Breed types and cover crops provide alternatives for sustainable year-round supply of forage-fed beef for small farms in the Gulf Coast region: Research and on-farm demonstrations

SARE PROJECT LS14-266

Dr. Guillermo Scaglia

Research and Outreach efforts

Research Methods

There are 2 forage systems under evaluation at the Iberia Research Station (Jeanerette, LA; 29° 57' 54" W latitude; 91° 42' 54" N longitude; altitude 5.5 m). The soil type is classified as Iberia silty clay loam (poorly drained very-fine, smectitic, hyperthermic, Typic Epiaquerts) with risk of flooding, although the experimental area had previously been shaped to improve drainage. The two systems are : 1) Conventional and no-till planted annual ryegrass for winter grazing (75% of the area) and bermudagrass for summer grazing (25% of the area) plus bermudagrass hay for transition periods; and 2) Conventional and no-till planted multispecies cover crops for the fall transition period and winter grazing (25% of the area), followed by ryegrass+berseem clover for winter grazing (50% of the area), then alfalfa/peanut hay until alyceclover + pearl millet + cowpeas mixed pastures (25% of the area) for summer grazing are available. Angus, Holstein and Pineywoods steers are used rotationally stocked on pastures. Hay in transition periods is provided in hay racks (bermudagrass) or in feed bunks (alfalfa hay). Steers from both breeds are harvested after the end of the winter and summer grazing periods.

ADG of steers grazing brassicas dominated pastures during the fall transition period.

Average daily gains, lb

	Year 1	Year 2	Average
Pineywoods	0.35	0.65	0.50
Angus	0.95	1.05	1.00
Holsteins	0.71	0.98	0.85

ADG of steers grazing different year-round forage systems

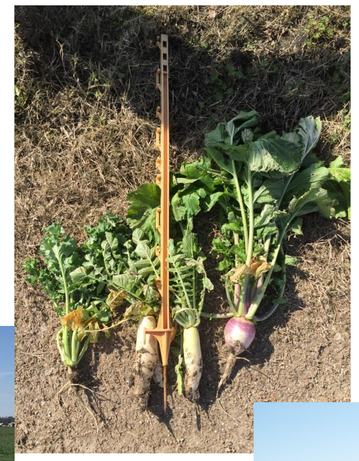
Average daily gains, lb

	System 1	System 2	Average
Pineywoods	0.84	1.01	0.93
Angus	1.78	1.95	1.87
Holsteins	1.56	1.90	1.73
	1.39	1.62	

Increasing forage diversity and production of biomass favored greater gains in cattle in System 2 especially during the transition period and summer months.

On Farm Demonstrations

Producers' grazing programs are followed with one of them producing Pineywoods and the other one Dexter, both commercializing the product as grass-fed beef. Pineywoods at Farm A grazed annual ryegrass and white clover during the winter months (ADG was 0.57 kg) and pearl millet/cowpeas from early June to mid-July (ADG of 0.45 kg) followed by a mixed sward of bermudagrass and bahiagrass during the rest of the summer (ADG was 0.38 kg). In two occasions 3 and 2 steers (average age of 23 months and 295 kg) were harvested and carcass data were collected. Hot carcass weight was 140 kg, ribeye area at 35.7 sqcm, fat thickness 1.4 mm, and dressing percent of 47.4%.
Dexter cattle (picture right) at Farm B grazed similar pastures (adding red clover) during winter and sorghum-sudan/bermudagrass during summer.
Every time cattle is weighed at the farms forage mass and nutritive value of grazed forage is determined and results provided back to the producers.
A pasture walk in each farm has been conducted with good participation.



Pasture walks at producers are relevant; they provide an appropriate environment for producers to interact promoting collegiality, exchange of experiences/information and networking.

Evaluation of forage systems and breed types at the LSU AgCenter

The evaluation of breed types and forage system are under evaluation on a year-round basis (October to September) at the Iberia Research Station. At the end of the winter grazing season (April) half the steers per breed are harvested at a commercial abbatoir and carcass data collected. On average over the eyars, Angus had the greatest hot carcass weight (232 kg), ribeye area (59.3 sqcm), fat thickness (4.15 mm), and dressing percentage (52.4%) compared to Holstein (220 kg, 46.7 sqcm, 1.35 mm, and 47.7% respectively), and Pineywoods (153.6 kg, 49.35 sqcm, 2.24 mm, and 50.9%, respectively).
A pasture walk a year (picture right) is organized at the station (Fall or Summer) which compliment the annual field day (Spring).

Pineywoods cattle (picture above) may offer an alternative for small beef cattle producers. They are a heritage breed and much smaller than conventional cattle, hence they need less grazing area.

This project is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2014-38640-22155 through the Southern Sustainable Agriculture Research and Education program under subaward number LS14-266. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture or SARE. USDA is an equal opportunity employer and service provider.

lsuagcenter.com

southernsare.org