Animal health and welfare: pig projects

on the demonstration network

FARMING connect
cyswllt FFERMIO

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www.gov.wales/farmingconnect

Foreword

The Welsh pig industry is predominately made up of small-scale units, many of whom specialise in rare breeds and non-intensive production, selling a premium product often via short supply chains. Irrespective of the herd size, a focus on pig health and welfare is the most effective way to maintain or increase productivity from pig production systems. Poor health and welfare directly impacts on pig performance through decreasing feed intake, reduced daily live weight gain and feed conversion efficiency.

The Farming Connect demonstration network has implemented a number of projects across a range of sites to investigate pig health and good welfare practice, with the aim of providing advice and guidance to farmers across Wales who may also be interested in trying them on their farms.

The projects undertaken highlight how good biosecurity and health management underpin a successful, productive enterprise and Farming Connect has worked with a range of pig producers to put this into practice. Fertility, nutrition and litter survival are also important components that have been the focus of projects and events to inform farmers of the latest advice and information.

Farming Connect works closely with Menter Moch Cymru, an initiative to increase the size of the pig herd in Wales, and Hybu Cig Cymru – Meat Promotion Wales. Activities include projects, events and training workshops to provide pig producers with the necessary skills and information to improve production efficiencies and operate competitive businesses. Further information about the Menter Moch Cymru project can be found at **https://www.menterabusnes.co.uk/en/mentermochcymru**

For updates on projects and trials at all the sites in the Farming Connect demonstration network, visit our website at **www.gov.wales/farmingconnect**

The projects also illustrate the importance of working with your vet to ensure advice is bespoke to your livestock and farming system. Developing an animal health plan in conjunction with your vet is an essential part of managing any livestock enterprise. In addition, you can refer to the animal welfare codes of practice which can be found at **www.gov.wales/animal-welfare**

Dewi Hughes
Technical Development Manager, Farming Connect
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Farming Connect - helping you drive your business forward

Eligible businesses registered with Farming Connect can tap into a wide range of Farming Connect support services, guidance and training.

Many services are fully funded, others are subsidised by up to 80%.

Visit our website to find out how you can:

- benefit from subsidised business support, tailored to your business needs
- benchmark your performance and work towards progress and growth
- develop your skills as part of our continuing professional development/lifelong learning programme
- keep up to date with the latest innovations in technology through industry developments and the latest research projects
- share best practice and benefit from the knowledge of other farmers, industry experts and academic research
- be inspired by new ideas and find more efficient and innovative ways of working

Implementing a pig production health management strategy

Farming Connect worked with Ffridd focus farm, a mixed livestock upland unit on the Lleyn Peninsula. The farm diversified into small scale pig production in 2007 and now runs a successful pedigree Welsh Pig unit, adding value to the product, which is sold using their Oinc Oink brand. The project provided a platform for sharing good practice and advice to existing and potential small scale pig producers in Wales. As part of the project Ffridd farm worked with their vet on pig health and welfare to improve production.

Key project messages

Biosecurity is key. Stringent procedures should be implemented to prevent disease from entering the herd.

Isolation is essential. This allows opportunity to observe and identify disease threats before pigs are introduced to the main herd.

Vaccination is fundamental. To prevent disease or illnesses from affecting the herd.

Antibiotics are important. But don't use antibiotics if they are not needed. Take veterinary advice and treat accordingly.

The importance of biosecurity

Biosecurity planning

- Enforce a clear line of separation.
- Before entering the site change into disposable coveralls and disinfect vehicles and footwear.
- A suitable disinfectant such as FAM30 should be used.

Routine pig observation

- Observe regularly, but do so quietly.
- Check for ill health issues: scouring, lack of appetite, slow to get up, discolouration of skin, physical marks or lesions.
- Prompt action is required once any ill health signs have been diagnosed.
- Isolate and seek veterinary advice to determine appropriate action.

Use an isolation unit

- Essential for newly purchased pigs or those returning to the unit.
- Isolate for three weeks and check the pigs daily for any signs of ill health before mixing with home pigs.
- Isolation unit staff should use separate equipment and clothing to that used in the main herd.
- Isolated pigs should be acclimatised before mixing with the resident pigs. This often means vaccinating pigs according to the farm programme.

Vaccinate correctly

- Consultation with the farm vet is essential.
- Discuss any benefit in vaccinating against Porcine Reproductive and Respiratory Syndrome (PRRS), Porcine Parvovirus (PARVO), Swine Erysipelas and Post Weaning Multisystemic Wasting Disease (PMWS).
- Ensure vaccination is administered at the correct age.
- Store vaccines according to the instructions during both transportation and storage.

Simplify the system for better pig health and welfare

Farming Connect, working with Menter Moch Cymru, linked pig producers with Harper Adams expert Richard Hooper to investigate pig rearing systems. Richard outlined his research investigating a range of management strategies to **improve and simplify pig-rearing**. His pig herd operates on a three week batch farrowing system, with all buildings operating on an 'all in, all out' basis. The project considered the benefits of this type of system.

His work concluded that an 'all in-all out' system allows for complete cleaning and disinfection between batches to improve health.

Top tips for pig producers

- Growth rates can be improved by bringing in new genetics.
- Adapt nutrition by using different feeds for finishing boars and gilts. Females and males have different lysine and other amino acid requirements.
- Conduct on-farm feeding trials, trying different diets at all stages, to establish a tailored feeding regime.
- Nutrition of new born piglets should be a priority consideration, with the use of supplementary milk for litters.

Sow fertility, pregnancy and nutrition

Farming Connect has worked with Welsh pig producers via discussion groups, workshops and events to help improve sow productivity, focussing on fertility, pregnancy and piglet survival rates. These events have helped pig farmers adopt best practice as regards sow and gilt management.

Key messages

How to ensure sows become pregnant

- Ovulation occurs about 36-40 hours after the beginning of standing heat.

Optimum insemination is 6-12 hours prior to ovulation.

- Therefore - mate 24 hours after initiation of standing heat.
- Repeat 8 - 12 hours later if the female will still accept the boar.

Keep pigs in social groupings, to decrease stress levels and improve productivity

Avoid mixing pigs around service to minimise stress and bullying

Record and assess against set targets

✔ Number of sows pregnant. ✔ Number of pigs born alive. ✔ Number of pigs successfully weaned.

Factors influencing fertility

Too thin or too fat

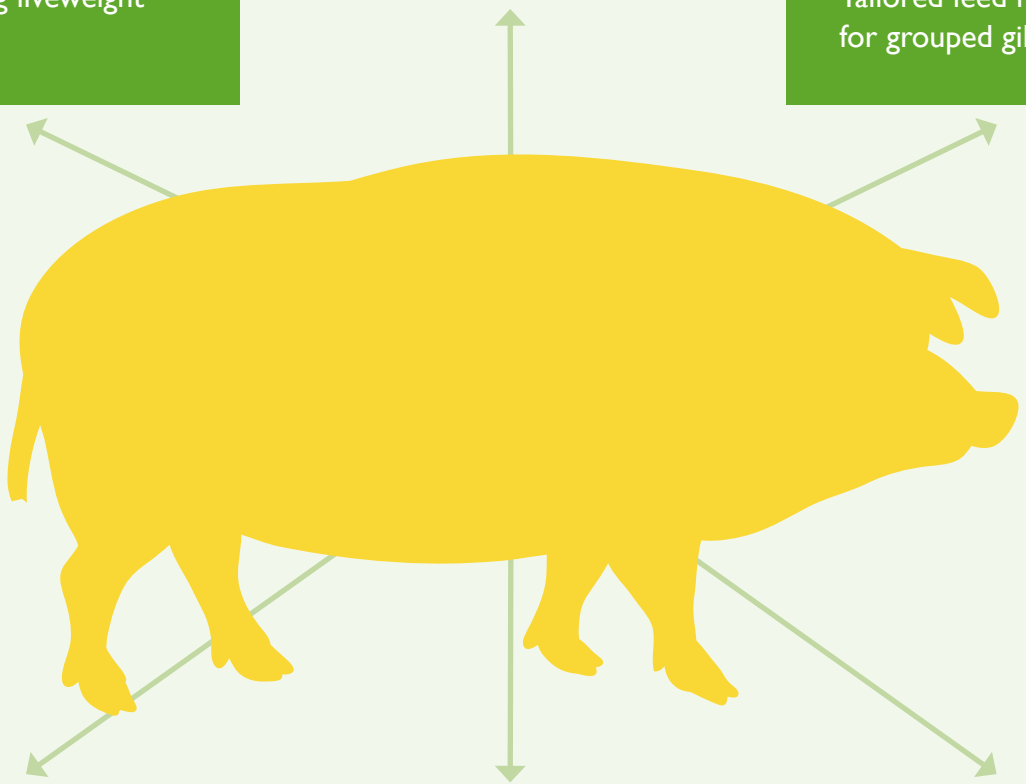
- Obesity interferes with ovarian function.
- Gilts should weigh 120-130kg liveweight at mating.

Age

- Gilts should be at optimum mating condition at 28 weeks of age.

Group according to age/size

- This will reduce fighting and distress.
- Tailored feed rations for grouped gilts.



Boar used/method of service

- Has the boar been performance tested?
- Are Estimated Breeding Values (EBVs) available?
- Get the ratio right to avoid stress: natural service requires 1 boar for every 18 gilts.
- Selected gilts should be exposed to a mature boar for 20 minutes daily (under supervision) to stimulate earlier cycle.

Environment

- Ambient temperature - 15-20°C for sows.
- Housing should be designed to prevent heat-stress.
- Building should be adequately insulated and include the following features:
  - Good ventilation.
  - Sufficient lighting.
  - Appropriate levels of water and feeding systems for the number of pigs housed.
  - Individual stall management systems.

Timing

- Ovulation occurs between 38 and 42 hours after the onset of oestrous and takes about 4 hours.
- Optimum time for service is prior to ovulation.
- Mate gilts when standing heat is first detected, and again 24 hours later.

Better sow nutrition improves piglet survival rates

Newly born piglets are most at risk of mortality when competing for colostrum. Piglets are born with some reserves of energy but quickly need more to survive, particularly in the first three days. Focusing on the sow's nutrition during gestation results in improvements in **yield, quality and the composition** of colostrum.

- **Fibre** (i.e. sugar beet pulp) and fat sources increase colostrum yield, improve composition and also increase piglet colostrum intake.
- Improved piglet daily growth rates are noticeable when a sow's diet during gestation contains the **right type of protein** i.e. protein containing the arginine family of amino acids. Piglet birthweight is higher and suckling behaviour also improves.
- Tailor the diet to the sow's different needs - provide a different diet during gestation compared to the one she gets during lactation.
- Good growth rates following birth are achieved by supplementing the nutrition the piglet gets from the sow by creep feeding during the transition from birth to weaning. This also benefits the sow by reducing the piglets' reliance on her, helping her regain body condition.

Evaluating performance of the pedigree Welsh pig

With requirements for leaner carcases and a drive towards intensification in the UK pig industry, the pedigree Welsh pig breed is needing to compete with the productivity of more popular hybrid pigs. A Farming Connect supported project at Coleg Meirion-Dwyfor Glynllifon evaluated the performance and productivity of the pure pedigree Welsh Pig alongside a hybrid and hybrid x Welsh pedigree pig against specific KPI targets. Project results were disseminated to the wider industry via the Farming Connect network.

Project aims

Evaluate the variations in performance and productivity of both the pedigree Welsh and a hybrid pig.

Use this data to make justified management decisions, such as selecting for the most prolific breeding lines.

What was recorded?

A range of KPIs were recorded for both breeds

- Litter size
- Weight at regular intervals from birth to slaughter
- Slaughter weight
- Days to slaughter
- Health/fertility/farrowing issues

Project targets

✔ **Target 1**
12.9 piglets born alive per litter

✔ **Target 2**
109.8kg carcase weight/pig

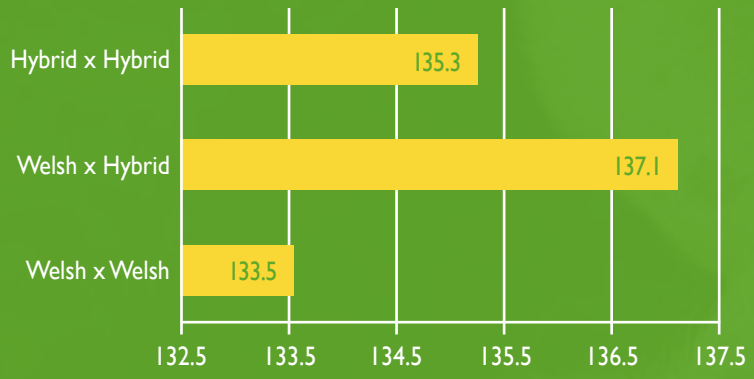
✔ **Target 3**
90 days to slaughter

✔ **Target 4**
7.4kg weaning weight/piglet

Project results

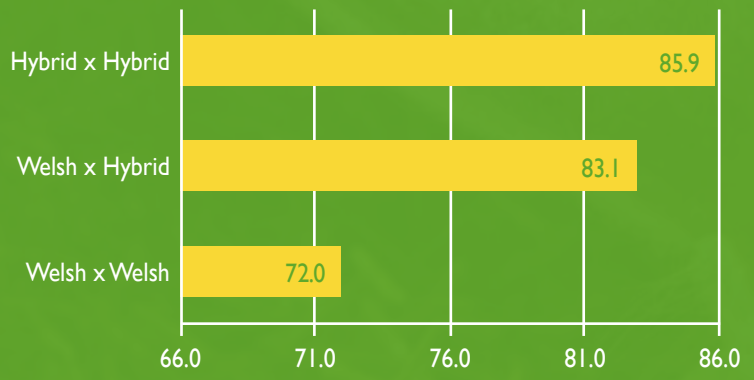
Average birthweights are higher in pedigree Welsh pigs - likely due to smaller litter sizes

Weaning weights are higher in hybrid piglet litters



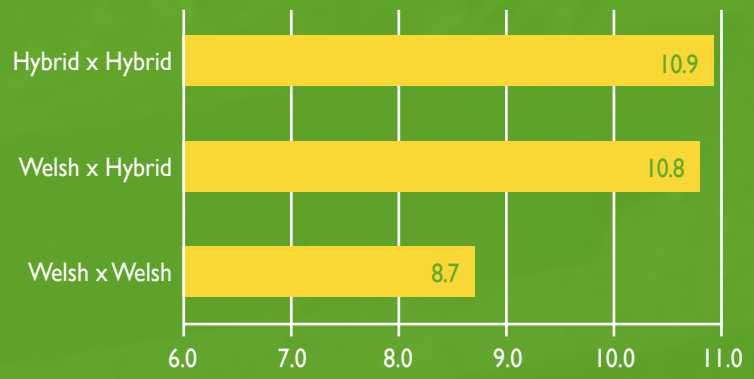
Average days to slaughter

Pedigree Welsh pigs had the fewest days to slaughter than both hybrid and hybrid x Welsh pedigree pigs. Slaughtering the pedigree Welsh earlier to reduce the risk of excess fat on the carcase contributed to this.



Average slaughter weight

Hybrid pigs had the highest slaughter weight averaging 85.9kg. Slaughtering the pedigree Welsh earlier to reduce the risk of excess fat on the carcase contributed to this.



Average litter sizes

Even though litter sizes for the Welsh pig improved by 1 piglet in 6 months they remained lower than those of the hybrid and the hybrid x Welsh.

Improving piglet survival

Many factors influence piglet survival, particularly in their first three days of life. Reducing pre-weaning mortality rates will significantly increase herd productivity. Production efficiency can also help mitigate climate change, reducing the herd's carbon footprint. Pant y Beiliau, a mixed farm near Abergavenny, rears saddleback pigs and hosted a Farming Connect supported event focusing on improving piglet survival, disseminating good practice messages to other pig farmers in the area.

- Poor sow performance during gestation can lead to smaller, lighter litters.
- Starvation and crushing are the main causes of piglet mortality.
- Weigh feed to know exactly how much is being fed, it is beneficial to feed an in-pig ration rather than a general blend to meet the sow's energy requirements.
- Be aware that stillbirths are common in slow farrowing. The navel cord will have been stretched and torn while the piglet is still inside the sow.
- Improve birth weights by using EBVs and having a breeding plan.
- Identify signs of ill health as soon as possible.

Best practice during farrowing

- Bring the sow into the clean farrowing pen four days before farrowing to reduce stress.
- Provide a heat lamp, turning it on a day before farrowing.
- Keep a careful eye on the sow.
- Rub the sow's belly to stimulate controlled contractions of the womb.
- Avoid intervention - there can be a 30 minute gap between each birth.

Best practice after farrowing

- Hand dry piglets to increase vigour.
- Place them away from the sow to avoid crushing.
- Help them to suckle if required.
- Ensure piglets receive 200g of colostrum in first 24 hours.

Management of the sow and gilt

Maintain a **body condition score of 3-3.5** during pregnancy.

Take into account age and breed of pig when condition scoring.

Are piglets getting enough vitamin E?

Vitamin E deficiency can lead to 'Mulberry Heart', a healthy looking piglet with an enlarged heart.

Provide creep feed to ensure piglets are eating enough and getting enough vitamin E.

Sows need to be **'Fit not Fat'** at farrowing

Poor sow performance during gestation can lead to smaller, lighter litters

80% of piglet mortality occurs in the first **3** days of life

Stillbirths increase in the **last 3rd of piglets to be born**

Reduced pre-weaning mortality = increased productivity, performance and profitability

Help eliminate African Swine Fever

What is African Swine Fever (ASF)?

ASF is a notifiable disease. It is a severe contagious condition affecting domestic and wild pigs. It is responsible for serious production and economic losses. It can be spread by live or dead pigs, domestic or wild, and pork products. Transmission can also occur via contaminated feed, equipment, vehicles and personnel.

There is no approved vaccine against ASF. Historically, outbreaks have been reported in Africa and parts of Europe, South America and the Caribbean. More recently (since 2007) the disease has been reported across Africa, Asia and Europe, in both domestic and wild pigs.

Clinical signs

Acute forms

- ✔ High fever
- ✔ Depression
- ✔ Loss of appetite
- ✔ Haemorrhages in the skin
- ✔ Abortion in pregnant sows
- ✔ Obvious blue/purple or red skin
- ✔ Vomiting
- ✔ Diarrhoea
- ✔ **Death within 6-13 days**

Subacute/chronic forms

- ✔ Weight loss
- ✔ Intermittent fever
- ✔ Respiratory signs
- ✔ Chronic skin ulcers
- ✔ Arthritis
- ✔ **Mortality in 30-70% of cases**

ASF is **not** a risk to humans

Up to **100%** mortality in acute forms of ASF

Diagnosis must be confirmed by **laboratory tests**

Transmission and spread

The disease is **highly contagious**. It can be spread by:

- Direct contact with infected domestic or wild pig or their faeces or body fluids.
- Indirect contact, through ingestion of contaminated material (food waste, feed or rubbish).
- Direct or indirect contact with vectors, such as ticks, vehicles, clothes, knives, shoes and equipment.

Prevention

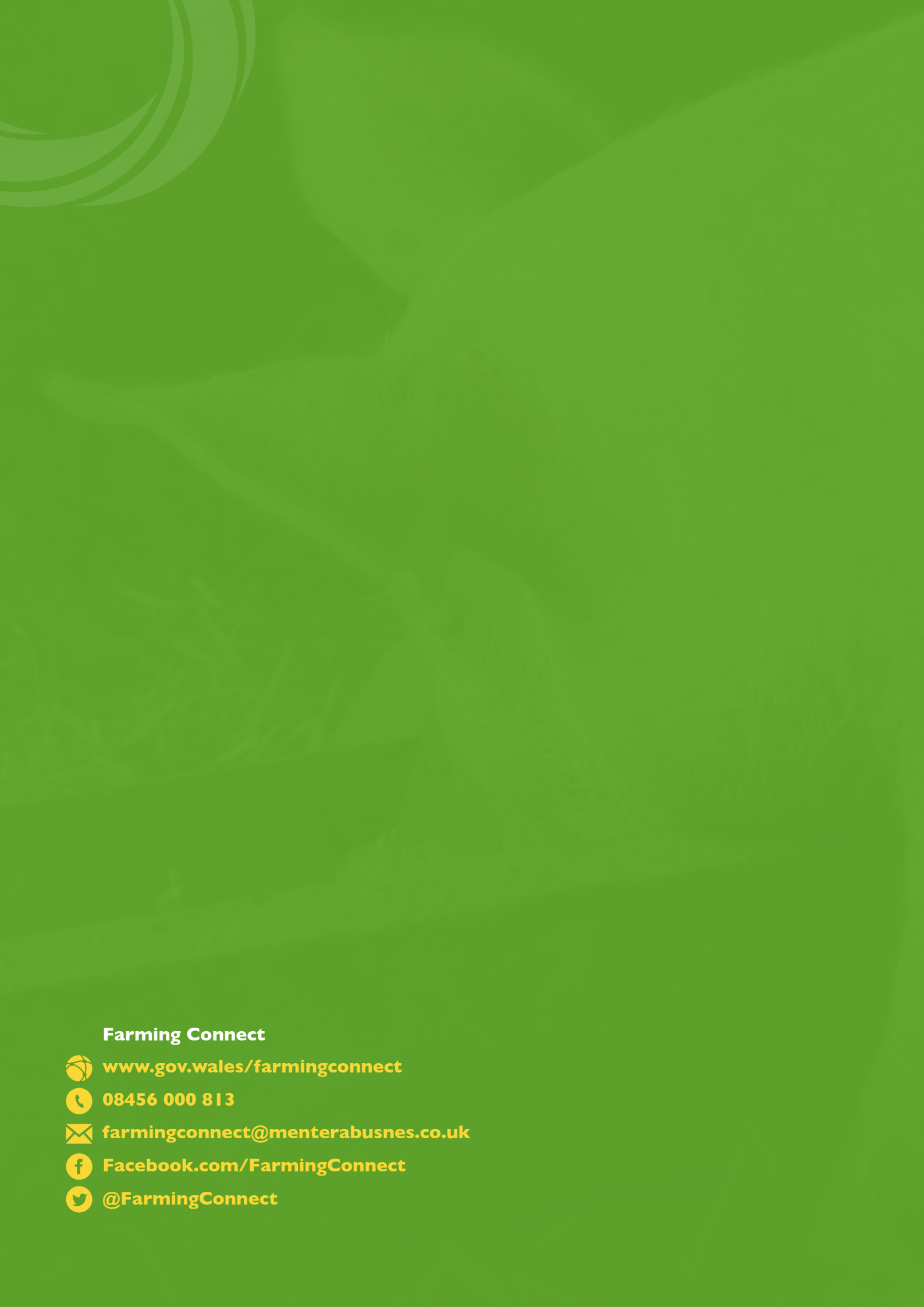
- Remember it is illegal to feed kitchen and catering waste to pigs.
- Appropriate import policies.
- Implement strict biosecurity measures.
- Ensure infected pigs are not introduced into ASF free areas.
- Appropriate waste disposal.
- Policing illegal imports of pigs.
- Refrain from feeding anything which could have been contaminated by meat products.

Control

- Early detection.
- Humane killing of animals.
- Cleansing and disinfection.
- Zoning and movement controls.
- Surveillance and epidemiological investigation.
- Knowledge and management of the wild boar population.
- Good coordination among veterinary services and authorities.

If confirmed, ASF will be controlled in line with the contingency plan for exotic notifiable diseases and the ASF disease control strategy for Great Britain.

If you suspect African Swine Fever, you must report it immediately by calling the **DEFRA Rural Services Helpline** on **03000 200 301**



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