

Consistency in genetics = Less variation in feed intake and daily gains

Consistency in dairy breeding and calf care is an advantage when feeding dairy beef. Holsteins have a narrow genetic base when compared to beef breeds, resulting in consistent feed intakes and average daily gains. For the cattle feeder, this predictability means less variation in feed inventory, expenses and resource management among different groups.

Susceptibility to cold stress

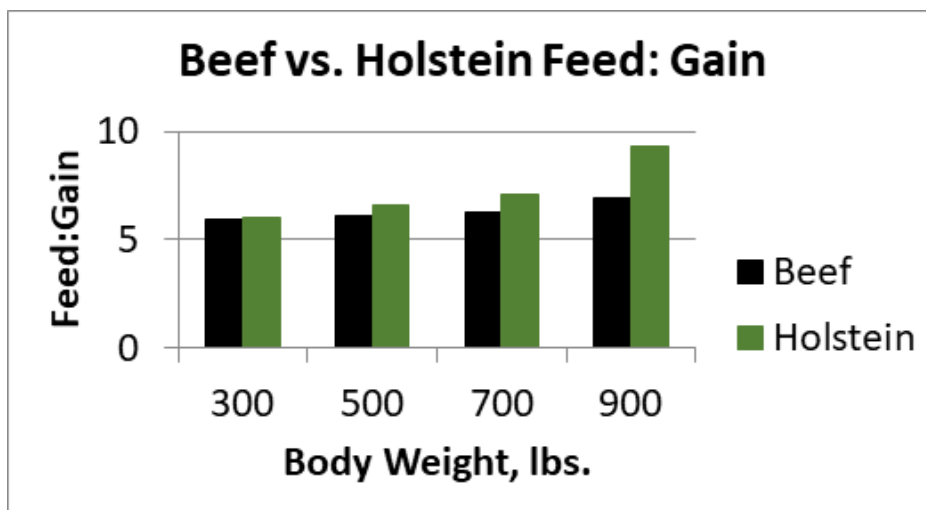
Holsteins are more susceptible to cold, wet and muddy conditions than beef breeds, due to their shorter hair, thinner hides and decreased body condition. As such, several ways to reduce cold stress are to use:

- Windbreaks and/or shelters during the winter and wet spring months.
- Bedding such as straw, corn stalks or sawdust, which make for excellent bedding materials, as they readily absorb moisture and keep calves dry.

The chart below shows the difference in performance between beef and Holstein steers at various body weights.

Figure 2. Beef vs. Holstein Feed-to-Gain at Similar Starting Weights

*Rust, 2005



FEEDING STRATEGIES/PERFORMANCE OUTCOMES

Calf-Raising Strategies

The first 24 hours: At birth, dairy steers and dairy-beef-crossbred steers should be managed similarly to dairy heifer calves. When calves are born, they should receive 1 gallon of high-quality colostrum, and their navels should be dipped with a 7% tincture of iodine solution as soon as possible after birth. These two simple management practices significantly reduce the risk of morbidity and mortality during the first two weeks of life and beyond.

Milk and starter feeding: Calves should be fed a consistent milk feeding program that coincides with the performance and weaning goals of the operation. A conventional milk feeding program allows for improved starter intakes and earlier weaning, while a more accelerated milk feeding program promotes early growth but requires delayed weaning for calves to ramp up their starter intakes. Calves should be weaned when the starter intake is greater than 3 pounds per head per day. The age at weaning will vary based on the amount of milk fed, the environmental conditions and the weaning program, but it typically falls within 7 to 10 weeks of age.

Calf management: Calves should be housed in a well-ventilated, draft-free environment with no exposure to older animals. Bedding should be clean and dry and thick enough for calves to fully nestle in, which is especially important during the winter. All equipment associated with feeding calves must be cleaned and sanitized between feedings to ensure minimal transmission of bacteria and/or disease.

Hubbard Calf Program

Milk Replacer:

The Vitalizer Milk Replacer line is designed for dairy-beef calves to help producers lower their risk. Vitalizer is a unique formulation designed to promote good health and wellness in dairy-beef calves through the inclusion of animal plasma, Bio-Mos®, 100% organic trace minerals and elevated levels of vitamin E.

- The Blueprint® Milk Replacer line is designed for all calves and is made with high-quality, all-milk protein ingredients to achieve optimal growth performance in young calves. The inclusion of specific additives promotes gut health and offers immune system support.

Calf Starter:

- Blueprint 18% Texturized Calf Starter is a palatable calf starter composed of a low-inclusion pelleted supplement, multiple grain fiber sources, processed grains and liquid molasses. This starter encourages early intake and growth, allowing calves to maximize their genetic potential with a combination of targeted nutrition and Alltech technologies.

When it comes to feeding dairy-beef steers, there are two methods for growing and finishing: continuous high-concentrate feeding and two-phase feeding programs.

Continuous high-concentrate feeding:

- Consists of a 90:10 concentrate-to-roughage ratio.
- Is fed from 300 to 400 pounds through finishing.

If consistent intakes are maintained, this strategy can result in good feed conversion. However, there are some disadvantages:

- There is a higher risk of digestive upset, and this can lead to fluctuations in intake if not effectively managed.

Including a source of low-quality roughage in a high-grain diet can help alleviate the risk of acidosis.

Two-phase feeding programs:

- Start with high-forage diets or pasture from 300 to 700 pounds.
- Then move steers to a high-grain finishing diet.

This feeding program offers a decreased risk of acidosis while growing, as well as the potential for compensatory gains during the finishing phase. However, there are risks with this diet, including:

- Needing more days on feed to finish.
- Not enough energy reduces number of carcasses grading choice.
- The risk of heavy-carcass discounts.

Due to its limited benefits and increased complexity, this feeding strategy is **not recommended**.

Figure 3. Percentage Dietary Forage (100% DM basis) in the growing-finishing period and Holstein performance

* DiCostanzo, 2005

| Forage | Growing | Finishing | ADG | DMI | Feed/Gain |
|--------------|-----------|-----------|-----|------|-----------|
| Corn Silage | 86% | 86% | 2.1 | 15.2 | 7.2 |
| Corn Silage | 55% | 55% | 2.8 | 16.6 | 5.9 |
| Corn Silage | 55% | 29% | 3.0 | 16.6 | 5.5 |
| Corn Silage | 55% | 17% | 3.1 | 16.7 | 5.4 |
| Corn Silage | 10% | 10% | 3.5 | 16.6 | 4.7 |
| Corn: Pellet | No hay | No hay | 3.1 | 16.0 | 5.2 |
| Corn: Pellet | 1 lb. hay | 1 lb. hay | 3.0 | 16.6 | 5.5 |

HUBBARD OFFERS MULTIPLE PROGRAMS THAT CAN HELP PRODUCERS

Self-fed programs consist of whole-shelled corn and pellets, with minimal roughage. When using a self-feeder, roughage should be fed separately from corn and pellets in order to maintain rumen health, reduce the incidence of acidosis and limit the severity of liver abscesses.

Blueprint® Access is a feedlot supplement program designed for producers who want a convenient way to finish cattle and to positively influence the genetic potential of their cattle. This is a value-added program containing Alltech additives to support immunity, performance and rumen stability and has three phases: light calf grower, grower and finisher. We also have the Blueprint Access for DDG that is balanced to supplement diets with corn and DDG.

The Dairy Beef Supreme Program is a balanced program that helps steers adapt to higher corn intakes in three phases: light calf grower, grower and finisher.

Hubbard also offers ***higher-energy TMR diets***.

Blueprint Concentrates are nutrient-dense products designed for producers who want optimal performance and high-value nutritional programs for finishing cattle.

Express™ Finisher and Express Grower concentrates are nutrient-dense products designed for producers who want optimal performance and high-value nutritional programs for finishing cattle. *(Note: these are for traditional feeding programs in which a protein supplement is needed. A blend of natural protein and NPN is used to optimize efficiency and costs.)*

Beef producers who feed co-products face unique nutritional requirements that are often specific to their own operations. Blueprint® Co-Product Finisher supplements are nutrient-dense supplements formulated for distillers grain and corn gluten feed-based diets for producers who want optimal performance and high-value nutritional programs for finishing cattle.

GainRite® Co-Product Balancers are formulated specifically for distillers grain and corn gluten feed-based diets.

The GainRite solution offers varying inclusion rates, as well as pellet and meal forms, that provide the flexibility you need to take advantage of the cost-savings that can come with feeding co-products. The GainRite formula is designed specifically for the unique requirements of feeding corn co-products.

IMPLANTS AND BETA AGONISTS

Growth-promoting implants have been used in the beef cattle industry for decades. They serve to increase muscle accretion and market weight by increasing both daily gains and feed efficiency.

Different implant brands will vary in their potency and the duration of their payout. A proper implanting strategy involves increasing the potency with each subsequent implant and not allowing the final implant to “expire” before cattle are marketed. Increasing implant potency should be coupled with an increased ration energy content. Protein intake is also important to support muscle growth. Rations should target a minimum of 12–13% crude protein with medium- and high-potency implants.

Dairy and dairy-beef crossbreds

Holsteins and dairy-beef crossbreds have higher maintenance energy requirements, more days on feed and lower feed intakes compared to native beef breeds. Due to these differences, Holsteins and dairy-beef crossbreds respond well to implant protocols, yielding a significant return on investment.

Additionally, Holsteins and dairy-beef crossbreds respond differently to implant programs compared to native beef cattle.

Low- and moderate-potency implants:

- Work well for bottle calves.
- Work well for lightweight dairy and dairy-influenced cattle.

Certain long-duration low-potency implants may not last as long as advertised due to hormone levels dropping below the physiologic threshold to achieve the intended response.

High-potency terminal implants in the finishing phase are **not recommended** for dairy-influenced cattle, due to increased incidences of “bullers” and dark cutters.

Moderate-potency terminal implants:

- Can be used in finishing phase with Holsteins and dairy-beef crossbreds.

Although the research on dairy-beef crossbreds is very limited, the overall experience of many feeders and industry professionals is that they respond physiologically to implant potency in a way that is more similar to dairy steers than to beef breeds.

CONTRACTING

Cattle contracting is a processes that can mitigate some market risk seen by continuous changes in the beef industry. When it comes to the ideal dairy beef steer, today's buyers are looking for these characteristics:

- Live weight: 1,415 lbs.
- Dressing percentage: 61.5%
- Yield grade: 3, high choice
- Muscle score: 1–2

Information on the ideal steer was provided by Ron Mayer, JBS Packerland.

Currently, two packers in the Midwest take Holstein steers: American Foods Group in Green Bay, Wisconsin, and JBS in Green Bay, Wisconsin, and Plainwell, Michigan.

- American Foods Group prefers Holstein steers finishing at 1,400 pounds and heavier.
- JBS prefers calf-fed steers at around 1,375 to 1,425 pounds, maxing out at 1,550 pounds.

Targeting a finishing weight of 1,400 to 1,500 pounds will allow producers to hit the specifications for both processors and maximize their bid potential.

THE DAIRY-BEEF CROSS

In recent years, the use of beef semen on dairy cows has increased in popularity. Crossbreeding is not new to the beef industry. Crossbreeding offers advantages with heterosis, or “hybrid vigor,” which means that calves will perform at a level above the average of the parent animals in some traits. The key to crossbreeding is breed complementarity — using the strengths of one breed in a particular trait to compensate for a deficiency in that trait in another breed. Dairy steers typically marble well, which leads to good quality grades. However, dairy steers have relatively small ribeyes and lower dressing percentages, are less feed-efficient and suffer heavy or light carcass discounts for Holstein and Jersey steers, respectively.

Ideally, the terminal beef breeds to use on dairy cows should:

- Improve the ribeye area.
- Increase the dressing percentage.
- Improve feed efficiency.
- Maintain consistent carcass weights.

The execution of beef-on-dairy crossbreeding has varied. The use of a wide variety of beef breeds and unproven young sires has introduced massive variation in the calf crop. This variation has followed through to the feed yards and the processing facilities. The uncertainty and lack of uniformity have caused processors to be leery of these dairy-beef crossbreds. That makes it difficult for feed yards to know the value of the finished steer and, thus, the value they can pay for feeder calves.

Success has been seen in dairies that have mated their cows correctly and have retained ownership of the calves through to finish. Using the same bull on a large number of cows to produce half-siblings increases pen uniformity. Feed yards that work with dairies on bull selection are more likely to improve the consistency of the calf crop.

Feeding dairy-beef crossbreds remains similar to feeding dairy steers. Using corn-pellet programs, as well as higher-energy TMR feeding, works very well for dairy-beef crossbreds, as well as dairy steers. Typically, dairy-beef crossbreds have improved feed efficiency and will finish at lighter weights of around 1,350 pounds.

