

# Electronic Sow Feeding Experiences

Kevin D Stuckey

Cooper Farms

## Background

In November of 2009 Ohio Voters passed Issue 2 approving the creation of the Ohio Livestock Standards Board. From the Board came the requirement that Ohio Swine producers must convert to group housing or pen gestation by 2025. For Cooper Farms a subsequent packer agreement has moved that date forward by three years to 2022.

The idea of pen gestation was floating around our company before the passing of Issue 2 or the wave of retail announcements that followed. A couple of key principles from our company's foundation paved the way. In the early 90's Cooper Farms built two processing plants for our turkey production. The need to stay ahead of the consumer's desires was a strength of the processing division. In addition to that, the background of our live production leaders was deeply rooted in turkeys. Our breeder turkeys have always been raised in "open pens" so the concept of sows being raised in pens versus individual stalls wasn't as dramatic to our owners; it seemed natural. We had experimented with a single ESF station on a farm as far back as 2007.

Over time we looked at many options for group housing and made multiple trips in the US, Canada, and Europe to observe the systems available:

- Electronic Sow Feeding
- Trickle Feed
- Small pen head stanchions
- Small pen floor feeding
- Free Access stalls

We found positives and negatives with all the available options but ultimately our choice was Electronic Sow Feeding (ESF) stations. We feel that ESF gives us the best option to individually feed sows. The competition for feed in this system is less than other options. Some aggression occurs at the entrance of the station, but overall it's less than the competition and fighting that occurs with systems that feed all sows simultaneously (like small pen head stanchions). Unlike the simultaneous or generic feeding programs, ESF can still feed a sow based on her individual needs. The ability to maintain, and even improve, individual feeding and care given to sows in stalls is very important. Looking to the future we also felt that ESF gave us the greatest potential for growth and advancement. The learning curve for the other options seemed less steep, shorter, and possibly less technical in nature. However; the potential for added advancements and improvements seemed rather flat with the other options. ESF made more sense in a time when "precision" was taking over the agricultural community. Our first pen gestation farm was built in 2012-2013 with the Schauer ESF units.

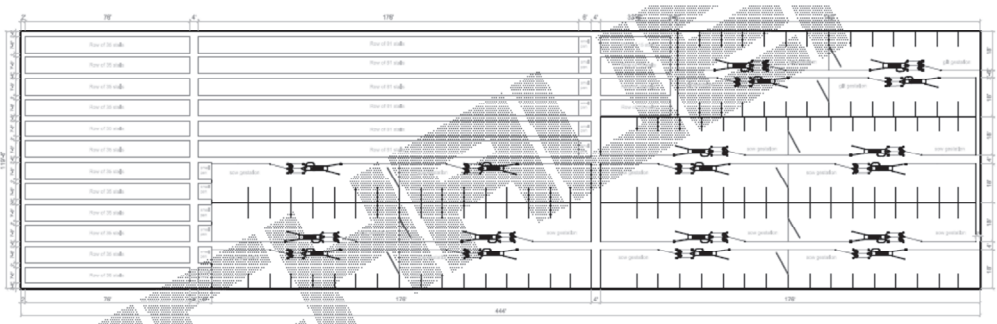
## Fox Tail

Our Fox Tail farm was built as a 2,500 head operation with a farrowing target of 120 sows per week. We went with post-implantation static pens for sows, and a dynamic flow for gilts. Even though we were going “all in” for pen gestation on this farm, limiting sow aggression was still a major factor in our decision making.

- Pre-implantation was never given much consideration. The overwhelming thought has been that we would lose too much production and farrowing rate because of aggression immediately after breeding.
- Static pens were chosen over dynamic for sows. This system was deemed best because once the initial mixing and sorting was over the sows would establish a pecking order and not be disrupted until they were moved to farrowing. A static system has also been viewed as more effective for gestation processes like feedback and vaccinations.
- Gilts would be housed in a dynamic flow. The lighter volume of gilts (30 bred/week) gave us two options:
  - o Flow in the static pens with sows
  - o Create a dynamic flow for gilts
    - Mixing gilts with older parity sows would be an issue regardless of the feeding system. We had seen this with the single ESF station we had tried on a sow farm. Post-implantation fallout of gilts was as high as 50% when mixed in the pen with mature parities.

## Lessons from Fox Tail

- Barn layout
  - o After visiting with producers in Europe we went with a layout that would give us the potential to combine two 80 head pens with 1 station into a larger 160 head pen with 2 stations.



- This caused issues feeding the breeding stalls. The feed systems looped over stalls and pens. The stalls only need to run once per day and the pens multiple times, making it difficult to fill the stall's boxes when needed.
    - Uneven rows seems more “chopped up” and less symmetrical.
  - o Man passes
- Gilt training and TOPO (using the computer as a guide) were underestimated during the start up.

- Daily discipline of checking the PC was overwhelmed by the farm's start up. Gilts not eating in the stations were not identified early on.
- Gilt training was sloppy. A gilt that walks in one end of the station and out the other isn't necessarily trained.
  - She needs to have a positive experience. Patience is key. The gilt needs to be comfortable in the station before she even thinks about eating. Don't assume she'll eat because feed is there.
  - Coax them in, don't force...have the right person.
    - Should have had our entire farm staff the whole time during training. We started FT with a small staff of 4-5 people similar to starting up a traditional stall barn.
  - Good training and watching the TOPO daily for not-fed's complement each other perfectly. Ignoring one or the other, especially training, can have a snow-ball effect of bad results.
- People
  - We've been in a management deficit for some time. Fox Tail was started with a very young, inexperienced management team.
    - We had been told that people who managed stall farms struggle to adapt to pen gestation.

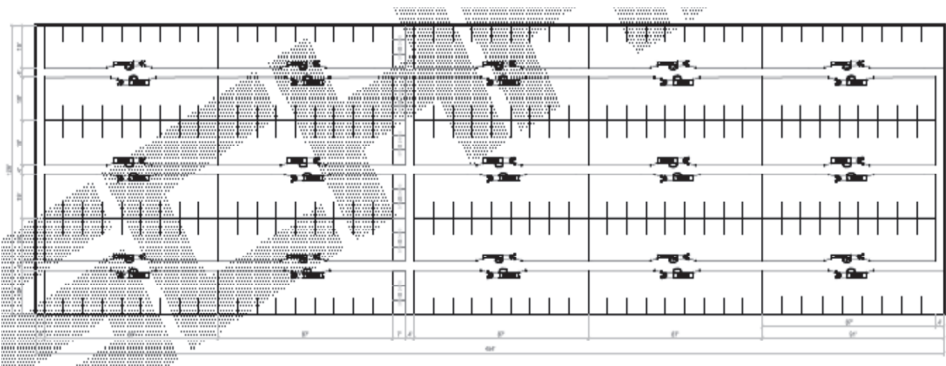
- Rob and Ryan – boar stud, GDUs
  - Young, motivated, history of working well together. Tech savvy. College educated, embraced ESF, no reservations. Had visited other farms, spent a week with one producer, a couple days with another.
  - Picked up on the technology, had no issues with ESF. Lacked knowledge of running a sow farm! Struggled with some of the other production areas and with people.
    - People will always present a bigger challenge than sow housing.
  - The ESF stations kept feeding regardless of the other management issues around them.
    - Now on our fourth manager in 5 years at Fox Tail. Production could be better but the issues are the same as the stall farms.....PWM, breeding, pre-implantation issues.
    - The ESF system has been more consistent than the management or our staff. We do see more issues with late fallout (NIPs) than our other farms, but much of Fox Tail's reproductive issues are pre-implantation (in the stalls).
  - \*Up to date production data will be shared at time of presentation.

## Pheasant Run

In 2016 we built our second pen gestation farm. This farm is double the size, 5,000 sows, but not at true “apples to apples” comparison because of the size difference.

Stayed with the same basic concepts:

- Post-implantation.
- Standard Schauer pen design
- Dynamic gilt flow
- Barn layout
  - All ESF gestation barn



- No intention of opening two pens into one but could try if desired
- Stall barn with 2 – 240 hd static gilt pens
  - “Horseshoe” pens seen in Nebraska. Working well. Larger population in a pen means less aggression and more isolation. It’s been said gilts will recycle through stations less with this set up

- \*Very early into the production stage of this farm. Will have accumulated more data by the time of the presentation.
  - More man-passes for employee comfort
  - Not many other changes.
- People
  - Major focus compared to our previous ESF start up. Do not feel that it is necessary to find managers that do not have stall experience. Everyone we have run through our ESF farm has liked the environment. People have never complained about ESF.
    - Employees prefer the openness, quiet working conditions, and ability to see and move around the barn.
  - Moved two of our most experienced managers to start Pheasant Run.
    - Startups are a big deal, this was our first 5,000. We had more concern about the size of farm than the ESF
  - Staffed more people upfront than Fox Tail.
    - Two employees with some ESF experience, three with stall experience, and the rest “off the street”.
  - Training
    - More training to “train” gilts. With 5,000 animals finding the right person isn’t an option. Cannot be over-looked. Loaded up with people and gilts, tried to get a huge slug



of the training done before breeding. FT...kept "just enough in the pool. PR we had >3,500 trained before breeding started.

## **Moving forward, what lies ahead?**

Our next farm is on the horizon, and will be some kind of electronic sow feeding.

- People
  - o Experience is King. Managing people is crucial. ESF is only one segment of the farm. It can't overshadow breeding, farrowing, training. ESF will continue to feed sows every day no matter who shows up or what else is going on.
  - o Load up with a full crew from the beginning. Make sure someone can focus on the breeding early on.
  - o There should be no fear of technology. These days everyone can maneuver a computer. Email, social media, bank accounts, kids grades, etc..... On the farm ventilation controls, alarm systems, smart phones.
    - Doesn't have to be the farm manager.
  - o Zero concerns using managers with a bias towards stalls.
  
- Production Management
  - o Cost
  - o More square footage?

- Continue to incorporate man-passes for employees
- Pre-implantation?
  - The concept of pre-implantation is great. Have tried some with the startup. Not convinced it's going to be as productive as post. Big step...once you try it you can't go back (animal care).
- Fall out.
  - Improving post implantation fallout
- Mining all the technology
  - Better use of feed curves. Should be feeding better than box feeders.
    - Still need the right person
  - Performance reports.
    - Recycles, % not fed, consumption during training
  - Vaccination, ultrasound.
  - Pedometer – dairy industry. Increased steps and indication of a sow cycling. Decreased steps and indication of an issue.
- Don't rely on the technology too much!
  - Have seen times where sows needing attention get missed because staff relies on non-fed list too much.
- Training

- Labor intensive, need to find a way to reduce training labor. Training is the added step caused by ESF.
- Gilts always go through a period of decreased intake during training. What impact does that have her performance?
- Another option is out there.
  - No need to train???