

GROW/FINISH SWINE SCENARIO



ANIMAL WELFARE JUDGING AND ASSESSMENT
COMPETITION, 2014



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<http://www.pigprogress.net/Home/General/2010/6/THOME-FAMILY-FARMS-Minnesota-United-States-PP004309W/>

Background



Farm A

- **Grow-Finish contract farm located in Iowa**
 - All-in/all-out facility
- **2,000 grow-finish pigs**
 - 60-320lbs (27.2-145kg)
- **Finished pigs are transported to a large packer/processor once they meet the customers' preferences (~280-320lbs)**

Farm B

- **Wean-Finish contract farm located in Indiana**
 - All-in/all-out facility
- **500 nursery pigs**
- **500 grow-finish pigs**
 - 50-270lbs (22.7-122.5kg)
- **Finished pigs are transported to a mid-size packer/processor at 270lbs**



Personnel



Farm A

- Farm manager and 4 full-time employees
- Manager has 8 years experience and BS in animal science
- Employees have 1-4 years experience with the company
- All receive PQA and TQA training annually

Farm B

- Two partners, 2 full-time employees, and 1 part-time employee
- One partner has BS in animal science and oversees the barns
- One partner has a business degree
- Employees have 2-7 years experience
- Partners provide on-farm training twice a year



Pigs



Farm A

- Large White x Landrace
- Arrive on-farm from a nursery facility at approximately 60lbs (27.2kgs)
 - Pigs are transported from nursery facilities (~800miles [1287.5km])



Farm B

- Large White/Landrace x Duroc
- Arrive on farm from farrow-wean facility at approximately 20 days of age
 - Pigs are transported from farrow-wean facilities (~425miles [684km])
- Raised to 50lbs (22.7kgs) in on-site nursery



Farm A Grow-Finish Barn



- 2 solid-sided grow-finish buildings
- Fully slatted floors
 - 5in (12.7cm) concrete slats with 1in (2.5cm) slots
 - Manure management is a slurry system with flushing to move manure a below ground concrete tank
- 3ft (1m) rock perimeter around barns
- Baiting stations for pests are checked biweekly



<http://www.prairieswine.com/understanding-the-response-of-your-ventilation-controller-to-changing-conditions/>



Farm B Grow-Finish Barn



- 2 curtain-sided grow-finish barns
- Partially slatted floors
 - 40% of floor space slatted
 - 6in (15.2cm) slats with 1in (2.5cm) slots
 - Manure management is via flushing to an on-farm lagoon
- 3ft (1m) rock perimeter around barns
- Baiting stations for pests are checked by the part-time employee



<http://www.agricultured.org/nursery-and-finishing-barns-for-pigs/>



Grow-Finish Environment



Farm A

- Temperature in barn ranges from 58-68°F (14.4-20°C) depending on weather and size of pigs
- Humidity is kept at approximately 60%
- Thermostatically controlled heater and fan ventilation
- Misters are used to cool pigs in hot temperatures

Farm B

- Temperature in barn ranges from 50-76°F (10-24.4°C) depending on weather and size of pigs
- Humidity is monitored but variable
- Ventilation is via fans (intake and exhaust) and curtain control



Farm A Grow-Finish Environment

- **Groups of 250/pen**
 - 4 groups/barn
 - Stocking density ~ 7.5ft²/pig (0.7m²/pig) at final weight
- **~1 feeder space/10 pigs**
 - Pigs are fed a pelleted commercial diet that meets NRC requirements
- **10 pigs/nipple drinker**
- **Pens are walked 1x/day**
- **Auto sort management system used biweekly to determine when to transport**



Farm B Grow-Finish Environment



- **Groups of 25 pigs/pen with 10 groups/barn**
 - Pigs visually sorted for transport every 6 weeks based on size
 - Stocking density ~ 9.5ft²/pig (0.88m²/pig) at final weight
- **1 feeder space/6.25 pigs**
 - Pigs are fed a pelleted commercial diet that meets NRC requirements
- **3 nipple drinkers/pen**
- **Employees walk pens 2x/day**



<http://nationalhogfarmer.com/environment/making-asphalt-swine-manure>



Mixing and Grouping



Farm A

- Pigs are housed in same-sex groups
- Grouping is based on similar initial weights
- Pigs are observed 2x/day after they are mixing into finishing pens

Farm B

- Pigs housed in same-sex groups
- There is variability in weights in each pen
- Pigs are observed every 2h on the day they are mixed into finishing pens



Mixing Outcomes



Farm A

- After mixing, pigs fight intensely for 36-48h
 - Average wound score = 2.1
 - $\leq 0.5\%$ of pigs must be removed from pens
- Pigs continue to fight throughout the finishing period
 - Average wound score = 1.8

Farm B

- After mixing, pigs fight intensely for 24h (some fighting up to 72h)
 - Average wound score = 2.3
 - $\leq 0.7\%$ pigs must removed from pens
- Pigs rarely fight after 72h
 - Average wound score = 0.2

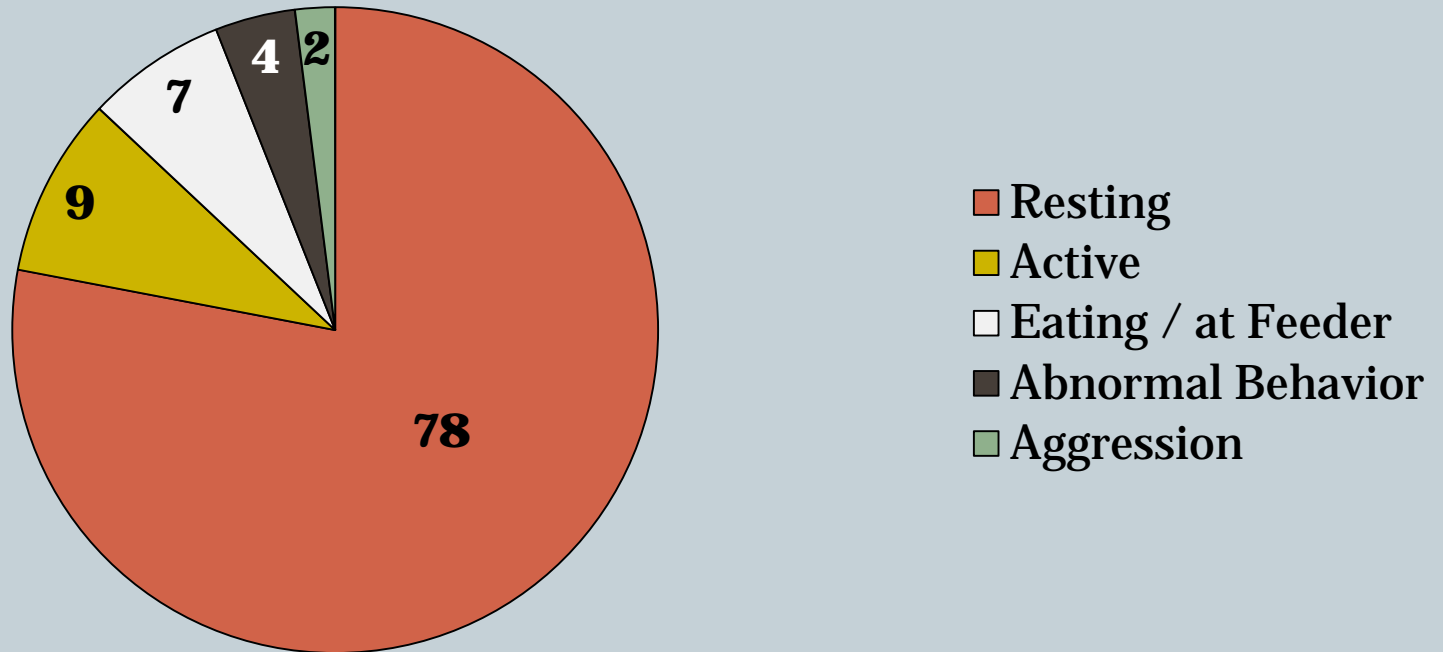
Wound were scored on a scale from 0 to 5. A 0 = no wounds and a 5 = >80% of body & head covered.



Farm A



24 Hour Time Budget Shown as Percentage of Observations



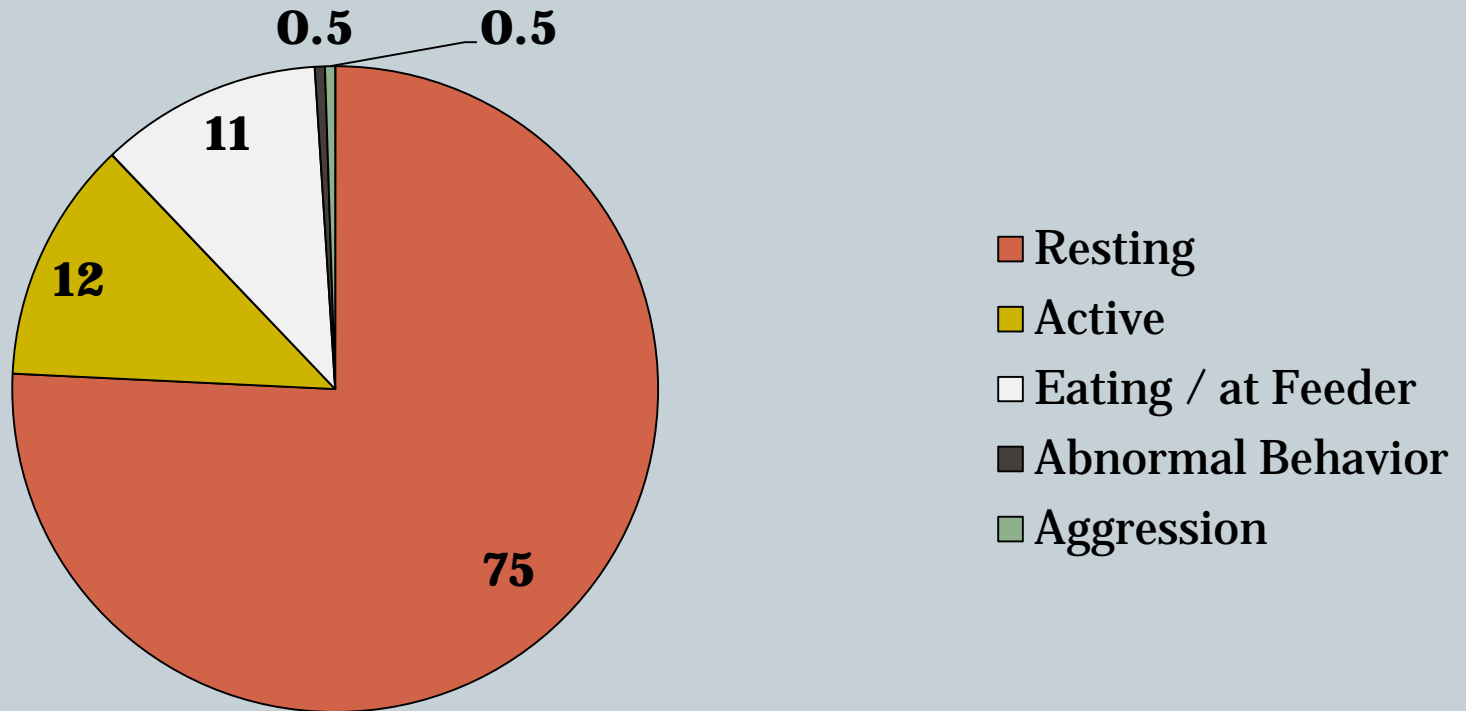
Farm A experiences sporadic bouts of tail biting. If a pen of pigs begins to tail bite, chains are hung in pens in an attempt to redirect behavior.



Farm B



24 Hour Time Budget Shown as Percentage of Observations



On-Farm Euthanasia

Farm A

- Culls are euthanized on farm by trained personnel using a penetrating captive bolt followed by exsanguination
 - 0% of pigs show corneal reflex or respiration



Farm B

- Culls are euthanized on farm by trained personnel using a .22 caliber pistol
 - 1% of pigs show corneal reflex or respiration
 - A second shot is delivered to these animals

Loading for Transport



Farm A

- Pigs are moved to truck in groups of 5-6 pigs
 - Handlers work slowly, without touching or talking to pigs
 - Pig boards and rattle paddles are used
 - Pigs move quietly with heads down, sniffing as they go

Farm B

- Pigs are moved to truck in groups of 10-15 pigs
 - Handlers are constantly calling to pigs and using hands on pigs
 - Pig boards and electric prods are used as needed
 - Pigs trot down the hall with some vocalization



Transport to Slaughter

Farm A

- Transported to processor ~115miles (185km) away
- Stocking density: 4.26ft²/pig (0.40m²/pig)
- Transport company utilizes biosecurity protocols for PEDv Control outlined by the National Pork Board

Farm B

- Transported to processor ~280miles (451km) away
- Stocking density: 5.00ft²/pig (0.46m²/pig)
- Transport company has assured farm that appropriate biosecurity management protocols are in place



Performance



| Parameter | Farm A | Farm B |
|--|-----------------|-----------------|
| Tail biting (pigs with injury at slaughter) | 4.6% | 2.1% |
| Morbidity through Grow-Finish (treated) | 7.3% | 3.8% |
| Mortality through Grow-Finish | 3.1% | 2.3% |
| Culls through Grow-Finish | 1.6%* | 1.2% |
| ADG at Grow-Finish | 1.94lb (0.88kg) | 2.12lb (0.96kg) |
| Transport to Slaughter DOAs (%) | 0.14 | 0.17 |
| Transport to Slaughter NAI/NANI ^s (%) | 0.45 | 0.25 |

**2 culls related to tail-biting injuries. ^sNAI = non-ambulatory injured; NANI = non-ambulatory non-injured*

