

MAXIMUS FREE ACCESS ESF

NEWSLETTERS AND ARTICLES



MaxOn
AG SOLUTIONS

TABLE OF CONTENTS

01

Planning for Loose Housing Success

Tom Stein - Article that was published in Better Pork Oct 2018

02

Group Sow Housing – What have we learnt and where are we going

Robert Drew - Jan 2019

03

Simplicity is the ultimate sophistication in Group Housing

Robert Drew - May 2019

04

Imitation is the sincerest form of flattery

Robert Drew - Jan 2020

05

Maybe going backwards will be a step forward for ESF

Robert Drew - March 2020

06

What the pig sees that we don't

Robert Drew - May 2020

07

Durable, Reliable, Simple and Adaptable – A winning combination with Maximus ESF

Robert Drew - Aug 2020

08

Lee Carte testimonial

Robert Drew - Sept 2020

09

About the Dr. and the author

Tom Stein & Robert Drew

[back to the table of contents](#)

Planning for Loose Housing Success

- Tom Stein

There are five essential parts of successful group housing systems, according to Dr. Lisbeth Ulrich Hansen, chief scientist with the Danish Pig Research Centre:

- 01 · Individual feeding
- 02 · Adequate space allowance
- 03 · Stable groups of sows
- 04 · Close daily inspection with sufficient hospital pens for disadvantaged sows
- 05 · Effective gilt management prior to first service

Individual feeding is the most important factor affecting reproductive performance. According to the Centre's research, the ability to feed sows individually enhances both farrowing rate and litter size compared with stanchion systems, free-stalls, long trough, or floor feeding. She prefers static grouping systems because they are based on weekly breeding groups, are easier to manage, and don't require an automatic separation facility on the ESF feeder.

This means the ESF station can be simpler and cheaper, and it won't break down as easily as stations used for dynamic grouping systems.




[back to the table of contents](#)

Planning for Loose Housing Success

- Tom Stein

STATIC OR DYNAMIC GROUPS?

In static systems, groups of sows are moved into pens at the same time, grouped by projected farrowing dates, and kept intact (except for drop-outs) during gestation. No new sows are added to the original groups. This system makes managing the gestation barn easier. Static grouping helps each pen of sows to form a stable social hierarchy which reduces competition. It also allows sows easier access to and from the feed stations.

Advocates of static grouping systems say that static groups are better than dynamic groups because they are better for sow welfare and produce lower levels of aggression. No new sows and a faster time to create a stable social structure (dominance hierarchy) are two reasons. Another is that static groups are smaller than dynamic which also helps to reduce aggression.

Recently completed research done at the University of Pennsylvania helps support the advantages of static group systems (Hurst J, Pierdon M, Parsons T. Physical and behavioral indicators of animal welfare on farms using electronic sow feeders. In Proceedings, American Association of Swine Veterinarians Annual Meeting [San Diego, CA], 2018.).

On 11 ESF sow farms in Pennsylvania, they compared static v. dynamic groups as well as pre-implantation v. post-implantation mixing.

Comparing static v. dynamic grouping systems

THEIR RESULTS SHOWED THAT:

- 01 . Sows in static group systems had improved measures of physical welfare: fewer scratches and less lameness. Static systems allowed for a more stable social hierarchy to form and decreased aggression.
- 02 . Sows in static housing were less timid (they had more contact with a novel object and higher human approach scores).
- 03 . Overall productivity was not different between static and dynamic housing systems.




[back to the table of contents](#)

Planning for Loose Housing Success

- Tom Stein

PRE-IMPLANTATION OR POST-IMPLANTATION GROUPING OF SOWS?

The most common management strategy today is mixing after pregnancy check. This means keeping sows in individual stalls for the first trimester of pregnancy and then moving them to group housing. Using this method, barn staff have the ability to individually feed sows, do heat checks and watch for returns, and do pregnancy checks in stalls.

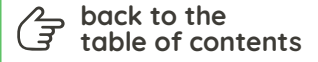
When they compared pre- v. post-implantation mixing, the University of Pennsylvania study found that:

- 01 · Sows mixed post-implantation had more positive human approach scores.
- 02 · There was no difference in measures of physical welfare (scratches and lameness).
- 03 · There was no difference in sow productivity.

PERSONAL EXPERIENCE WITH STATIC ESF SYSTEMS

Joel Phelps, co-owner of Paragon Pork, a 20,000-sow production system in Ontario, has converted his own as well as many other sow farms across North America to ESF group housing using the Maximus ESF technology. He is now an ESF specialist for Maximum Ag Technologies, working with producers in the US and Canada as they install Maximus ESF systems when remodeling or building new sow farms.





Planning for Loose Housing Success

- Tom Stein

Here are some of his recommendations for success based on that experience:

PRE- V. POST-IMPLANTATION MIXING

“Mixing sows right after breeding disrupts the pen and increases the barn size requirements. We want to keep them in stalls first and then form groups after they have had a positive pregnancy check.”

STATIC GROUPING

“We found that it is not necessary to separate animals in pens by size or parity. We fill pens by due date, we try to avoid any sow from coming into heat in the pen, and we try to reduce competition for feed. Filling pens by due date and mixing all parities after they are confirmed pregnant reduces the competition for feed and reduces the stress level within the pen. Following this approach, we found that gilts do learn from older sows how and when to eat.”

FEED STATION

Being able to accurately feed sows individually can have the greatest impact on productivity. Sows must have the opportunity to eat at their own pace, in a safe and comfortable space. We use feed stations where sows and gilts will back out after they are finished eating. We’ve had no problems with this and think it’s one of the keys to success of simple, mechanical feed station design. The feed stations should have a solid area at the bottom. And an opening at the top so sows can see out. Sows outside the station should not be able to contact the sow in the station. The feeding dispenser should be adjustable and easily set to accurately monitor and dispense feed.”

PEN DESIGN

“In our experience, pen shape and layout have the biggest impact on sow longevity. Sleeping areas should be separated from the feeding areas, the drinking areas, and the dunging areas. Pens should be laid out so that sows from any point in the pen can see into the entrance of the feeding stations. Stations should be separated to avoid funneling all sows to one area at feeding time.”

“We use double, side-by-side stations to avoid sows taking ownership of a station. Water should be outside the feeding area to encourage sows to finish up eating and exit the pen to drink. Water should NOT be in or around the sleeping areas to keep the sleeping areas dry and comfortable. Sows should not be forced to walk through or by another sleeping bay to get to feed, water, or the dunging area.”

“The sleeping areas and pen separation gating should be solid at least 1/3 way up – this allows sows to exhibit normal behaviors and lay with their reproductive organs protected. Multiple pass-through gates are important, so caretakers can enter and exit the pens quietly and calmly. Climbing over gating or opening and closing gates can startle the sows and cause disruption in the pen. Plan for one hospital space per feed station to pull lame, injured or unthrifty sows from the group and allow for recovery.”

[back to the table of contents](#)

Group Sow Housing What have we learnt and where are we going

- Robert Drew

I recently had a veterinarian say to me
“The US Pig Industry still has a lot to learn about Group Sow Housing.”

Why is that? It's almost 20 years since some of the European manufactures of Electronic Sow Feeding (ESF) tried to 'cash-in' on the US market with over 6 million sows housed almost exclusively in stalls.

I helped train my first sow to ESF in England in 1986. A slow time-consuming process in a system with cumbersome neck transponders that came off daily. I spent many nights observing sows competing to gain entry to the feeder.

By the time I moved to the US in 1993 many of the initial challenges were being worked out as the UK moved towards all sows being out of stalls and tethers by 1999.

By the early 2000's, following several years of pasture farrowing 6500 outdoor sows in Colorado, I took on a production manager role where over 30,000 sows were all housed in stalls. It was around this time that there were early signs of some US producers voluntarily moving sows out of stalls.




[back to the table of contents](#)

Group Sow Housing What have we learnt and where are we going

- Robert Drew

SCALABILITY OF CONCEPT + AVAILABILITY OF LABOR X BUILDING COST

I believe that as an industry we must find a way that seeks out the middle ground for everyone, including the sow! The European cry of “It’s easy, you’ll love it, your people will love it” has now been proven to have its challenges. The more complex, conventional style of ESF has limitations for many US producers.

Competitive feeding for sows, be it stanchions or small pens, is in my opinion not the best way forward for the US industry and will likely be proven as history continues to unfold. Higher feed cost, bullying at feeding, increased stress, high sow mortality, uneven body condition, high replacement rate . . . that’s why we put them in stalls, right?

When a group housing system is too simple there is a compromise for the sow, when it becomes too complex then the compromise is with the people, in most cases. I don’t believe that either is sustainable for group housing in the US.

We must remember that no group housing system is perfect. No matter how acceptable the system may be in principle, without diligent, competent stockmanship the welfare of any livestock is in jeopardy.

Group housing is so much more than choosing the way you feed the sow.

“Group housing is so much more than choosing the way you feed the sow ... most of the time!”

By Robert Drew

It’s not about buying feeding equipment, it’s about finding solutions for all areas of the operation to see us in to the next decade and beyond.

Surrounding a simple feeding concept that is easy to understand for employees, the Maximus controller also has the ability to monitor all aspects of the operation both at the farm level and remotely, giving producers a foundation to control their input costs.

Not only does the controller precisely monitor the core principles of good stockmanship, Feed, Water and Environment, but it also provides vital information on biosecurity as well as supplying production data for management decisions. It’s a true all-in-one complete solution package!

Let’s not make group housing any harder than it needs to be.



[back to the table of contents](#)

Simplicity is the Ultimate Sophistication in Group Housing

- Robert Drew

With multiple choices for feeding systems for group housing, the US producers has been extensively educated over the last 2 decades on “the best” methods to feed their sows. The transition to group housing has been slow, to say the least. Many producers have opted to do what is the easiest alternative to satisfy the request to “get ‘em out of stalls” and moved sows to small pens or stanchions. I am confident that eventually history will show us that competitive feeding systems, such as these are, was a reactive move and not the answer!

ESF was the ‘promoted system’ for group housing in the US from the early 2000’s.

The message was coming from Europe that “this is the way to do it!” In the early days of ESF in the UK the cost of the electronics, relative to today, really drove up the cost of production. Eventually some 40% of the industry disappeared. In addition, of those that remained, another 40% eventually moved to outdoor production. Today electronics are affordable, and technologies are way more advanced.

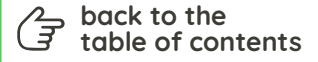
However, what has happened in the US is that the ESF group housing concept that was introduced by us Europeans overlooked the importance of a key equation for success that is specific to many US producers and Integrators alike.

SCALABILITY OF CONCEPT + AVAILABILITY OF LABOR X BUILDING COST

When a group housing system is too simple there is a compromise for the sow but when it becomes too complex then the compromise is with the people.

In most cases production is affected as a result of both! I don’t believe that either “too simple or too complex” is likely the sustainable answer for group housing in the US! There is a lot to think about and the decision should be carefully evaluated on a case-by-case basis.





Simplicity is the Ultimate Sophistication in Group Housing

- Robert Drew

Having worked extensively in both the UK and US with the traditional front exit style ESF, I was confident that “you had to do it this way.” I will hold up my hand, I have been proven wrong! It is a good job that I am passionate about group housing and not about being right! There are now more cost-effective and simpler ESF type solutions for Group Housing available to the US producer than there was 5 years ago that should not be overlooked.

I had worked with an ESF feeder made by Hunday in 1985. This was a walk-in/back out style with a single feed station per pen. We would have around 40-45 sows to feed in 24 hours.

Once you learn about hierarchy of sows in a group it became evident that, daily, you would see the same sows get their food first and then dominate, by aggression, the timid sows in the pen to prevent entry to the station. Vulva biting was common, and the timid sows would soon realize if they waited long enough then some nice guy would give them the red-carpet treatment and escort them daily to the feeder to eat!

As time progressed a front exit was added to the ESF which certainly helped reduce aggression, closely followed by adding separation pens, heat detection etc. All of which worked well (most of the time). The producer was happy and so were the manufacturers as they got to sell more equipment!

When I first saw the ‘re-invention’ of the back-out ESF in Canada around 2014 I was with a fellow Brit that had also seen the revolution of group housing some 30 years previous.

We looked at it, shook our heads and as we walked away unified in our opinion that, “it’ll never work!” Wrong again... and here’s why.

The cost of the technology today and the redesign of the hardware allows for a massive reduction in the ratio from 1:45 to around 1:15 sows/per feed station. It totally changes the game!

The feeding period compared to the conventional front-exit ESF is drastically reduced and if feeding is related to a stress... need I say more! Multiple choices for feeding source allows for sow hierarchy to easily be established.

The so-called ‘fear of additional training and increased need for extra labor’ with ESF is minimized, as the competition for entry to eat is diminished.

What’s more, the building cost is decreased for the GDU as gilts do not need to be moved to the entry side of the feeder (half of the pen space) before being encouraged to pass through.

So, from 14 to 16 sq. ft. needed per breeding gilt to get them trained and familiar with the system, is back to a more cost effective, traditional, US space requirement.


[back to the table of contents](#)

Simplicity is the Ultimate Sophistication in Group Housing

- Robert Drew

WHAT ABOUT DYNAMIC/STATIC?

Or to complicate it even more, many of the top producers that started with dynamic ESF pens are now operating these as “static/dynamic!” Confused yet?

So, from experience, dynamic works. Selection works. Heat Detection works. However, unless you are confident that all the details surrounding dynamic pens can be adhered to, every day for the next 20 years by your people, you may want to reconsider the idea. Some producers have tried to copy what others have done successfully, only to find out the results were not the same. It takes more equipment (that’s why some manufactures will attempt to force dynamic your way), more technology, more electronics, more to go wrong, more animal training and is harder for farm staff to understand. **ALL FACT!** Having said that, in the right hands, it works great!

As an industry the static systems using some form of ESF technology will likely be a better fit for most US producers once they realize that taking the simpler path with competitive feeding, with stanchions and small pens, may not have been the wisest choice.

We must remember that no group housing system is perfect. No matter how acceptable the system may be in principle, without diligent, competent stockmanship the welfare of any livestock is in jeopardy! Group housing is so much more than choosing the way you feed the sow.

It’s not about buying feeding equipment, it’s about finding solutions for all areas of the operation to see our Industry in to the next decade and beyond. The stall offered us a non-competitive system that allows individual feeding. We can still do that with group housing in such a way that we can cater to both the producer and the employee, as well as the sow. If we continue to ignore all technology, we will go backwards as an industry. Both Poultry and Dairy are showing us the way. Think of the future.

What will it look like 10 years from now? Will we have the answers to the questions that will undoubtedly continue to be asked of us?

You must pick your path with your group housing decision whether it is dynamic or static ESF, front exit or rear exit, or maybe you are just more comfortable with stanchions. Never forget that it is the PEOPLE on the slats that tend to determine the success of whichever system you chose!




[back to the table of contents](#)

Imitation is the sincerest form of flattery with ESF!

- Robert Drew

In a series of MAXIMUS articles for 2020, “I plan on discussing why the Conventional ESF has lost momentum in the US group housing market and a ‘new alternative’ of Free Access ESF has started to emerge.”

Having worked extensively in both the UK and US with the traditional front exit style ESF for over 30 years, I was confident that ‘you had to do it this way.’ I will hold up my hand, I have been proven wrong! It is a good job that I am passionate about group housing and not about being right! There is now a cost-effective and simpler ESF type solution for Group Housing available to the US producer, unlike there was around 5 years ago.

When the manufacturers of Conventional (front exit) ESF start to design, and sell, look-a-like Free Access (back out) ESF, something has changed!

There have been an increasing number of producers in recent years that, having jumped on the conventional ESF bandwagon in the mid to late 2000’s, now find themselves removing their investment much sooner than they planned. More recently, a top producer achieving over 30 p/s/y, with conventional ESF, has chosen to now use Free Access ESF – despite their success!

Ask yourself ‘Why?’ As I dig in to answering this question, I will start by looking at R&M!


‘Too much maintenance!’ One of the concerns that has been regularly expressed when producers look at ESF as an option for their conversion to group housing.

When the European designed ESF’s first hit the US market, in the early to mid-2000’s there was only one option to consider in regard to the basic design of the feeder. ‘Conventional ESF’, as it has come to be known, requires the pig to walk into the feeder, eat, and then exit forwards.

“An ounce of prevention is worth a pound of cure!”

Benjamin Franklin (1736)




[back to the table of contents](#)

Imitation is the sincerest form of flattery with ESF!

- Robert Drew

At the time this reduced aggression at feeding and allowed for easy separation of animals. The group sizes increased, with multiple ESF's in one pen. I have seen as many as 700 sows in one pen, of all different parities. The dynamic pen era of group housing was born in Europe in the 1980's and, generally, was based on research with much smaller farms that were typically 'Ma and Pa' owned!

Does it work? Yes, Is it a 'one-size-fits all' solution. Absolutely NOT!

I have worked and consulted with several ESF manufactures that sell the conventional style of ESF. This was the 'promoted system' for group housing in the US during the 2000's. The message was coming from Europe that, 'this is the way to do it!' In the early days of ESF the cost of the electronics, relative to today, really drove up the cost of production.

Eventually some 40% of the UK industry disappeared as mandates were in place for the banning of stalls and tethers. In addition, of those that remained, another 40% eventually moved to outdoor production.

Today electronics are more affordable, and technologies are way more advanced. However, what has happened in the US is that the ESF group housing concept, that was introduced from Europe, overlooked the fact that labor to run these more sophisticated machines, both from a production AND maintenance aspect, are the cornerstone for their success. Something that many US producers and Integrators alike have found to be a challenge.

Its all about the people!

The technology and engineering of adding to the ESF, more gates, corridors, air valves, sensors etc, is true genius! It is fair to say that it can be managed successfully, especially by those that embrace spending time watching, tuning and tinkering with equipment or that are lucky to have a truly stable workforce!

Robert Drew adds,

'When group housing is too simple the sow is compromised but then when it's made too complex the people can become compromised. The result either way is that production suffers. No system is perfect, but I believe a balance of what's best for both the pigs, people, and the US industry in the future, is achievable.'




[back to the table of contents](#)

Imitation is the sincerest form of flattery with ESF!

- Robert Drew

However, many producers are finding that after having had these conventional ESF stations in barns for 8 to 10 years the longevity is just not there. Many are now taking them out as the level of maintenance and repair has become unacceptable along with the fact that it is hard to find the people to run the system year-on-year, as the shortage of quality labor has become the Achilles Heel for many!

Around 2013/14 the 'Free Access Style' ESF started to appear. The cost of the electronics today and the redesign of the hardware allows for a massive reduction in the ratio of sows using each feeding station. The Free Access, back out style, feeder is around 1:15 sows/per feed station. The conventional ESF is typically around 1:60 sows/per feed station. It totally changes the game regards management style AND I am confident in saying, equipment maintenance and longevity! Let's do the math!

Those of us that have been around ESF know that these numbers could easily be doubled as several more dominant sows will visit the feeder multiple times a day. (One of several reasons that I will cover in future articles of why multiple feeding options, in a pen, have an advantage!)

OK, so you have more stations with Free-Access ESF, but MUCH simpler technologies, with way less replications of use each day. I believe this is just one of the reasons that has caused the trend away from conventional ESF and more towards Free-Access ESF by many producers recently.

For the sake of my argument we will pretend that each feeding, for each station, for every day... is a mile on the car! We'd like to think 15 years+ for equipment is achievable so -

With a Conventional ESF station, feeding 60 SOWS per day, here is the math -

60 sows per day x 365 days x 15 years
= **328,500 miles!**

With a Free Access ESF station, feeding 15 sows per day, here is the math -

15 sows per day x 365 days x 15 years
= **82,125 miles!**




[back to the table of contents](#)

Maybe going backwards will be a step forward for ESF

- Robert Drew

In my last article, I looked at one reason the Conventional (front exit) ESF is starting to trend down as the “ESF of choice”, since the Free-Access ESF design started to get traction, about 5 years ago.

MAINTENANCE AND REPAIR.

Some of the top producers are already replacing Conventional ESF equipment with less than 10 years of use. Not acceptable, not sustainable and just one reason many producers choose stanchions when they had to decide for a feeding system for group housing. After all, nothing much moves on a stanchion!

I can understand why several of the large integrators continue to stay with stalls or use stanchions, having observed what happened with ESF since the early 2000's.

However, competitive feeding for sows, be it stanchions or small pens is, in my opinion, not the best way forward for the US industry and will likely be proven as history continues to unfold.

Higher feed cost, bullying at feeding, increased stress, high sow mortality, uneven body condition, high replacement rate... that's why we put them in stalls, right?

I trained my first sow to a back-out style ESF station, in England, in 1986. A slow time-consuming process in a system with cumbersome neck transponders that came off the sow on a daily basis. I spent many nights watching sows competing to gain entry to the feeder. Are we crazy doing this? By the time I moved to the US in 1993 many of the initial challenges were being worked out as the UK moved towards all sows being out of stalls and tethers by 1999.

'Keep calm and carry on' as the British would tell us!



[back to the table of contents](#)

Maybe going backwards will be a step forward for ESF

- Robert Drew

‘BACK IN THE DAY’,

we’d asked 45 sows to compete for 1 (rear entry/exit) feeding station, per pen. We understood very little about animal behavior and should not have been surprised when dominant sows would basically live at the entrance to the ESF after they fed, in order to “stick a good hiding” into any timid sow brave enough to try to enter HER feeder! If one did sneak in, there was a good probability she didn’t want to backout, for fear the bully sows would make a meal of her hind end! This often resulted in the timid sow laying down in the feeder and going to sleep! Not a good result either way!

With the high cost of electronics, back in the 80’s, this problem was circumvented by introducing the front exit ESF feeder. Pen designs changed to make the big racetrack, so that returning to the feeder entrance was more inconvenient for the sow.

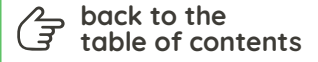
This in turn led to large dynamic pens and more additions and technology were added to the Conventional ESF, such as selection gates, sensors, air valves, corridors, weigh scales... the list goes on. The Europeans saw North America as a ‘golden market’ for group housing. As the equipment became more complex, the price trended upwards. History has now seen several manufactures of

Conventional ESF come-and-go. A simpler solution has now become the norm, as producers look at alternate housing systems for sows, other than stalls, that comply with both packer and consumer demands.

Pen design and stocking density, for group housing of any kind, is a key to success.

With ESF there has been plenty of information for many years that will tell you around 22 sq./ft for sows and 20 sq./ft for gilts is optimum. If you chose to reduce this for money saving reasons you will see compromises. I’ll say no more because it’s really just common sense and basic knowledge of pig husbandry that provides those answers!





Maybe going backwards will be a step forward for ESF

- Robert Drew

'There are more ways to kill a cat than choking it with cream!'

- Charles Kingsley 1855

This proverb, used by the British Historian and Novelist from the mid 1850's, is appropriate in the conversation on Group Housing sows in 2020! After all, what we are aiming to do is get the right nutrition, into the right sow, at the right time! The truth is, all group pen designs work (be it Floor Fed, ESF or Stanchions), layouts, feed station style, ratio of sows per feeder etc. it's more about, how well do they work? **My advice is don't build compromise into your group housing system!**

Dominant sows (or gilts) will always exist in a group of animals. It's all about the pig's love of food!

Remember, as we design group housing systems, we must do our best to help facilitate those sows that are less aggressive, to give them an equal chance to 'feed without fear!' In the world of conventional

(front exit) ESF there are several features on each of the feed stations, along with pen design, that determine throughput of animals every 24 hours. This number can range from around 45 to 70. With the newer technology and design, using the rear entry/exit ESF, I would go 'all-in' and say that, for this design, 15 sows per feed station is the 'sweet spot'. In both cases, in an attempt to persuade customers, your salesman may have you believe his or her ESF will feed a few more than the next persons, to justify the economics of their sales pitch.. So beware don't be 'choked with the cream!'

Conventional ESF needs to feed a pig quicker in order to get all sows fed in the pen in 24 hours. Water is added and gates will automatically open following the last feed drop (clean up period), access to feed will then be taken away, in an attempt to force the sow to leave.

The rear entry/exit feeder allows the pig to feed at her own pace and leave once she's done (usually to go and take a drink, as no water is used with this style of ESF, by design). Let's do some simple math, for a 24-hour feeding period, using some conservative numbers

1 Conventional ESF @ 60 sows / 4 sows average per hour feeding = 15 hours of feeding time per ESF each 24 hour period

1 Rear entry/exit ESF @ 15 sows / 2 sows average per hour feeding = 7.5 hours of feeding time per ESF each 24 hour period

Those that have managed ESF pens will tell you that their number 1 priority is, "To have no sows on my not-fed list", every day, 7 days a week, 365 days a year. This list is predominantly made up of the timid sows in the pen. So, the more time the system gives them to feed the better. More sows per ESF feeding space, creates more stress on lower hierarchy sows, more stress on people and a longer not-fed list! FACT!

Think of the extra work for your people finding unfed sows to escort to the feeder, think of the 5%-10% of timid sows that are compromised (and likely culled early) and NOT the 90% + of animals that feed unassisted. When we use stalls the choice on stocking density is made for us, it's 1 sow for 1 stall! Give someone group housing pens, put in ESF, and tell them the optimum number is 60 sows per pen then come back in 6 months and there's 70 in each pen and apparently "nearly 10% of my sows don't eat daily". I'll let you do the math!

Choose wisely at the beginning and set up and design your group housing pens to be easy to manage and maximize production!


[back to the table of contents](#)

Group Housing

What does the pig see, that we don't?

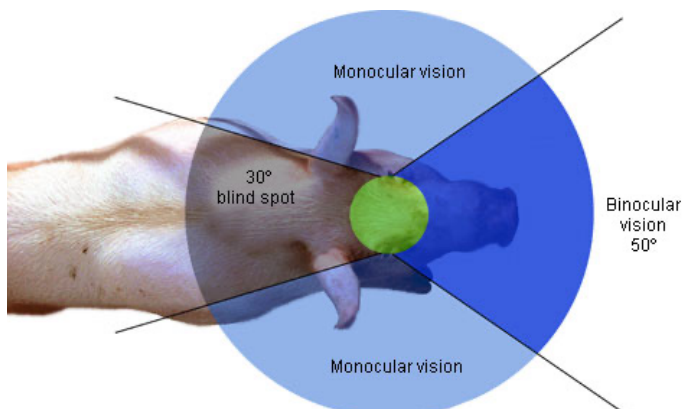
- Robert Drew

In the last of our 3 Maximus newsletters on ESF/Group housing, I am going to suggest we all take a step back and ask ourselves

'WHAT DOES THE PIG SEE?'

I had the fortune several years ago to ride in a car to a PACCO auditor training session with Dr. Temple Grandin (Professor of Animal Science at Colorado State University). Although our time together was brief, one comment Dr. Grandin made that has stuck in my mind since that day, that relates to group housing of sows is,

“You have to be the pig. We often don't see, what the pig sees!” Group housing of sows with ESF is not about the pigs that feed every day, it's about the ones that don't feed!



We manage 'not fed lists' daily in most group housing systems. How do we get to where we don't have a 'not fed list'?

Or, at least a list that our people in the barns can manage easily in order to allow them to do other tasks within the barn and not spend time "looking for sows!" Time = Money ... correct?

As owners it is easy to focus solely on cost driven areas of group housing that are thought about on a new build or remodel. Building cost, how many sows can I house compared to stalls, the cost of equipment. All of these are important, however, don't forget the people who take care of the sows AND the sows themselves. Replacement of sows in group housing, through deaths and culling due to over stocking pens, poor design of pens, feeder placement and subsequent poor performance, stacks up fast and is often overlooked when considering the obvious upfront costs.

Every group of pigs will have a hierarchy that won't be easily visible. We need to go back to what we all learnt in PQA+ about the flight and fight zone of the sow.

Especially the timid sow!

'An ounce of prevention is worth a pound of cure!'

Benjamin Franklin (1736)



Group Housing

What does the pig see, that we don't?

- Robert Drew

If you watch a pig in a group housed pen for a long enough amount of time, you will notice certain behaviors that are common.

This could be ways in which they conduct themselves, such as types of movement or the way they appear to look at things. You may notice a certain cock of the head or a point at which a pig moves away from a feeder indicating an implied threat, such as a sow guarding a feeding station. These behaviors, and more, are because of the way pigs see the world around them.

More important to a pig than vision is the ability to acquaint itself with its surroundings via smell as well as hearing.

A calm environment is a good environment!

Through sniffing and rooting, pigs can gather more information about their domain than through sight alone. The nose of a pig will convey the layout of its habitat, and should something be moved or changed, the nose will know, detecting such changes in smell. One thing we have found doing ESF pen layouts for several years is that by separation of feeders and multiple options to feed, the fear of entry to the feeder is minimized for the timid sow (which are generally your non, or infrequent, eaters!). Although single ESF stations in a pen will still work, where they are located up against a wall or fence line, it makes entry for those timid sows wanting to eat, much less attractive. Where multiple ESF feed options are available in a pen it does give sows more options to find feed, however, for the less aggressive sows 'danger zones' still exist where feed stations are lined-up, side-by-side.

Fear will always condition the animal's escape zone or personal zone. If at feeding time another sow enters into a timid sow's personal zone, the animal will see itself in danger and will therefore move to get away and be less likely to enter a central feed station or a single feed station (see next page).

With observation you will tend to see the timid sows approach the feeding station from the side, rather than walk directly into the feeder. Evolutionarily the pig has learnt that if the danger comes from in front, or the side, then it is better to move away.

This determines what is known as the balance point of the pig, which will determine the direction of the pig's escape in relation to the position of other sows. So, by separating the feeders it give the timid sow an opportunity to approach all the feed stations with ease, knowing they have more chance of both entering the feed station AND, if necessary, escaping into their flight zone.

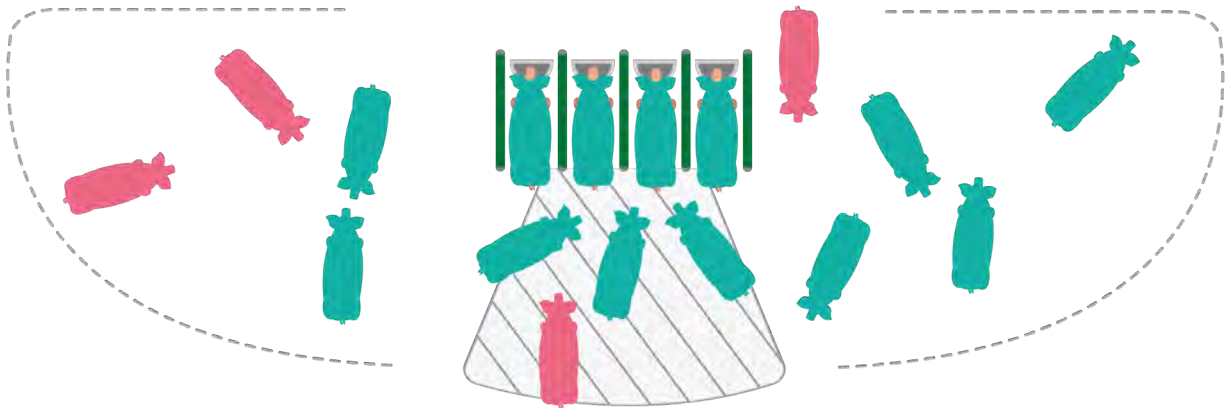
The more we know about the way pigs see the world and incorporate that knowledge into pen design and layout for group housing the better able we will be to anticipate their needs, giving them comfort and security, while making life easier for our employees in the barn. Choose wisely at the beginning and set up and design your group housing pens to be easy to manage and maximize production!

 [back to the table of contents](#)

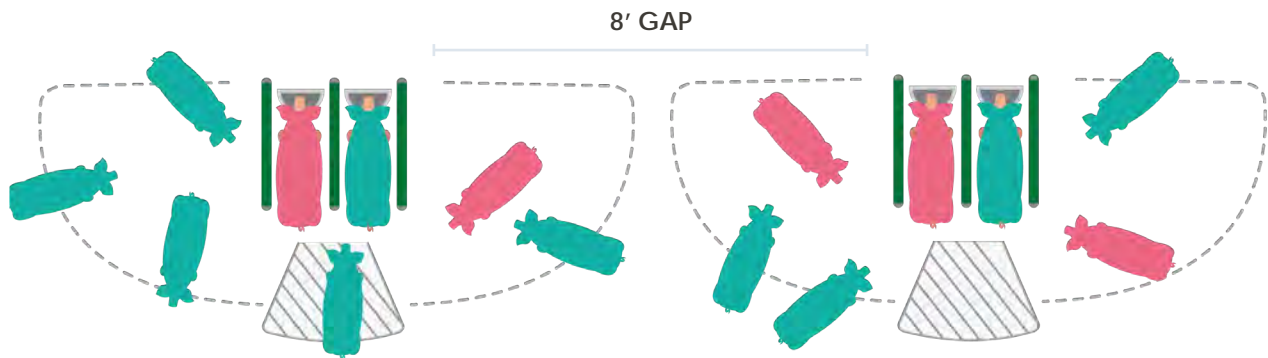
Group Housing

What does the pig see, that we don't?

- Robert Drew




SEPARATION OF FEEDERS ALLOWS THE LOWER HIERARCHY PIGS TO ENTER THE FEEDERS WITH LESS FEAR!




TIMID
SOW


DOMINANT
SOW


DANGER ZONE
FOR TIMID SOWS


[back to the table of contents](#)

Durable, Reliable, Simple and Adaptable - A winning combination with Maximus Free Acces ESF - Robert Drew

When we buy a new vehicle, we never see anything for sale that's rusty! In fact, it's not until a few years later, when holes appear and the paint flakes off, that we shake our head and mutter to ourselves,

"That was a mistake!"

As producers invest more in group housing solutions, some of the ESF equipment that has been out on farms for 5 or more years, is beginning to tell a similar story. The ammonia, feces, and acidic environment of most North American pig farms, is vastly different to that of our European friends, which is where the majority of the ESF feeding equipment originated from.

In the past few years, I have seen with my own eyes, doors, side panels, feed bowls and many other components of feeding stations that have rusted, stopped working or simply fell apart, most only 5-7 years after installation. Add to this the increased technology used, such as separation, air compressors, sensors, and incorporated weigh scales, the list of 'things that can go wrong', continues to grow!

A pig farm can be a hostile environment for equipment, especially when both pigs and people touch it daily!

If a feed station lasted the lifetime of a barn, I calculated that this would represent over a million 'touches', and that's at 15 sows per feeder!

That being a FACT, it had better be built to last! ESF stations do all have one thing in common: they feed pigs.

However, they are certainly NOT all built the same! Over the last 30+ years of working around many ESF systems, it is my belief that it has become way too easy for producers to be drawn to the 'bling', also known as, "all the bells and whistles."

It all looks shiny when it's new, right? You must decide what works for you AND your people. Just because your salesman took you to an ESF farm doing 32 p/s/y, I can guarantee it doesn't mean you'll get the same results, with the same equipment! Not everyone can drive a Formula 1 race car when you put them behind the wheel, let alone maintain it! Now that is a FACT!

This newsletter is intended to help guide producers towards the 'not so obvious' during the decision-making process when buying an ESF. It is imperative that you invest in a system that will hold up to the test of time. Today, technology is increasingly playing a big part in Agriculture.

It is important that we balance between technology and the manufacturing of equipment in such a way that the ESF station is simple, reliable, and durable to withstand the environment of the pig farm, yet adaptable to the ever-changing, data driven, world in which we run our daily operations!

This newsletter will highlight a few features of the Maximus Free Access ESF that we believe will help make 'the difference' and not just meet, but exceed, your expectations!


[back to the table of contents](#)

Durable, Reliable, Simple and Adaptable - A winning combination with Maximus Free Acces ESF - Robert Drew

1. PLASTIC

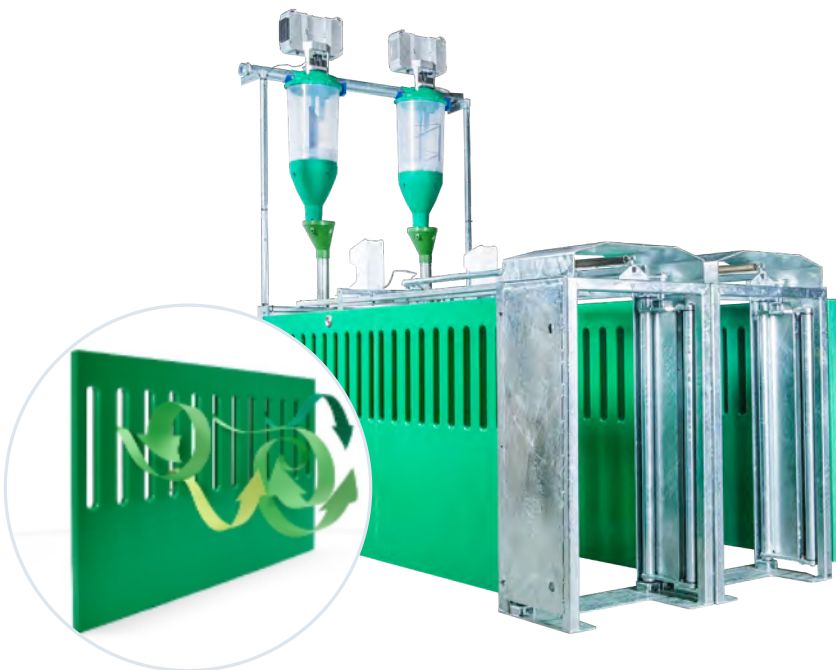
I am old enough to remember that there was a day that, when you heard the word 'plastic', you immediately would think something was cheap and wouldn't last. How times have changed! With that said, you do still need to be careful because, as with most things, there are a wide range of products and longevity will be an issue if you chose the wrong one! Pigs tend to find a way to put holes in most things!

Maximus uses vented green plastic panels in the main body of the ESF station. This gives the sow a safe environment to feed in, unlike some designs where the sow can be interfered with by more dominant sows waiting to feed. These panels are made by **Paneltim®**, which has now been recognized by many as one of the most durable and robust plastic products used in livestock facilities around the world.

We also offer this product as an option for the sleeping area and fence line of the group pens. It gives the sows great protection when resting.

The panels are antibacterial coated and sealed. This makes them easy to clean, therefore increasing the hygiene in the barn AND allowing plenty of ventilation with the slots in the panels.

Our equipment manufacturing also integrates the most widely used plastic in the Agricultural sector. Both **HDPE (High density Polyethylene)** and **PP (Polypropylene)** use semi-crystalline substances which are more resistant against H₂O intake, as well as having a high strength-to-density ratio. They are also commonly used in applications such as corrosion-resistant piping and chemical containers.



- Openwork sides to ensure the sow's well-being during feeding.
- Faster gilt transition and learning, Thanks to the rear door's design.
- Recommended to feed 15 sows per station.
- Plans and recommendations for pen layout are provided.

[back to the table of contents](#)

Durable, Reliable, Simple and Adaptable - A winning combination with Maximus Free Acces ESF - Robert Drew

2. STEEL

The metal frame used on the feeder is a high quality, hot dipped galvanized. This process has strict quality control to ensure an even coating, at the desire thickness and will create a chemical reaction between the steel and zinc and helps to ensure a strong layer of protection. The front of the feeder is made from stainless steel. Double welding is done since this area gets most of the sow contacts over the years. Many of the posts we manufacture for fence lines are made with black steel.

This steel gets its name due to the presence of the dark-colored iron oxide coating on the surface of the steel. A high-quality paint is then used on the posts for added protection and longevity.




[back to the table of contents](#)

Durable, Reliable, Simple and Adaptable - A winning combination with Maximus Free Acces ESF

- Robert Drew

3. ELECTRONICS

Always ask this question:

“What is your warranty on electronics?”

Maximus offers a 5-year warranty because they are confident they have the best quality electronics in the industry. They do tests on all electronics to an extremely high voltage, prior to shipping. This makes it much easier to relax at night during a severe thunderstorm. Electronics do a lot of heavy-duty work in most pig farms, so it is important that they can withstand harsh environments.



Some manufacturers of ESF equipment have their electronics inside the feeding equipment. This will mean that their certification rating (IP66) will be for the complete unit where the electronics are stored. This is NOT necessarily better!

Maximus separates the feed bottle from the electronics. The module, which contains the easy to change plug-and-play card, has the **NEMA 4X** and **IP66** certification. The communication wires are gold-plated. This makes them highly resistant to corrosion and other possible damage due to the environment. With this in mind, we are not afraid of hardwired systems.

My own experience has been that, in many cases, hardwiring has been more reliable than wireless and the frustrations of ‘poor service and connections’, often found inside a pig farm, are taken off the table!



Because the electronic and mechanical parts are separated, Maximus can also service or replace parts easily, and at a lower cost than replacing an entire unit.

One easy quarter turn of the new 3P feed bottle and any issue with cornstalks, etc., is quickly remedied!
NO TOOLS NEEDED.



The bottle also uses an ‘O’ ring seal to help protect against moisture.

[back to the table of contents](#)

Durable, Reliable, Simple and Adaptable - A winning combination with Maximus Free Acces ESF - Robert Drew

4. SIMPLE IN DESIGN

The Maximus Free Access ESF is simple and designed with both the pig and people in mind. **The less moving parts, the lower the maintenance, the happier your people (and your wallet) will be!** The fully mechanical design reduces the need for sensors, air compressors and additional wiring. The animal's welfare was also considered by using simple, yet sturdy, saloon

doors rather than the pivoting 'up and over door' that was used on some of the early European ESF's in the 1980s (Hunday model). Having worked with these, the door would often hit the sows in the neck and on the back, as sows waiting to enter often figured out ways to get this design of door open, in their effort to get feed.



[back to the table of contents](#)

Durable, Reliable, Simple and Adaptable - A winning combination with Maximus Free Acces ESF - Robert Drew

AGE IS NOT EVERYTHING!

I have been around many ESF feeding systems. It is clear to me that just because a Company has been around for 2 or 3 decades it does not make it better! They often get stuck in a time warp, both on design and general market mentality. When a salesperson uses the, "They don't have the manufacturing history" line, during a sales pitch, I would suggest it may be a red flag and you need to take an even closer look!

A Company where everyone has production experience, understands what happens "on the slats" every day, and has designed equipment using real life experience combined with producers' input, holds a lot of weight!

I've always said, "These machines all feed a pig!" I am also now convinced you need to prove it! "Has the pig been fed?" Maximus now has a revolutionary SMART technology that does exactly that. From the feed bin to the new "bobble head" feed dispenser on the 3P bottle,

Maximus tracks the feed delivery to the sow and can prove it!

[LINK TO THE VIDEO](#)

[back to the table of contents](#)

Durable, Reliable, Simple and Adaptable - A winning combination with Maximus Free Acces ESF - Robert Drew

SUMMARY

So YES, it is important to look at how something is built to ensure quality and reliability, absolutely! However, with all of the above said, my conclusion from 30+ years of ESF experience has told me that even if you could make an ESF station 100% indestructible, in all aspects, you could still be removing it from your barn, well before the lifespan of the barn, if you don't understand what it takes to operate it!


Partnering with people that 'check the boxes' for Durable, Reliable, Simple and Adaptable is always a good first step in building a successful Group Sow Housing system.

Drew has well over 3 decades of experience that he brings to **MAXIMUM AG** in both Outdoor and Indoor sow production on a large scale. Along with establishing on-farm Quality Management Programs and Independent Consulting roles, Drew's knowledge on group housing is a great addition for **MAXIMUM AG** and its customers. His first exposure to ESF technology was more than 30 years ago in the UK. More recently he has worked with many of the other group feeding systems in the US as the industry started to adapt to the European way of thinking.

"I believe that Maximus can provide a foundation for true animal care through precision monitoring of all the critical areas of the production system. In addition, I feel by offering a simple, manageable solution for group sow housing, they have found what I would describe as "the middle ground," that the US industry needs."

Robert Drew adds,

"When group housing is too simple the sow is compromised but then when it's made too complex the people can become compromised. The result either way is that production suffers. No system is perfect, but I believe a balance of what's best for both the pigs, people, and the US industry in the future, is achievable."


[back to the table of contents](#)

Lee Carte testimonial

- Robert Drew

Make the transition to Loose Housing a positive experience.

Let's meet Lee Carte, Director of Production of High Lean Pork since 1995.

In 2012, we began implementing Maximus controllers in our barns to monitor and control the production environment and equipment. In about 2014 the state of Michigan where we are located changed the laws regarding sow housing requirements and so we began converting our gestation stalls to the Maximus Free Access ESF. Our decision was easy, we already had confidence in the Maximus System and the ability to control the environment and our sow feeding under one system made more sense than having to implement a whole other system just for feeding the sows. No other company was able to offer a complete package.

Today, after converting multiple farms I can affirm that the Maximus Free Access ESF has always performed to our expectations.

Our system now has 20,000 sows on the Maximus Free Access ESF System, it is a reliable system.

When our sows were in the stalls, we had no way of knowing if the employees were checking on every sow every day or if every sow had eaten her designated ration every day. Now we are confident that every sow eats every day and receives the exact quantity of feed

we have designated to her.

We were skeptical at first that sows would actually back out of the Free Access stations, what we have found is that the sows typically figure out how to get in/out of the feeding station after a couple of hours and after one feeding experience they have trained themselves. In fact, without the Maximus system, I would never have realized that most sows prefer to eat from midnight to 5:00 AM! Another benefit I observed since we have this Free Access ESF, is that sows are even more docile and calm in the feed station than they were in the individual gestation stalls, as they experience less stress, and are less agitated.

The simplistic hardware design of this Maximus Free Access ESF station is well designed and built and the system minimizes maintenance, increases longevity, and makes it very reliable without constant repairs. These factors were important criteria when making our Loose Housing decision. We have always received great service from the whole Maximus and Maximum Ag Tech team! All of this has made the transition to Loose Housing a positive experience.



[back to the table of contents](#)

About the Dr. TOM STEIN

Doctor in Veterinary Medicine and Clinical Epidemiology, designer of the PigCHAMP software, co-founder of MetaFarms, nominated by National Hog Farmer in their “Top 50” most influential persons in the swine industry of the 20th century, rewarded for outstanding

contributions to swine production and health by the American Association of Swine Veterinarians, Dr. Tom Stein is a world-leading expert and pioneer in modern swine industry.

TOP 50

**Most influential persons
in the swine industry
of the 20th century**



[back to the table of contents](#)

About the author

ROBERT DREW

Robert Drew has well over 3 decades of experience that he brings with him to MAXIMUM AG in both Outdoor and Indoor sow production on a large scale. Along with establishing on-farm Quality Management Programs and Independent Consulting roles, Drew's knowledge on group housing is a great addition for MAXIMUM AG and its customers. His first exposure to ESF technology was more than 30 years ago in the UK. More recently he has worked with many of the other group feeding systems in the US as the industry started to adapt to the European way of thinking.

In addition, I feel by offering a simple, manageable solution for group sow housing, they have found what I would describe as 'the middle ground', that the US industry needs.'

I believe that Maximus can provide a foundation for true animal care through precision monitoring of all the critical areas of the production system.



MAXIMUM AG
TECHNOLOGIES

MAXIMUM AG
TECHNOLOGIES



1 519 902-6051



MAXON-AG.CA



@MAXONAGSOLUTIONS

