

## GRASS-FED BEEF STUDY

Cliff White

VERNON, FL The following is a report regarding a grass-fed beef study. The study began January 10, 2013 and ended February 3, 2014. Four steers were selected for the study of similar age and body condition. The weight of the steers ranged from 486 pounds to 570 pounds. The four steers consisted of Black Angus, Wagyu x Black Angus cross, Devon x commercial cross and South Poll<sup>1</sup>. It should be noted the results were based off single animals taken from a relatively large population. Therefore, the data obtained is not a true representation of the breed type, but merely values of that particular animal.

The primary goal of the study was to determine the meat quality characteristics (tenderness, juiciness, and flavor) of steers grazed on quality forage. This information was obtained by conducting blind taste tests on March 22, 2014. Score sheets were obtained from 24 adults. These tasters included two Professional Barbeque Association judges, five PhDs from the University of Florida's North Florida Research and Education Center (including one Brazilian and one Argentinean), University of Florida Extension Agent Emeritus, a NRCS Official, the President of Red Devon USA, the Triticale Business Manager for Syngenta Seeds, Inc, Union, KY, and a few cattlemen. Results of the taste test follows later in this report.

The four steers in the study each came from different farms located in Washington County, Florida (Florida's panhandle). From birth to slaughter, none of the steers received any grain, growth hormones or antibiotics. The steers were all delivered from their owners' respective farms to the Washington County farm of Dr. Ron Harrell (cardiologist) on January 10, 2013. While at Harrell's farm, the four steers were kept together. They were fed high quality forages and baleages such as oats, triticale, millet, cow peas, perennial peanut, clover and Bahia grass. During the last 60-70 days prior to harvest, the steers were grazed entirely on triticale.

After harvest, carcasses were aged for 12 days, then cut and wrapped. On March 22, 2014 two cuts of meat (brisket, ribeye) and ground beef from each of the four steers was seasoned with only salt and pepper. The meat was cooked on a barbeque grill and smoker by a highly-rated professional barbeque pit master, Forrest Dilmore, Forrest's Fine Foods, Cottondale, Florida and Alexander Harrell, Chef and owner of Angeline's, New Orleans, Louisiana. Alexander is among the top-rated chefs in New Orleans.

Tommy Estevez, Lab Technician, University of Florida Meat Processing Center, Gainesville, Florida participated in the meat processing and the quality and yield grade value determinations (see table below).

Breed	Entry Weight	Finish Weight	Daily Gain	Hanging Weight	Percent Yield	Quality Grade	Yield Grade
Wagyu-Angus	494	1140	2.24	702	62%	Choice	3.4
South Poll	486	1105	2.14	675	61%	Average Choice	3.8
Black Angus	491	1175	2.37	684	58%	High Select	4.2
Devon cross	570	1145	1.99	688	60%	Average Choice	3.9

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<sup>1</sup> South Poll is a relatively new registered breed of grass genetics cattle consisting of ¼ Red Angus, ¼ Senepol, ¼ Herford and ¼ Barzona. The South Poll breed was developed by Teddy Gentry, Fort Payne, AL

## TASTE TEST RESULTS

The score sheets provided to taste test participants were based on three categories - tenderness, juiciness, and flavor. The hamburger and ribeye were prepared on a grill, just as a consumer would at home. The brisket was smoked. Each taster was served one portion of each type of meat, i.e. hamburger (HB), ribeye (RE), and brisket (BR) from each of the four steers (identified as steer sample A, B, C and D). The tasters were asked to rate each portion for tenderness, juiciness and flavor and to score each portion from 1 to 3 (3 being the highest score). The tasters were not told which breed the samples they were eating represented. The completed score sheets were collected at the end of the tasting.

The results for the 24 completed score sheets (totalled together) were as follows:

### TASTE TEST SCORE

	Breed	HB Tender	HB Juicy	HB Flavor	RE Tender	RE Juicy	RE Flavor	BR Tender	BR Juicy	BR Flavor	Total
<b>A</b>	Waygu x Black Angus	58	58	56	57	60	50	57	57	50	503
<b>B</b>	South Poll	59	62	57	62	64	61	61	57	54	537
<b>C</b>	Black Angus	49	41	53	38	38	48	59	58	54	438
<b>D</b>	Devon x commercial	60	57	59	60	51	61	64	59	64	535
	Total	226	218	225	217	213	220	241	231	222	2013

The summary of total points showed the South Poll scored the highest (537) followed by the Devon (535), Wagyu-Angus cross (503) and Black Angus (438). Also note, the South Poll scored highest overall of the four breeds for ribeye tenderness, juiciness and flavor. No definite conclusions can be reached based on this very narrow study. However, the data obtained is interesting and may be useful for future research ideas. The most important finding verified that 100% grass-fed beef can be produced without smelling bad, tasting funky and being tough.

It is worth noting the Pit Master said the quality and taste of the grass-fed beef presented at the tasting event far exceeded his expectations. Prior to processing, he firmly believed the Wagyu would place first in every category followed in quality order by the Black Angus, South Poll, and Devon in that order.

Cliff and Kay White are the owners of Holiday Ranch with locations in the Florida panhandle and southwest Missouri near Springfield. Holiday Ranch breeds South Poll cattle, a new grass-genetics breed of cattle bred specifically to excel on grass only in a hot, humid environment and produce tender, quality grass-fed beef.