

2003 Review

Swine Nutrition Management and Research Center

Iowa State University, Ames, IA

A.S. Leaflet R1940

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Swine Nutrition Unit

History

The present facility was constructed in 1990-1991, providing opportunities to continue research programs that had previously taken place at the old facility south of campus. Two small buildings from that initial research site and an Intensive Growth unit constructed in 1992 have also been incorporated into the overall research program in Swine Nutrition at Iowa State University.

Farm Area and Land Use

The main research unit occupies 20 acres in the approximate center of a 320 acre parcel of land, most of which is also owned by the university. Other than occasionally contributing small quantities of liquid waste as requested, the Swine Nutrition Management and Research Center (SNMRC) is not involved in the research programs conducted on the surrounding land.

Facilities

At the 1127 XL Ave location:

Production Facilities:

- 168-sow breeding and gestation unit
- 32-sow farrowing unit (4 rooms X 8 crates)
- 576 head nursery unit (4 rooms X 144 head/room)
- 300 head growing unit (60 pens X 5 head/pen)
- 300 head finishing unit (60 pens X 5 head/pen)
- 420 head finishing unit (28 pens X 15 head/pen)

Intensive Research Facilities:

- Animal surgery unit
- Metabolism pen unit (up to 24 head)
- 64 head growing room
- 48 head finishing room
- 8 sow farrowing unit
- Laboratory facilities leased to USDA for excretion studies

Feed Preparation Facility

Maintenance and Support Facility

At the State Street location:

- 100 head intensive growth unit
- 36 head sow unit
- 40 pen growth unit

Most of the facilities have been constructed or extensively remodeled in the last 12-15 years and are in relatively good shape. A major factor concerning the main facility on XL Ave. is that there is no provision for segregated production, a major deviation from current industry practices. It should also be noted that this facility is committed to maintaining a disease free (PRRS and mycoplasma) status.

Research Activities

- Impact of level of antigen exposure on response of pigs to dietary energy sources.
- Dietary B Vitamin needs of pigs experiencing a moderate or high level of antigen exposure.
- Effect of various levels of Vitamin B on carcass composition of finishing pigs.
- Impact of dietary energy source on the response of pigs to an acute level of antigen exposure.
- Dietary available needs of pigs experiencing a moderate level of antigen exposure.
- Effects of Clinoptilolite on growth performance and carcass composition of G-F pigs and on fecal phosphorus and nitrogen content.
- Evaluation of various levels of ekenasia in the diet of nursery pigs.
- Evaluation of various levels of garlic in the diet of nursery pigs.
- Evaluation of various levels of peppermint in the diet of nursery pigs.
- Growth response to carbadox in pigs with a high or low genetic capacity for lean tissue growth Dietary thiamine needs of high lean growth pigs.
- Impact of amino acid regimen on milk nutrient yields by sows differing in genetic capacity for lean tissue growth.
- The SNMRC also serves as a source of disease free pigs for other investigators.
- The SNMRC is also the site for intensive excretion studies conducted by the USDA