

# CEFS



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**Center for Environmental Farming Systems**

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## Pasture-Based Beef Unit

### Goals

The goal of CEFS' Pasture-Based Beef Unit is to operate a coastal plain beef cow/calf production system that maximizes profitability while minimizing expenses and has an acceptable impact on the environment.

Our system is based on intensively-managed pastures. The main objective is to demonstrate to beef producers and other clientele how efficiently beef cattle can be produced in eastern North Carolina when the production system is managed intensively. The Unit demonstrates all of our common production recommendations and is accessible to farmers, extension agents, and students. Management continually evolves to correct for recommendations that prove unmanageable at the farm scale and to allow for the incorporation of new, research-proven technologies.

An advisory committee of faculty, producers, and industry personnel provides guidance and sets priorities for applied research projects to evaluate components that may be used in the system.

### Our Herd & Land

The beef unit is located on 175 acres of land that have marginal value for crop production. The pasture system is a mixture of warm- and cool-season perennial and annual forages. Grazing access is controlled to improve utilization efficiency.

The herd is a cow/calf operation, typical of what is seen in our state. We currently have about 80 cows, 25 developing heifers, and 2 bulls. Calving season has traditionally been in the winter; however, the herd is being transitioned to calve in the fall to reduce weather stress on newborns. First calf heifers were bred to calve in November, 2016 and the mature cows will be shifted one month earlier per year until they align with the fall calving schedule. This strategy seemed to be the most economically feasible.



Genetically, the herd is a mixture of Angus and Senepol breeds with a few cows carrying Hereford as well. The Senepol breed was imported from the Virgin Islands where it was developed under minimal management and with diets based on low-quality forages. Senepol-influence cattle tend to be more heat and insect tolerant than the British breeds (Angus and Hereford). Additionally, some Senepol cattle carry a gene that imparts an extremely short hair coat ("slick hair gene"). While the expression of this gene seems to be complex, it is passed as a dominant gene and so we are trying to incorporate this gene into the herd to help control heat stress.

We are also using Red Angus in hopes of generating red, slick cows that are more tolerant of heat and insects.



### **Best Management Practices**

Key “Best Management Practices” that are demonstrated include:

- Record keeping and financial management
- Controlled breeding season
- Multiple off-stream watering sites
- Stream & wetland exclusion with buffer strips
- Optimal herd health program overseen by a veterinarian
- Year around planned forage system
- Controlled grazing management
- Programmed heifer development
- Effective crossbreeding program
- Strategic marketing program
- Profitable feed supplementation programs

Long-term evaluation of the system will examine the fate of nutrients in pasture soils, long-term profitability and productivity, and the stand life of pasture plantings. Farmers are involved in the project through advisory committee meetings, tour groups, and field days.

### **Supporting Organizations**

- N.C. State University College of Agriculture & Life Sciences
- N.C. State University College of Veterinary Medicine
- N.C. Agricultural and Technical State University School of Agriculture and Environmental Sciences
- N.C. Department of Agriculture & Consumer Services

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