Extension
UNIVERSITY OF WISCONSIN–MADISON

Culling Considerations for Beef Cow-Calf Herd

Culling decisions are a routine part of beef cow-calf herd management. Producers should make culling decisions based on what is best for their farm's profitability, and what is best for animal well-being. This can be summed up as marketing cattle while they are in a condition that processors prefer, before they become a transportation risk, and their value declines.

Adequately conditioned cows have greater carcass and economic value and are increasingly being referred to as market cows instead of cull cows. The following suggestions are general considerations for you to factor in when developing your farm's culling strategies.

Decisions specific to an individual animal

Declining health and/or weight loss: Scrutiny is greater than ever to evaluate livestock fitness for transport, specifically cattle at risk for becoming non-ambulatory. Cows must be in adequate health to make the haul when leaving the farm for market and from market to the processing plant. Farmers need to make the decision to market cows before declining health or low Body Condition Scores (BCS) makes them less desirable to processors and sales revenue is lost.

Reproduction: Reproductive efficiency is one of the greatest factors impacting beef cow-calf enterprise profitability. Open cows and heifers consume feed without providing income from calf sales. Late calving cows produce lighter weight calves and have fewer chances to breed back. Economic modeling show's that 6 calvings are needed to recover the initial investment of rearing a replacement heifer. In Boyer's analysis it took 8 calvings if one calving season is lost due to failure to conceive, and over 9 calves if two calving seasons were lost (Boyer et. al. 2020).

Udder conformation: Cows with weakening udder attachments and median suspensory ligaments can have low, pendulous udders. Extremely low udders can be difficult for calves to reach to suckle and are a risk for injury and mastitis infections. Large teats can also be difficult for calves to nurse.

Feet and legs: Lameness is an animal well-being concern and can lead to rapid weight loss. In less extreme cases, undesirable foot and leg composition can lead to chronic mobility issues. Extremely straight ("posty") or set ("sickle hocked") rear leg set and poor rump structure are examples of structural faults that negatively affect mobility. In addition, the prevalence of foot diseases causing lameness, such as digital dermatitis (a.k.a. hairy heal warts), are likely underestimated in beef herds, especially in confinement beef operations (Kulow 2017).

Poor calf performance: Complete, accurate, multi-year production records should be leveraged into your decisions for removing inferior dams by factoring in calf performance. Cows that consistently wean light weight calves indicate a poorer ability to produce milk, nurture a calf, or simply have inferior genetics. Care needs to be taken to use production records properly. Calves of first and second calf heifers shouldn't be expected to perform the same as calves from mature cows, and records need to be kept in a fashion that can sort this out. Additionally, a one-time event, such as calf sickness, may occur that has nothing to do with mothering ability, emphasizing the importance of multi-year records.

Disease: In addition to disease conditions that result in rapidly declining health, there may be profit robbing chronic diseases to manage, or eliminate, from your herd. This may include cows testing positive for Johne's disease, Bovine Viral Diarrhea (BVD), and Bovine Leukosis (BLV).

Disposition: Vigorous calves and protective mothers are a good thing, to a point, but extremely aggressive

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behavior has negative consequences. Cows with overly aggressive dispositions are a danger to handlers. The heritability of disposition is moderate to high in cattle. Feedlot cattle with more excitable disposition scores have been shown to have decreased body weights, poorer average daily gains, and poorer carcass yield, grade, and marbling scores (Reinhardt et. al. 2009)

Herd level decisions

In addition, you may be faced with considerations above and beyond a specific cow in the herd:

- What is your current cow inventory in relation to desired herd size?
- Have you retained a sufficient number of replacement heifers, or have the means to purchase replacement heifers?
- What is the price spread between market cow values and replacement heifer prices?
- Do pasture conditions and feed inventories support your current herd size?

Optimizing Value

According to the National Beef Quality Audit, market (cull) breeding animals contribute up to 20 percent of gross revenue for beef operations (National Cattlemen's Beef Association, 2016). Despite their contribution to gross revenue, many farms market cows without a plan to optimize their revenue.

Seasonal price patterns have been well documented for market cows (Amadou et. al. 2014; Blevins 2009; Peel & Doye, 2017). While exceptions can occur due to market volatility, price lows typically occur in November. Peak prices occur in late spring through mid-summer. With the majority of beef herds practicing spring calving and fall weaning, market cow volume increases in the fall as calves are weaned, cows are typically pregnancy checked, and decisions on who remains in the herd are made.

Holding onto market cows until spring has promise for higher prices, but the cost and risk of doing so must be factored in. Having a plan to add weight to thin cows and increase their quality grade can tip the scales in your favor. Body Condition Scores can be used to approximate market cow class and the amount of BCS improvement needed to move up in classification. Breakers are approximately BCS 7 and above, Boning utility (Boner) are approximately BCS 5-7, and Lean's and Lights are BCS less than 5. Lights have approximate hot carcass weights less than 500 pounds (Peel and Doye 2017, Selk).

On average it takes about 75 pounds of weight gain to increase one point in BCS. On the other extreme, overly fleshy cows (BCS over 7) may not receive as much of a market premium and are less feed efficient.

There are risks to prolonging ownership of market cows. Not all cows are good candidates to add condition to. Cows with rapidly declining BCS, poor teeth, advanced age, or health problems should be marketed in a timely fashion, or risk becoming non-marketable and losing all value. Feed inventory and prices must be considered. Yardage expenses and added labor costs need to be accounted for as well.

A strategy sometimes overlooked is pregnancy checking cows in early Fall, and marketing open cows in September and early October. In a typical year market cow prices will be declining, but not have reached seasonal lows. An added benefit to this strategy is it also reduces feed costs associated with retaining market cows.

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