

Strategic Farm: David Goodier

Winter update: April 2017 – January 2018



Overview of programme

The Strategic Farm is an AHDB Farm Excellence initiative, which uses host businesses to demonstrate new ideas and technologies to help improve physical and financial performance on units through farmer-to-farmer learning.

Launched: 20 June 2016

Meeting date: 15 January 2017, at The Bridge Hotel, Wetherby.

An introduction to the unit

LH & E Goodier | Greenhalgh Preston | David & Leonard Goodier

- Number of sows: 245
- Indoor production
- Gilts JSR (JSR 90 x JSR 900)
- Farrow to Finish: three-week batch, bacon average 86kg dead (85-90kg)
- Two full-time staff
- Other enterprises: broiler chickens and arable

Please see appendices for further information:

Appendix 1 - Farm details

Appendix 2 - Advisors

Appendix 3 - Rations



1. Benchmarking and Business Performance

Since the outset of this project the team has been recording data much more closely on Porcitech. When the latest performance figures are explored, they show clear and continued improvements, eg an increase of around two pigs weaned per sow per year.

N/B financial figures account for pigs which have left the unit as sold only.

Key Performance Indicators	AHDB Pork In-door Average (Q3 2017)	Strategic Farm (Yr end Mar 17)	Strategic Farm (6 months to Dec 17)
Average number of productive sows	515	245	250
Sow mortality %	6.21%	4.2%	4%
Sow replacement rate %	54.70%	51.5%	47.20%
Farrowing rate %	85%	81.5%	87.20%
Litters per sow per year	2.29	2.22	2.26
Pigs born alive per litter	13.23	12.45	13.2
Pigs born dead per litter	0.8	0.6	0.4
Av weaning weight (kg)	7.19	7.80	7.5
Average age at weaning (days)	26.7	26.9	26.9
Pre-weaning mortality %	11.93%	11.09%	10.20%
Pigs weaned per litter	11.65	11.07	11.85
Pigs weaned per sow per year	26.72	24.57	26.79
Combined rearing/finishing mortality %	5.01%	4.70%	5.60%
Combined DLWG	697	707	715
Combined FCR	2.35	2.24	2.25
Pigs sold per sow per year (calculated)	24.82	23.42	25.29
Cost of Production	Indoor Q3 2017 p/kg DW	Strategic Farm 2016/17 p/kg DW	Strategic Farm, Apr to Sep 2017 p/kg DW
Feed	84.3	74.7	86.53
Other variable costs	10.3	14.9	14.13
Labour*	12.6	11.5	11.38
Building, finance & misc	**32.6	27.7	24.89
TOTAL p/kg DW	139.8	128.7	136.91
* Family labour is inputted at fulltime paid equivalent	**buildings on new basis		

2. Focus areas on the Strategic Farm

2.1 Reviewing Gilt management

A key focus for the breeding herd is on parity structure and gilt performance to improve numbers born per litter. David's recorded data shows consistently low numbers born in the second litter with 36% having an average total born less than 10. Gilt nutrition is an area that's been pinpointed for review.



Feeding curves

They're working on adjusting gilts' diets, having had a good look at the current feed curve and gilt condition at different stages of the production cycle. For example, they've found gilts' condition score has tended to be too high at farrowing and too low at weaning.

Immediate changes have included measuring out the daily feed allowance more accurately to ensure the quantities are consistently right and regularly calibrating the feeding bucket.

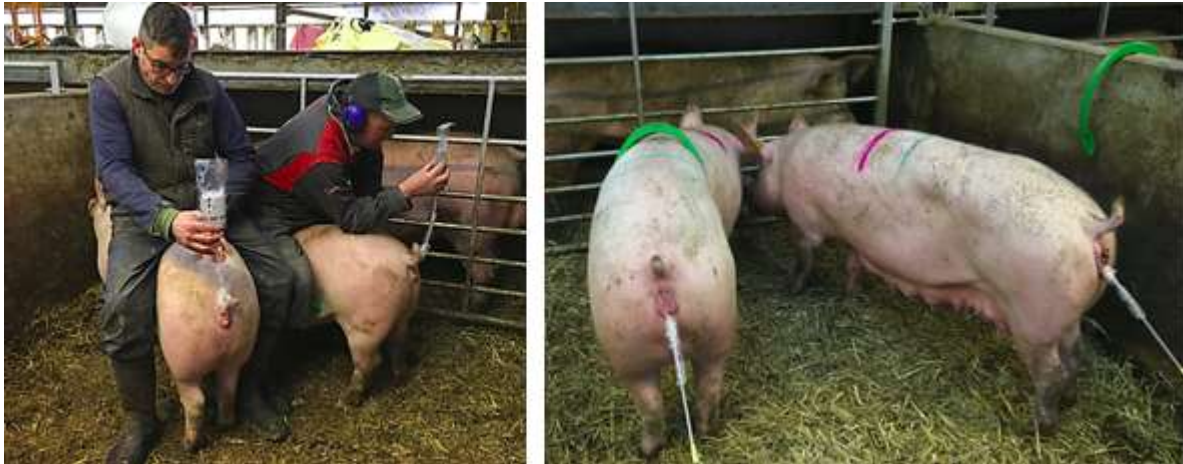
Monitoring condition

To help monitor condition, the team has started weighing gilts going in to the farrowing house and again post-weaning. They will also measure back fat.

Regumate timing consistency

After a review of gilt management and service routine they are now giving Regumate at more consistent 24-hour intervals, in the mouth rather than in the feed.

2.2 Service routine and timing



Service area

Changes have been made to the service area with additional barred gates added to the existing boar pen and returns pen. There are now two separate artificial insemination pens to help with more accurate heat detection and improve the insemination environment for both sows and staff. The new layout also provides a post-service rest area before the sow is returned to her group.

Timing

Timing of insemination is also highly important and, having mapped the timing of oestrus with the help of AHDB's knowledge exchange manager, Angela Cliff, it was decided to serve each sow just twice, instead of three times.

They are also leaving a longer time from detection to first AI, so that both inseminations are contributing to optimum cover, close to the time of ovulation.

The key has been learning not to rush. They're now waiting until Monday afternoon to serve and it is making a difference compared to doing it in the morning as had been done before. They just needed the confidence to wait until they saw a proper heat.

2.3 Opticare installation

An Opticare supplementary milk feeding system was installed in the autumn and initial results have been improved creep intake and an increase in total litter weight and individual piglet weight. More detail to follow.

2.4 Progressing Weaned Pig Performance

At the first open meeting in 2016 the group discussed the issue of 'marking up' of weaners which was happening at about 45 days post weaning. Water and ventilation were highlighted as two possible contributing factors so a buildings review was organised.

Ventilation

AHDB environment and buildings officer Emma Slater recommended some practical changes to ventilation and system maintenance in the weaner-grower rooms, eg using seals around the door, using brushes, to close openings that could cause draughts.

There were also some broken pulleys and cords controlling the inlets, causing a difference of air speed. They needed replacing and calibrating so they opened in unison.

12 months later they had seen some improvements but marking up had not completely disappeared. The on-farm DICAM environmental controller and BarnReport enable a detailed, daily overview of temperature, ventilation and water use and regular monitoring continues, in order to spot any further changes that may need to be made.

Water

They were seeing green slimy biofilm in the pipes in the weaner-grower accommodation so the water was tested at several points on the farm and in the buildings to see how effective their cleaning process was and to find out if there were any water quality issues.



The results showed the quality of water entering the farm is clean and of recommended quality however there were high TVC in the tank and nipple samples. One of the concerns raised was whether using acid to treat the water might be increasing the level of biofilm as it was a source of energy for bugs within it.

So the next steps are to examine whether TVC can be controlled using an extremely dilute disinfectant on a more routine basis.

2.5 New finisher building – weighing from birth to slaughter

In the finisher herd, the first pigs went into the new finisher building in May 2017.

Pigs are going to be individually tagged and then weighed at birth, weaning and a week before slaughter which will provide really detailed information on how individual pigs perform in the new accommodation and help ensure the business makes the most of the investment.

Weighing litters individually at weaning will be key to understanding patterns of variation in the finisher herd so that variation can start to be reduced throughout the rearing and finishing periods.



Ventilation

A key feature of the new building is that the vents are only on one side due to consistent strong winds coming from the west coast towards the building's opposite side. To help counteract any potential issues with air circulation, the dividing walls in the slurry pit have been built parallel to the long walls of the building to act as baffles and redirect the air flow.



Appendix 1 – The Farm

Service house and weaned sow yards

- Ad lib fed lactation ration from weaning on Thursday to hoppers being empty Tuesday am.
- Sows then fed via shoulder stalls and drop feeders. They receive 3 kg for first three weeks and then fed to BCS thereafter.
- Stay in service house for five weeks then moved to ESF yards where they are fed to BCS.
- **Target** serve 40 to farrow 31/32. Will cull in pig sows => FR 87%

Gilts

- Gilts are purchased (12 every six weeks) and have six weeks isolation elsewhere on farm holding and also boar contact.
- Six gilts per batch are served and housed separately from the main herd and join the main herd once they have farrowed.
- Moved down to unit and receive Regumate.
- **Target** served at 265 days, but aiming for 240 days.

Farrowing house

- 32 crates, with drop feeders, vacuum water valves and water heated creep mats from air exchange water heater.
- Sows are fed twice a day up to 4 kg a time and their curve is adjusted manually. For the last 7 to 10 days of lactation the sows receive an extra 'half' feed.
- Have found the benefit of introducing a transition diet that has higher energy .
- All litters have Supp-le-Milk (Primary Diets) from birth and if this is drunk, will continue to have it for the next 10 days.
- Creep introduced from day 10. May start to mix with the milk for those that are still receiving it. . All piglets are weighed on exiting the farrowing house.
- Piglets weaned average 26 days. Weighed bulk in passage weigher and are averaging 7.5kg.
- **Target** is to consistently wean over 12 good piglets per litter. Pre weaning mortality is 10%

Growing & finishing

- Piglets are sized into 4 x 90 groups into the new flat deck
- Pens are mixed sexes
- First diet fed by hand and receive three rations in total from weaning to 12 weeks of age, weighing between 38 to 45kg. No antibiotics are used.
- Pigs are moved into the old craftmaster house, big pyramid (one batch) and two newer grower finisher houses (three batches), the second one of which was built in 2017 with first pigs going in in May.
- The finishers receive a further 2 diets from 45kg to finish.
- All pigs are selected by eye. Currently achieving 89% in Q box.
- First draw is at 120 days and by third draw at 134 days, 70% of pigs have been sold.
- Those left are moved to old partially slatted Trobridge house and are only sold once reach weight.
- Loading ramp is on the perimeter of the unit.

Appendix 2 – Advisors

- Vet – Garth Vets: Guy Wade-West and Tom Iveson
- Genetics Supplier – JSR Genetics
- Feed Suppliers – Home Mill and mix Harbro nutrition: Lawrie Miller
- Recording systems used – Porcitec
- Assurance scheme – Red Tractor

Appendix 3 – Rations

Grower one			
Ingredients	Inclusion %	Mixing weights kg	Ingredient usage t/month
Wheat 15	45.00	1350.00	2.25
Barley 15	18.00	540.00	0.90
Hipro Soya	16.00	480.00	0.80
Biscuit (Gilberdyke)	10.00	300.00	0.50
Full Fat Soya	5.00	150.00	0.25
Goodier Grower 26 Pmx	2.60	78.00	0.13
Shetland Fish	2.50	75.00	0.13
Soya oil	0.90	27.00	0.04

Grower two			
Ingredients	Inclusion %	Mixing weights kg	Ingredient usage t/month
Wheat 15	53.60	1608.09	6.43
Barley 15	20.00	600.00	2.40
Hipro Soya	19.00	570.00	2.28
Goodier Grower 26 Pmx	2.60	78.00	0.31
Soya oil	2.30	69.00	0.28
Full fat soya	1.67	50.01	0.20
Shetland Fish	0.83	24.90	0.10

Finisher one + beans			
Ingredients	Inclusion %	Mixing weights kg	Ingredient usage t/month
Wheat 15	55.77	1673.00	22.31
Hipro Soya	18.20	546.00	7.28
Barley 15	17.50	525.00	7.00
Field beans	3.33	100.00	1.33
Goodier Finisher 21 Pmx	2.10	63.00	0.84
Full fat soya	1.67	50.00	0.67
Soya oil	1.43	43.00	0.57

Finisher two + beans

Ingredients	Inclusion %	Mixing weights kg	Ingredient usage t/month
Wheat 15	39.67	1190.00	19.83
Barley 15	35.00	1050.00	17.50
Hipro soya	14.00	420.00	7.00
Field beans	8.33	25.00	4.17
Goodier Finisher 21 Pmx	2.10	63.00	1.05
Soya oil	0.90	27.00	0.45

Early gestation

Ingredients	Inclusion %	Mixing weights kg	Ingredient usage t/month
Barley 15	73.73	2211.99	11.06
Wheat 15	20.00	600.00	3.00
Hipro soya	3.00	90.00	0.45
Goodier Sow 26 Pmx + Myco	2.60	78.00	0.39
Soya oil	0.67	20.01	0.10

Gestation

Ingredients	Inclusion %	Mixing weights kg	Ingredient usage t/month
Barley 15	78.73	2362.02	11.81
Wheat 15	10.00	300.00	1.50
Sugar beet pulp	5.00	150.00	0.75
Hipro soya	3.00	90.00	0.45
Goodier Sow 26 Pmx + Myco	2.60	78.00	0.39
Soya oil	0.67	19.98	0.10

Lactation

Ingredients	Inclusion %	Mixing weights kg	Ingredient usage t/month
Barley 15	60.10	1803.00	6.01
Wheat 15	14.00	420.00	1.40
Hipro Soya	11.50	345.00	1.15
Biscuit (Gilberdyke)	5.00	150.00	0.50
Goodier Sow 26 Pmx + Myco	2.60	78.00	0.26
Full Fat Soya	2.50	75.00	0.25
Shetland Fish	2.50	75.00	0.25
Soya oil	1.80	54.00	0.18