

CEFS



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Center for Environmental Farming Systems
Campus Box 7609/ NCSU
Raleigh, NC 27695
Phone: 919-513-0954

Alternative Swine Unit

Goal

Interest in outdoor pig operations in North Carolina has increased considerably during the last decade. Acceptance by consumers of pork produced under these conditions has helped to establish alternative production systems that are often preferred by small producers. However, management challenges exist for outdoor swine operations, including deterioration of vegetative ground cover, soil disturbance and high nutrient loads that could cause soil and water pollution. Animal welfare in these systems can also be a concern.

The goal of the Alternative Swine Unit is to provide opportunities for researchers to develop and demonstrate methods for production that optimize productivity and animal welfare while minimizing environmental impacts

Facilities and Animals

The Alternative Swine Unit currently consists of five permanent hoop houses as well as pastures that are set up for research and demonstration projects as needed. The hoop houses utilize a deep bedding system that is different from standard confinement facilities. The deep bedding—generally straw, corn stalks, or hay—is spread approximately 14 to 18 inches thick and provides a comfortable environment for the animals and allows rooting and other natural behaviors. It also helps control odors and decreases the risk of manure runoff affecting water quality.



Our primarily Yorkshire swine herd is unique in that it has been antibiotic-free for more than 30 years. Since the majority of outdoor swine producers in North Carolina are raising animals without antibiotics, use of an antibiotic-free herd provides the opportunity to use animals for research and demonstration projects that directly relate to producers. Technologies such as estrus synchronization and artificial insemination are used frequently.



Projects and Activities

Through the Center for Environmental Farming Systems, an integrated research and extension approach has been adopted by a multidisciplinary team of researchers, extension agents, farmers and consumers. This team supports the development of sustainable outdoor swine production systems that:

- Are flexible to permit adaptation to a wide range of soils, topography and management practices
- Maintain vegetative ground cover
- Minimize the use of water
- Provide for animal welfare and well-being
- Decrease energy requirements
- Minimize labor needs
- Minimize odor
- Minimize impact on soil, water and air
- Are economically profitable





Projects conducted and planned at the Unit include those involving outdoor or pasture production practices such as site design, selection and preparation, animal control, stocking density, crop rotation, forage use, buffers and filter strips, vegetation management and animal behavior management. Additional research involves pest control (flies, swine internal parasites) and microbiological/disease status of outdoor, antibiotic-free pigs. Research involving breed types for outdoor use has been conducted.

As with all of the CEFS Field Research Units, demonstration and training is an important component of the overall work at the Alternative Swine Unit. Field days, workshops and agricultural professional trainings complement and enhance the research component and interns and apprentices are welcome to be involved

Significance

Outdoor-based swine production systems are perceived as more friendly to animals and the environment. However, in order to assure this, implementation of best management practices like those being studied at CEFS is needed. Farm profitability and viability will also be enhanced through the use of best management practices.



Supporting Organizations

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

For more information on this unit contact:

Windy Smith

Research Operations Manager Livestock Unit
North Carolina Department of Agriculture and Consumer Services
Phone: (919) 609-0720
E-mail: windy.wainright@ncagr.gov



Silvana Pietrosevoli

Research Associate, Department of Animal Science
North Carolina State University
Phone: (919) 515-0814
E-mail: silvana_pietrosevoli@ncsu.edu

Andrew Meier

Superintendent, Cherry Research Farm
North Carolina Department of Agriculture and Consumer Services
Phone: (919) 731-3270
E-mail: andrew.meier@ncagr.gov