



Grass-Fed Beef Initiative Extension Series

Fact Sheet 2 of 11

The Power of Genetics: Selecting Cattle to Finish on Grass

Selecting cattle that finish well on grass is primarily a matter of phenotype and genotype. For cattle to perform in terms of both desired average daily gain and final carcass quality, they will need to be selected from the proper seedstock genetic base (See, “*Selecting Breeding Stock for Grass Fed Beef*”).

Phenotype and Genotype

To determine the desired phenotype and genotype, you first have to identify the end product target. For high quality eating experiences on a consistent basis, you should target cattle that finish at a minimum standard of Canadian AA or better. This means that finished cattle will possess a slight degree of marbling or higher, be youthful in their maturity, have a bright red colour, and firm texture to the lean with adequate or better muscling. Ideally, grass finished animals should meet minimum standards for AAA .

www.canadianbeef.info/us/en/quality/Standards/default.aspx

Meeting minimum standards in carcass quality is important for assuring uniformity and consistency in both red meat yield and eating quality.

On a live animal basis, to achieve the desired degree of finish on a consistent basis, steers will need to weigh between 1100 lbs to 1250 lbs (500 to 565 kgs) and be 20-26 months of age, on average, when ready to harvest. Just as in breeding stock, animals selected for grass finishing should be very moderate in frame score. Preferably, the frame score should be between 3.0 and 5.5 (*Guidelines for Uniform Beef Improvement Programs*, Ninth Edition, 2010. Chapter 3, pg. 28-30. Beef Improvement Federation).

In addition, the phenotypically correct animal should be very deep bodied with well sprung ribs and exhibit depth in both the heart girth and flank (Picture 1). Animals that are tight middled and pinched in the heart girth and flank typically will not finish well on grass (Picture 2).



Picture 1: Desired phenotype for grass finishing

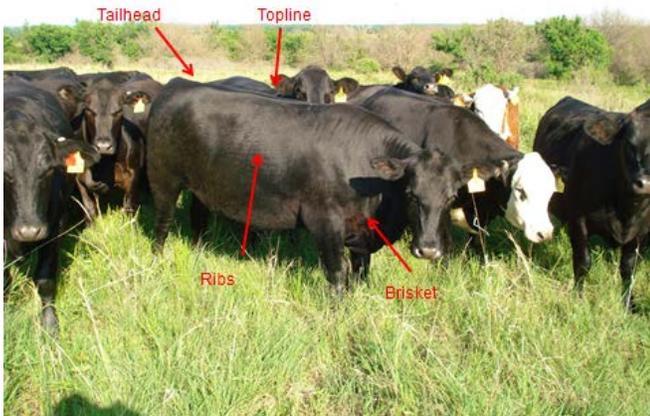


Picture 2: Poor phenotype for grass finishing

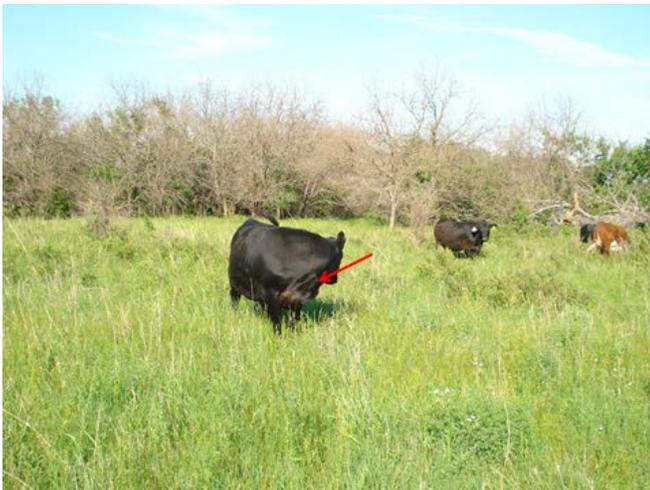
Animals selected for grass-finishing should also be sound on their feet and legs, as they will have to cover ground each day to consume adequate amounts of forage dry matter for desired gains. Average daily gain targets for the finishing phase should be 2.0 to 3.0 lbs (1.0 to 1.4 kg)/day. Cattle that are not performing well on forage should be culled or sent to the feedlot.

Grass-Finished Targets

To achieve optimum grass-finished targets, both on a live weight basis and on a carcass basis, it is helpful to understand what a properly finished animal looks like. To reach minimum marbling and backfat standards for Canadian AA or AAA, cattle have to exhibit the phenotypic characteristics for the proper degree of finish. To visually determine this, you look for adequate fat cover over the ribs, back, in the brisket, around the tailhead, and in the cod of steers or udder of heifers. A well-finished animal will have a nice spongy fat cover over all ribs with no ribs clearly visible all the way back through the thirteenth rib.



Picture 3: What to look for in a grass finished animal



Picture 4: Desired fat deposit in the brisket



Picture 5: Arrows indicate pones of fat surrounding the tailhead

The topline or back of the animal should be either level in appearance or have a slight dip at the top of the spine (Picture 3). If a steer or heifer has a sharp appearance to the spine or topline (spinous processes are visible), they are not adequately finished. There should be depth and fill in the heart girth and flank areas. In addition, the brisket should be wide and distended showing evidence of heavy fat deposits (Picture 4).

One of the final areas of fat deposit will be in the region around the tailhead. In the feedlot industry, deposits of fat on both sides of the tailhead are called “pones” or “poning.” When there is strong evidence of pones of fat around the tailhead, then individual animals are very close to being fully finished (Picture 5).



Picture 6: What is your end product quality target?

Know Your Product

Finally, to determine how good a job you are doing in producing animals that are uniformly and consistently finished, you must spend time in the holding cooler at the processing plant to examine actual degree of finish (Picture 6). Again, you must identify your end product quality target and view carcasses to see how well you achieved your objective (Picture 7). Routinely take pictures of your finished animals prior to harvest, as well as recording live weights and potential use of live animal carcass ultrasound data. Compare live weights, pictures, and ultrasound data to actual carcass quality measurements to see how well they match your perception of degree of finish. Just remember that raw product quality and uniformity equals a high quality eating experience (Pictures 8-9). Pleasing your customers time after time is the real key to grass fed success.



Picture 7: Measuring carcasses in the holding cooler



Picture 8: Raw product quality and uniformity



Picture 9: Quality Raw Product = Quality Eating

For more information

Jonathon Wort

Ruminant Specialist
Perennia Food and Agriculture Inc.
(902) 896-0277
jwort@perennia.ca

Authored by:

Allen R. Williams, Ph.D.
Grass-Fed Beef Specialist
Livestock Management Consultants, LLC

Funded under the Canada-Nova Scotia AgriFlexibility Agreement - Collaborate to Compete Initiative