

About the Virginia Tech Swine Center

The Virginia Tech Swine Center is a farrow to finish hog operation that supplies pigs for research projects at the University, including the College of Veterinary Medicine. They also supply all the pigs for classes within the College of Agriculture and Life Sciences and for the different Livestock Judging event held on campus. Another Virginia Tech resource that uses our pigs is the Virginia Tech Meat Lab. Many of the animals we finish at the facility go there to be processed, packaged, and sold in the VT Meat Store.

Introduction

During the spring of 2022 I was offered the opportunity to become a summer intern at the Virginia Tech Swine Center. I was happy to join the team for I had volunteered at the Swine Center since the fall of 2021. I was excited to spend my summer working with pigs because the swine industry is something that I am very interested in. I grew up on a farm where we had a small farrow to finish hog operation and about 50 beef cattle, I also showed pigs and cattle while I was in 4-H through out high school.

Projects and Schedule

This internship gave me the opportunity to learn about many of the different management practices that are common in the swine industry today.

Project 1

Entering data

- ❖ I was tasked with entering farrowing, nurse, and finisher data into excel. I used this data to calculate growth rates within different age groups.

Project 2

Updating SOP's

- ❖ I was tasked with updating the current Standard Operating Procedures for our new swine facility.

We are in the process of getting a new swine facility here at Virginia Tech and we needed to tailor our SOP's to the flow of our new facility.

Day to Day Activities

- ❖ Feeding sows, performing health checks, giving vaccinations, moving pigs, weighing pigs, checking waterers and washing pens.
- ❖ Once a month we would breed, farrow, and pressure wash. But these were all spaced out during this period.

General Schedule (working with the animals)

- ❖ Monday-Friday 11-4pm

My schedule fluctuated based on the tasks that needed to be completed for the day. During weeks we would be breeding sows and moving pigs, I would need to arrive at 7am before the summer heat became too intense. Data entry and Standard Operating Procedure updates were done at home on my own time.

Flow of Animals at our Current Facility

As a farrow to finish operation, all the pig we have are born on site.

- ❖ Sows are bred (4-7 days) post weaning and gestate for 114 days. We breed all our sows via artificial insemination. We are set up to farrow out 11 sows every 4-5 weeks.
- ❖ Piglets are born in the farrowing room and are weaned around 21 days of ages.
- ❖ They are moved to the nursery for about 30 days
- ❖ The pigs are then moved to a grower. They stay in the grower until they are 75 lbs.
- ❖ Then the pigs are moved to a second grower. They stay here until they reach 120lbs.
- ❖ They are then moved to our finisher barn. They stay here until they reach market weight at 260-290lbs.



Halothane gene piglets in the nursery



Pigs in the finishing barn

Flow of Animals at our New Facility

The new swine facility will also be a farrow to finish operation. It is set up similar to our current facility however, it is designed to for the pigs to be moved less often.

- ❖ Sows will be bred 4-7 days post weaning and they will gestate for 114 days. We will continue to breed via artificial insemination. The new facility is set up to have 6 sows farrow every 2 weeks.
- ❖ Piglets will be weaned around 21 days of age.
- ❖ They will stay in the nursery for 4-6 weeks.
- ❖ They will then be moved to a grower. They will stay in the grower until they are 120 lbs.
- ❖ They will then be moved to a finisher barn where they will stay until they reach a market weight of 260-290lbs.

Vaccines

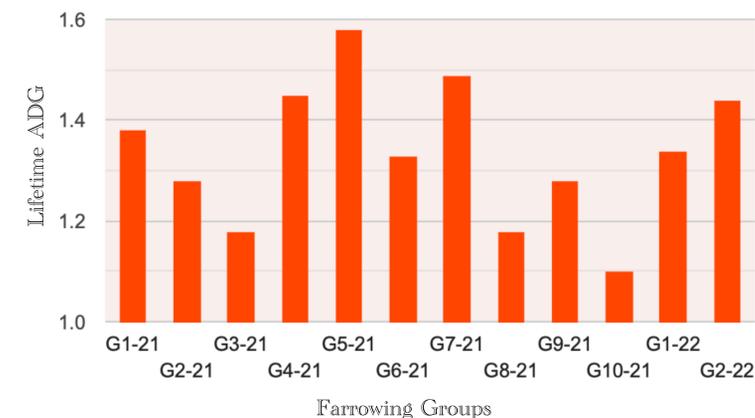
During my time working this summer we gave many different shots and vaccines to prevent diseases on the farm.

Vaccines/Shots and their purpose

- ❖ Iron Dextran- Given to piglets on day 1. Piglets are only born with enough Iron to last them about 3 days. This is an immune system booster.
- ❖ Circo/Mico- Given to piglets on day 1. Given to sows and piglets at weaning. Prevents PCV and Mycoplasma hyopneumoniae.
- ❖ RhiniShield- Given to piglets at weaning. Given to sows at 5 and 2 weeks pre farrowing. Prevents Bordetella and Pasteurella.
- ❖ Parvo/Lepto- Given to sows at weaning. Prevents viruses that cause abortion of a litter in sows.
- ❖ LitterGaurd- Given to sows at 5 and 2 weeks pre farrowing. Prevents Escherichia coli and Clostridium Prefringens.

Project 1 Data

Virginia Tech Swine Center Growth Rates



Factors that could skewed the data

- ❖ Groups born at different times of the year.
- Pigs grow best in moderate weather conditions under low stress.
- ❖ Many of our animals are taken for research.
- ❖ Genetics
 - Breeding with terminal semen
 - Breeding specific animal with research semen
- We currently have two different genetic strains (Halothane and RN)
 - ❖ Improper data entry
 - ❖ Improper data collection
 - ❖ Outliers
 - Pigs that grow exponentially slower
 - Pigs that grow exponentially faster

Analysis of the growth data

- ❖ Our overall lifetime average daily gain is 1.35 lbs per day.
- ❖ The industry lifetime average daily gain is 1.5 lbs per day.

Citations

Life cycle of a market pig. 2021. Pork Checkoff. Available from: <https://porkcheckoff.org/pork-branding/facts-statistics/life-cycle-of-a-market-pig/>
Swine. 2019. What is the average daily gain of a pig? Hogs Pigs and Pork. Available from: <https://swine.extension.org/what-is-the-average-daily-gain-of-a-pig/>
U.S. hog production: Rising output and changing trends in productivity ... Available from: <https://www.ers.usda.gov/webdocs/publications/104437/err-308.pdf>

Acknowledgements

Jessica Neary
jessicaneary@vt.edu
Virginia Tech Swine Center Manager
Master's of Animal Behavior and Welfare

Jess (as she is known) is originally from Illinois. She received a Bachelors degree from the University of Southern Illinois. She then transferred Virginia Tech to receive her master's degree.

