

THE REST OF THE STORY

by Janet Steward

In 2011 when AHCA's membership asked the Beef Marketing Committee to provide scientific data about the unique traits of Highland beef, I was directed to Dr. Bryon Wiegand of the University of Missouri. Dr. Wiegand introduced himself as "a lipid man". He later shared with AHCA members that when his grandmother asked him what he did for work, he told her every day he "tried to make a better hotdog". This interest in lipids and meat may have been the reason Dr. Wiegand agreed to take on AHCA's unconventional study, with unconventional animals and a diverse group of breeders. How lucky we were to find a scientist who had devoted his professional life to studying and promoting meat and was willing to work with our Grande Old Breed!

For consistency and quality, specific criteria for the beef submitted for this study were required, closely aligned to QHB standards for beef production. The animals had to be pure-bred Highland steers or heifers, raised and handled in a humane manner. No hormones, steroids or sub-therapeutic antibiotics could be applied or fed to the animals. Animals must be slaughtered between 18 and 36 months of age, have a minimum hanging weight of 450 lbs, and hang at least ten days. Two ribeye steaks and one pound of ground beef, both from the same animal with no added trim from other animals, would count as one sample.

A proposal for a 200 sample study was made to the Highland Cattle Foundation; they generously agreed to fund this initiative. Although AHCA's work with Dr. Wiegand was originally expected to last one year, it morphed into six. And although the lipid and fatty acid profiles yielded interesting and positive information for Dr. Wiegand and Highland beef producers, most startling and unexpected to Dr. Wiegand (though perhaps not to those who market Highland beef) was the prevailing tenderness of our beef, in most cases more or substantially more tender than the industry standard.

Tenderness was determined using the Warner-Bratzler Sheer Force Test. Small core samples were removed from the ribeye steaks submitted and then mechanically pulled apart, measuring the force required to do so. Although not identical to chewing, this test gives good indications of what masticating that piece of steak would feel like in one's mouth. The industry standard of tenderness ranges from 4-6 on the Warner-Bratzler scale. Anything above a 6 is considered less tender, anything below a 4 more tender. The aver-



Ribeye steak similar to those tested.

age tenderness of the 220 Highland samples sent in measured 3.46. This includes samples finished on grass or grain, processed in every season of the year and every region of the country, regardless of the hanging time, or time at the processor before slaughter. Some of the steaks were remarkably tender, with a sheer force as low as 1.27. This data is truly remarkable and powerful selling information for our Highland beef. Studies have shown that even if meat has good flavor and the consumer views it as a healthy food, if the meat is *tough* the consumer will be less likely to select that product in the future. Dr. Wiegand's study confirming the inherent tenderness of Highland beef produced according to the study's protocol is an excellent marketing tool for AHCA beef producers.

Here is Dr. Wiegand's quote concerning the marketing potential of this finding: "While flavor is a major driver in beef eating satisfaction, tenderness can make or break the repeat purchase. To this end, our data have shown that Highland beef is very tender according to shear force values. This tenderness is consistent in cattle up to 30 months of age with a minimum carcass aging of 10 days in the cooler. I believe this is the most marketable piece of information that we have attained. I also think that this is a marketable characteristic as some Highland breeders seek to utilize their germplasm for crossbreeding systems and breed complementarity."

Many of us believe and have customers who attest to the tenderness of our product; however Highland beef producers can now state their product is *scientifically proven* "tender beef", if it falls under the criteria of this study. If a customer asks how you know that, share the information from Dr. Wiegand's Executive Summary. If they ask why the meat is more tender, share what Dr. Wiegand explained to us at the convention in 2016. Muscle is made of fibers; Highland muscle has more fibers, however each fiber thinner making it easier to pull apart and chew. Compare chewing a thick twist of licorice with chewing shoestring licorice, or wide pasta with angel hair.

Highland breeders who donated samples may send Ginnah their samples' identifying code #'s. AHCA will supply you with your individual data, which can assist with breeding and husbandry practices to optimize beef production. There are many ways to analyze your data. I ranked our samples from most tender to least, compared birthdates, hanging weights, time of year processed, sires and dams. The information I was able to glean was fascinating, supplying much data to inform breeding and husbandry practices.

Now that the study has been completed and published the Highland Beef Marketing Committee (HBMC) wishes to thank the Highland Cattle Foundation (HCF) for its funding and

support of the study, Ginnah Moses for sending email blasts and surveys, and managing paperwork and questions regarding the sample submission, Quality Highland Beef (QHB) for the creation of uniform standards and expectations for consistent beef production, and most of all the AHCA members who sacrificed ribeye steaks and ground beef samples allowing AHCA to carry out what members requested. Those who participate in the QHB program, as well as those who purchase the steak icon, supply funds needed to support the development of marketing materials; we encourage all who can to participate.

What does the future hold for AHCA members who market Highland beef? In 2011 AHCA members requested that in addition to scientific data, professional, consistent marketing materials incorporating the findings of the study be easily available for all AHCA members. As with the six years to complete the study, these marketing materials have been a long time coming. The HBMC has recently

engaged the services of Skillet Marketing and Design to create the visual design component to be utilized on a variety of marketing materials, either in hard copy or digitally, incorporating the tenderness results from Dr. Wiegand's study. Once the design component is completed, the HBMC will seek input from AHCA members as to what types of materials will be most useful for your beef sales program.

In addition, the HBMC in conjunction with HCF is looking ahead to implement recommendations of Dr. Wiegand and AHCA members to learn more about beef traits and economic viability of Highland crossbred animals. This study will provide AHCA members with information to assist their breeding and marketing programs as well as garner interest from commercial beef producers about the benefit of including quality Highland genetics into their beef operation. Here's where you as AHCA members come in! Just as Dr. Wiegand's scientific study could not have been accomplished without the generous donation of

samples from AHCA members, the crossbred study will also require meat samples or live steers, depending on how the study is designed. If you raise Highland crosses or know of AHCA members who are, stay tuned for future information. As with our past study, results will benefit those who donate and all AHCA members. The HBMC will keep you informed of next steps.

If you have any questions about Dr. Wiegand's study or how to analyze your data, feel free to contact me at greenfield1@myfairpoint.net, or Dr. Jim Welch at jamesgwelch@comcast.net. With questions or suggestions regarding future work of the HBMC feel free to contact Bill Tramp at blttrmp@gmail.com, or any member of the Highland Beef Marketing Committee. **And That's the Rest of the Story!**

To read "Highland Beef Research Project Underway" please see the Beef Marketing Report in the winter 2012 issue.

