

# Best Practice and Overseas Developments in Piggery Management



## Fiona Chambers

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# i. Executive Summary

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A study of free range pig production systems was undertaken in October 2010, researching industry best practice in free-range herds in which sows farrow (give birth) outdoors without the use of farrowing crates.

This Fellowship enabled the Fellow to travel to England, Brussels and France; a total of nine visits were made over a three week period.

Five of the visits were free range enterprises, with four engaging in value adding by direct marketing of the following free-range brands:

- Blythburgh Free Range Pork
- Packington Pork
- Eastbrook Farm Pork
- Label Rouge (chicken).

The remaining visits were made to:

- Royal society of Prevention of Cruelty to Animals (RSPCA)
- British Pig Exchange (BPEX)
- John Suykes Rymer (JSR) Technical Conference
- Directorate General for Health and Consumer European Commission (EC)
- Compassion in World Farming (CIWF).

The focus of the study was to study the production, marketing and regulatory frameworks associated with the growth of free range pork production systems.

Animal welfare is clearly at the heart of consumers push for free range pig production systems. However there is much confusion over what constitutes good animal welfare. Central to this is the variation in the definition of animal welfare and how it is perceived by industry players and consumers. By way of example, Australia's definition of animal welfare is significantly different to how it is defined by the World Organisation for Animal Health. Accordingly, there is a lot of confusion even within the industry and this is slowing progress, particularly with respect to establishing free-range standards.

A range of different practices are identified for weaning systems and housing systems, but very little was gleaned with respect to using fodder crops in paddock rotations. This was disappointing as it was hoped that much could be learned in this area.

Four key recommendations are listed by the report:

1. Welfare definitions need to be broadened to encompass animals' behavioural needs
2. Uniform definitions and standards for free-range production and independent audit processes are necessary to enable consumers to be confident they are making decisions that are consistent with their values
3. There is a need to increase consumer awareness of the impact their food choices have on animal welfare and the environment
4. There is an opportunity to brand products using clear statements of the brand's values or unique selling points above and beyond the basic free range standard.

The report identifies each of these in more depth and identifies three key recommendations for government, industry and community education.

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## ii. Abbreviations/Acronyms

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AAWS	Australian Animal Welfare Strategy
APIQ	Australian Pig Industry Quality Assurance
APL	Australian Pork Limited
AZA	Association of Zoos and Aquariums
2TS	Two-Tonne Sow. A program run by the British Pig Exchange (BPex), aiming to increase the productivity of British pig farmers to reach an industry average of two tonne of pig meat produced per sow
BPEX	British Pig Exchange is the national peak industry body representing British pig producers
CIWF	Compassion in World Farming
DAFF	Department of Agriculture, Fisheries and Forests
EC	European Community
EU	European Union
HSI	Humane Society International
JSR	John Sykes Rymer
OA	Order of Australia
OBE	Order of the British Empire
OIE	World Organisation for Animal Health
RBI	Rare Breeds International
RBTA	Rare Breeds Trust of Australia
RSPCA	Royal Society for the Prevention of Cruelty to Animals
UK	United Kingdom
VCAH	Victorian College of Agriculture and Horticulture

# iii. Definitions

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**Farrow**

To give birth (pig)

**Farrowing**

Pig birthing

**Farrowing crates**

Cages used in intensive piggeries to restrain a sow when birthing to minimise piglet losses from overlays

**Overlay**

Term used when piglets die from crushing due to their mothers lying on them

# 1. Acknowledgements

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Fiona Chambers would like to thank the following individuals and organisations who gave generously of their time and their expertise to assist, advise and guide her throughout the Fellowship program.

## **Awarding Body – International Specialised Skills Institute (ISS Institute)**

The International Specialised Skills Institute Inc is an independent, national organisation that for over two decades has worked with Australian governments, industry and education institutions to enable individuals to gain enhanced skills and experience in traditional trades, professions and leading-edge technologies.

At the heart of the ISS Institute are our Fellows. Under the **Overseas Applied Research Fellowship Program** the Fellows travel overseas. Upon their return, they are required to pass on what they have learnt by:

1. Preparing a detailed report for distribution to government departments, industry and educational institutions.
2. Recommending improvements to accredited educational courses.
3. Delivering training activities including workshops, conferences and forums.

Over 200 Australians have received Fellowships, across many industry sectors. In addition, recognised experts from overseas conduct training activities and events. To date, 22 leaders in their field have shared their expertise in Australia.

According to Skills Australia's 'Australian Workforce Futures: A National Workforce Development Strategy 2010':

Australia requires a highly skilled population to maintain and improve our economic position in the face of increasing global competition, and to have the skills to adapt to the introduction of new technology and rapid change.

International and Australian research indicates we need a deeper level of skills than currently exists in the Australian labour market to lift productivity. We need a workforce in which more people have skills, but also multiple and higher level skills and qualifications. Deepening skills across all occupations is crucial to achieving long-term productivity growth. It also reflects the recent trend for jobs to become more complex and the consequent increased demand for higher level skills. This trend is projected to continue regardless of whether we experience strong or weak economic growth in the future. Future environmental challenges will also create demand for more sustainability related skills across a range of industries and occupations.

In this context, the ISS Institute works with Fellows, industry and government to identify specific skills in Australia that require enhancing, where accredited courses are not available through Australian higher education institutions or other Registered Training Organisations. The Fellows' overseas experience sees them broadening and deepening their own professional practice, which they then share with their peers, industry and government upon their return. This is the focus of the ISS Institute's work.

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## 1. Acknowledgements

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AgriFood Skills Australia is the Industry Skills Council for the agrifood industry: the rural and related industries, food processing (including beverages, wine and pharmaceuticals), meat, seafood and racing. The Fellow would like to thank them for providing funding support for this Fellowship.

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- » Dr Barb Frey, Veterinarian, Consistent Pork, Guildford, WA, Australia
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- » Mr. Simon Macguigan, CEO, The Pastoral Pork Co, Derrimut, VIC, Australia
- » Carole de Fraga, Representative, Compassion in World Farming (Australia), Surrey Hills, VIC, Australia
- » Emalyn Loudon, Manager, Technology Transfer & Adoption Research & Innovation, Australian Pork Limited, Kingston, ACT, Australia
- » Verna Simpson, Director, Humane Society International, Avalon, NSW, Australia
- » Dr Simon Livingstone, Principal, Marcus Oldham College, Waurn Ponds, Victoria, Australia.



## 2. About the Fellow

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Fiona Chambers, owner/manager of Fernleigh Free-Range, has been farming organically with her husband at Daylesford since 1988. In 1995 the couple purchased their first pigs and went on to establish the first certified organic and free-range piggery in Victoria. Chambers was inducted in the inaugural 'Melbourne Food Hall of Fame' in 2009 and Fernleigh Free-Range bacon was named 'best bacon' in the Foodies Guide to Melbourne, 2010.

Over the past fifteen years, Chambers has been actively involved in the conservation of farm animal genetic diversity in Australia and overseas and is currently a Director of Rare Breeds International (RBI) and Rare Breeds Trust of Australia (RBTA). Fiona is passionate about conserving biodiversity in food and farm livestock and champions the global conservation of the Wessex Saddleback pig breed.

Chambers has received the following qualifications and awards:

- Diploma of Applied Science (Agriculture), VCAH, Dookie 1986
- Fellow, Williamson Community Leadership Program, 1998
- Churchill Fellow, 2003.

# 3. Aims of the Fellowship Program

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The aims of the Fellowship program were to:

- a) Develop key skills relating to free-range pork production
- b) Learn from countries that have already gone through or are currently embarking upon major industry adjustment and reform in relation to the banning of gestation stalls.

# 4. The Australian Context

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In 2007, Australia launched The Code of Accepted Farming Practice for the Welfare of Pigs (Revision 2). Under the revised code it states that, “gestation stalls will only be permitted for a maximum of six weeks per gestation from 2017”.

This decision was made in stark contrast to trends in other developed countries such as the United Kingdom, which decided in 1991 to completely ban sow stalls from 1999. The European Union also decided to limit the use of sow stalls to the first four weeks of gestation by the end of 2013 (EU, 2009). It is also interesting to note that this decision is also in contrast to those countries that have no intention of banning the use of sow stalls. It has for sometime been clear that changes beyond those written in the Australian 2007 Code of Practice would be implemented.

It was therefore not surprising that in June 2010, the Tasmanian Minister for Primary Industries and Water announced that Tasmania would be banning sow stalls by 2017 and limiting the use of sow stalls to a maximum six week period by 2014. This announcement broke from the nationally agreed position and followed closely on the heels of Australian Pork Limited announcing that it would run a national industry consultation process called ‘Shaping Our Future’. The consultative process was in response to the growing pressure from external forces such as retailers and politicians for our industry to change some of its animal welfare practices, particularly our sow housing systems (APL 2010).

This study program therefore came at a time of great industry turbulence and change providing an opportunity to learn from countries that have already gone through or are currently embarking upon major industry adjustment and reform in relation to the banning of gestation stalls. It is a time to collaborate to evaluate viable options for high welfare pig production systems for the future and embrace and lead the positive change.

# 5. Identifying the Skills and Knowledge Enhancements Required

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There are examples of areas in Australian industries where there are weaknesses in innovation, skills, knowledge, experience, policies and/or formal organisational structures to support the ongoing successful development and recognition of individuals and the particular sector.

The focus of all ISS Institute Fellowships is on applied research and investigation overseas by Australians. The main objective is to enable enhancement and improvement in The Skills, Knowledge and Practice not currently available or implemented in Australia and the subsequent dissemination and sharing of those skills and recommendations throughout the relevant Australian industry, education, government bodies and the community. The areas of applied research for this Fellowship are therefore defined as follows:

1. Best practice in free-range herds in which sows farrow (give birth) outdoors without the use of farrowing crates.

Collect, record and analyse performance data from a number of free range piggeries with regard to the number of piglets weaned per sow per litter. Identify and define the key practices that impact on performance with particular emphasis on:

- » Minimising piglet losses from predators
- » Minimising piglet losses from extremes of weather
- » Minimising piglet losses from overlay.

*Aim: To become skilled in managing farrowing sows in an outdoor, free-range farming system and attaining global industry best practice performance as determined by the key performance indicator of the number of piglets weaned per sow per litter.*

2. Best practice in managing sows in a free-range, extensive system without using sow stalls.

Collect, record and analyse performance data from a number of free range piggeries with regard to the number of piglets and litters weaned per sow per year. Identify and define the key practices that impact on performance with particular emphasis on:

- » Preventing unborn piglet losses
- » Preventing dietary imbalances from inappropriate (under or over) access to food
- » Protecting sows from aggressive behaviours from other sows
- » Optimising sow conception rates.

*Aim: To become skilled in managing sows from weaning through to farrowing and attaining industry best practice performance as determined by the key performance indicators of the number of piglets and litters weaned per sow per year.*

3. Effective ways to utilise pasture and fodder crops in extensive, free-range pig production systems.

Evaluate the different grazing systems being employed by free-range pig enterprises and appraise their effective capacity to:

- » Optimise the utilisation of nutrients and forage created on-farm
- » Minimise the reliance on purchasing in fodder from outside sources
- » Minimise parasite burdens.

## **5. Identifying the Skills and Knowledge Enhancements Required**

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Evaluate and appraise the physical components of the grazing systems including:

- » Fencing systems
- » Housing systems
- » Watering systems
- » Feeding systems.

*Aim: To determine the most effective system for rearing pigs in a free-range environment.*

4. Responsible environmental management of soils and pastures for grazing pigs without nose-rings to optimise the sequestering of carbon in the soil and minimise erosion.

Evaluate the balance between providing for the animal's welfare requirements (e.g. allowing the pigs to exhibit all of their natural behaviours including rooting with their snouts) and acting responsibly with regard to environmental best practice (preventing over stocking and excessive soil disturbance from rooting behavior which can contribute to the release of carbon into the atmosphere and unwanted nutrient run-off if not correctly managed).

*Aim: To become skilled in establishing and operating a sustainable crop and animal rotation that attains industry best practice with regard to productive performance, animal welfare and environmental management of the natural resources.*

5. Effective marketing strategies to encourage consumers as partners in creating positive industry change.

Evaluate different brand/market strategies for free-range and/or organic pork products and compare and analyse the key components of their strategies. Identify the strengths, weaknesses, opportunities and threats of each strategy.

*Aim: To determine the most successful methods of marketing free-range pork products to encourage sustainable growth of the industry sector.*

6. Legislation – Understanding the European Legislative context.

Identify the key drivers and constraints that led to the current European legislation with respect to the use of sow stalls and farrowing crates. Develop a timeline of key legislative change events specifically relating to sow /pig confinement. Identify likely future issues on the horizon and those currently being discussed.

*Aim: To better understand the legislative context and decision making framework and key areas that may have relevance to Australian legislative changes that relate to animal welfare standards or codes of practice.*

# 6. The International Experience

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## Destination One: 21st John Sykes Rymer (JSR) Technical Conference

**Location:** University of Nottingham, Nottingham, UK

**Contacts:** Keynote Speaker - Alistair Butler, Blythburgh Free Range Pork, Suffolk UK

### Objective:

The main objectives were to learn from Alistair Butler's presentation at the conference, better understand the genetic parameters surrounding free range pig production and to meet other free range pork producers.

## Destination Two: Eastbrook Organic Pig Farm

**Location:** Wiltshire, UK

**Contact:** Helen Browning, OBE

Browning farms organically in Wiltshire and founded the Helen Browning Organic brand. She is Chief Executive of the Soil Association and also chairs the Food Ethics Council. At the time of visiting, Browning was Director of External Affairs for the National Trust. She was a member of the Government's Policy Commission on the Future of Farming and Food ('the Curry Commission') and chaired the England Animal Health and Welfare Implementation Group. She was awarded an OBE in 1998 for her contribution to organic farming.

### Objective:

To identify best practice in managing sows in a free-range, extensive system without using farrowing crates or sow stalls. To evaluate different brand/market strategies for free-range and/or organic pork products.

## Destination Three: Packington Pork

**Location:** Blakenhall Park, Barton-under-Needwood, Staffordshire, UK

**Contacts:** Rob Mercer (pigs) and Alec Mercer (poultry)

### Objectives:

- To identify best practice in managing sows in a free-range, extensive system without using farrowing crates or sow stalls
- To look at different free range production systems
- To see how free range production of pigs and poultry can work together in a farming business
- To evaluate different brand/market strategies for free-range and/or organic pork products.

## 6. The International Experience

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### Destination Four: British Pig Exchange (BPEX)

**Location:** Stoneleigh Park, Kennilworth, Warrickshire, UK

**Contact:** Andrew Knowles (MBA), Head of Communications and Supply Chain Development, BPEX

**Objective:**

To understand the UK experience and consultative process engaged when drafting their national definitions for the different extensive production systems - Free-Range, Outdoor Bred, Outdoor Reared.

### Destination Five: Directorate General for Health and Consumer European Commission (EC)

**Location:** 1049 Brussels, Belgium

**Contacts:** Denis Simonin, Evaluation Officer, Animal Welfare  
Jostein Dragset, Veterinary Advisor, Animal Welfare.

**Objective:**

To better understand the legislative context and decision making framework and key areas that may have relevance to Australian legislative changes that relate to animal welfare standards or codes of practice.

### Destination Six: Synalaf

**Location :** Various farms around Le Mans, France

**Contact:** Catherine Diemer

**Objective:**

Evaluate the different brand/market strategies used by France's most successful premium free-range poultry brand known as Label Rouge.

### Destination Seven:

**Location:** Tedbury, UK

**Contact:** Richard Hazel, Manager, large scale free-range and organic piggery

**Objective:**

To identify best practice in managing sows in a free-range, extensive system without using farrowing crates or sow stalls.

## 6. The International Experience

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### Destination Eight: Compassion in World Farming

**Location:** Godalming, Surrey, UK

**Contact:** Phil Brooke, Welfare and Education Development Manager

**Objective:**

To better understand the priority welfare objectives being supported by animal welfare lobby groups.

### Destination Nine: RSPCA

**Location:** Wilberforce Way, Southwater, Horsham, West Sussex, UK

**Contact:** Kate Parkes, Senior Scientific Officer

**Objective:**

To better understand the priority welfare objectives being supported by animal welfare lobby groups.  
To understand the role RSPCA had in setting the free range definition in the UK.



## 6. The International Experience

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### Summary of Findings

H.L Menken once said, “For every complex question, there is a simple answer - and it’s wrong”. The relevance of this quote has never been more true than when trying to draw simple conclusions from the complexity of views and experiences this ISS Institute Fellowship provided. For every conclusion, a multitude of exceptions appeared to contradict clear certainty.

This was apparent visiting the EC to better understand the legislative framework. In asking questions seeking to understand European subsidies Denis Simonin said, “It used to be said in the EU that only the head of the EU and God could understand how the subsidies work. Now even God is unclear”.

Accordingly, rather than addressing specifics, this report looks at the key themes emerging from the study tour.

### Welfare

Considerations, complications and the need for clear definitions and standards.

There was clear consensus for the need to provide high level welfare outcomes for farm livestock. Variances however, occurred in interpreting how welfare outcomes might be delivered, measured, monitored and evaluated depending on people’s value system and their interpretation of the term welfare. Andrew Knowles from BPEX provided a fitting example of this. The free range standard requires pigs to be provided with a “manipulable material” in order for them be able fulfill their behavioral need for rooting and digging.

In interpreting this requirement however, some piggery managers provide pigs with straw bedding where others provide lengths of metal chain suspended from the roof. Both satisfy the requirement of the standard as it is written. But to what degree does a chain suspended from the roof adequately substitute natural materials such as straw which serve additional welfare functions? Straw not only satisfies a pig’s curiosity and behavioural need to root and dig, it also provides digestive benefits and makes lying down more comfortable; protecting pigs from physical impairments such as “bed sores” from lying on hard abrasive surfaces or chilling from the cold coming through from the floor or ground.

For some people these variances create disillusionment and distrust in the existing definitions and standards as they fail in part to satisfy consumer’s growing expectations of a guarantee of adequate animal welfare conditions. This disillusionment is impacting on industry growth in two ways:

- First, consumers distrust of the integrity and rigour of the welfare claims
- Second, some producers seeing the welfare standards as being too low are opting out and marketing their meat outside of the quality assurance framework, further confusing consumers.

In Britain, a new standard came into force for manipulable materials in April 2010 (BPEX, nd). The new standards stated that:

- Chains alone are not acceptable
- Tyres are not acceptable as some may contain wire that could hurt the pigs
- Objects must be shown to be of interest to the pigs – i.e. not fouled
- Objects must be within the pigs’ reach.

## 6. The International Experience

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Confusion in relation to what constitutes good animal welfare also exists in Australia, among farmers, consumers, government and industry stakeholders. This is being reinforced by the slow adoption of a uniform definition of animal welfare, alignment with the current international definition, and integration into industry practices.

Australia's approach to defining Animal Welfare, as stated by the Australian Department of Agriculture, is:

All animals have intrinsic value. The Australian approach to animal welfare requires that animals under human care or influence are healthy, properly fed and comfortable and that efforts are made to improve their well-being and living conditions. In addition, there is a responsibility to ensure that animals which require veterinary treatment receive it and that if animals are to be destroyed, it is done humanely (DAFF).

Australian Pork Limited (APL) expresses this slightly differently:

Australian pig farmers must pay attention to the welfare needs of their stock to meet food quality and safety requirements (APL).

Although APL advocates sound, well researched and proven approaches to swine health and production, it falls well short of talking about welfare in the context of the animal's own behaviour.

The Australian definitions have traditionally presented a generally narrow physical approach with the focus on the treatment conditions (food, health, living conditions).

By contrast, the World Organisation for Animal Health (OIE) definition puts the animal and its physical and behavioural responses at the centre of their definition:

Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress (OIE).

OIE first identified animal welfare as a priority in their 2001-2005 strategic plan (OIE, 2013) and a copy of the complete Animal Welfare Guidelines is included in Appendix 1.

Their definition is a more encompassing of total animal welfare, and despite having been officially adopted by the Australian Animal Welfare Strategy (AAWS), we still seem to be a long way from integrating this definition into the Australian pig industry and influencing the government's understanding of the definition in practice.

### **Animal Enrichment.**

Animal enrichment is defined by the Behaviour Scientific Advisory Group Association of Zoos and Aquariums (AZA) as a dynamic process for enhancing animal environments within the context of the animals' behavioral biology and natural history. It is an accepted process that is practised widely in zoos around the world with the goal of increasing the animal's behavioral choices and drawing out their species-appropriate behaviours, thus enhancing animal welfare (AZA,2009). It was observed that during discussions relating to free-range pig production the term "animal enrichment" does not generally form part of the vernacular amongst farmers or pig industry technical advisors. BPEX was just starting to talk about it. This in addition to the differences in how animal welfare is defined and played out in practice may indicate and support the need to raise the general understanding of animal behaviours as a central pillar of the welfare definition and discussions.

## 6. The International Experience

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Where enrichment is discussed, it is mostly in terms of confined animal housing in a barren environment. In the context of outdoor, free range production, green grass is not always available due to high stocking densities or seasonal or climate variations. Enrichment in this context therefore needs further discussion to determine what level of enrichment is acceptable to provide acceptable welfare in a free range setting.

### Nose Rings.

A discussion of free range pig systems would not be complete without mentioning the role of nose ringing. Nose rings are used by some free-range pig keepers to stop the pigs from digging the pasture and destroying the grass. Nose rings achieve this because they cause the pig pain.

Animal Welfare organisations such as Compassion in World Farming (CIWF) and Humane Society International (HSI) do not approve the use of nose rings as it restricts the animal from a range of functional activities displayed as part of its normal behaviour, including rooting with its nose and elicits a range of behaviours that suggest a degree of reduced welfare (Bassett, 2011).

Nose-ringing significantly reduces pasture damage, but it cannot be recommended on welfare grounds. It is a painful mutilation designed to discourage a highly motivated natural behaviour (CIWF, nd).

Where it can be demonstrated that activity of the sow would otherwise damage soil structure, and/or cause environmental pollution, and/or compromise the welfare of the litter, the American Animal Welfare Approved standard will permit one septum nose ring for breeding sows only (Bassett, 2011).



*septum nose ring in sow*

Much of the controversy results from people's perception of what the free range standard includes and doesn't include. Practices such as nose ringing provide an additional layer of animal welfare compliance, but nose ringing is not mentioned in the Australina free range standard. This provides an

## 6. The International Experience

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additional opportunity for further branding and product definition. Brands such as the Royal Society for the Prevention of Cruelty to Animals (RSPCA) Freedom Foods brand does not permit nose ringing except in exceptional circumstances (RSPCA, 2012, p24).

### Feeding.

Feeding systems varied according to the stage of growth and lactation. All feeding systems observed were dry feeding systems. This is likely to be because of the increased difficulty in dispensing a wet feed in an outdoor system. Disappointingly, no examples of fodder crops being used in the grazing systems were seen.

Bulk feed dispensers were generally used for growing animals with the pigs having access to food at all times in the paddock especially where there no grass available. Bulk feeders have the advantage of reducing the labor required as the feeders do not need to be filled every day. They also reduce bullying at feed times as all animals have a chance to feed at the feeder over the course of the day rather than competing for feed at a given feed time. The disadvantage is that some pigs can over eat and get too fat and there was still some wastage from spillage.



## 6. The International Experience

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Feeding in feeders generally helped reduce wastage from birds and rodents and also helped to reduce the risk of disease. There was high awareness of the risks of disease following the bird flu epidemic of 2006-07. At that time, free range chickens were required to be kept indoors to minimise the risk of spread of infection.

Sows were fed a large size pelleted ration (called pig 'nut') in preference to a milled feed. The large size of the pellets cut down on wastage as there was less loss from dust blowing in the wind and being lost into the muddy ground. They also provide enrichment for the sow as she has to fossick for the food. Pellets were generally

more effective in getting the required nutrients into the sow during her lactation providing better food conversion efficiency. During her lactation she has a very high requirement for both quality protein and quantity of energy.

Portable feed carts allowed feed to be taken to pigs in the fields. In many cases this involved driving the tractor and cart on the road to access fields.

In many cases the feed milling equipment itself was fairly portable. This was seen as a benefit by Rob Mercer of Packington Pork. Rob's family had originally been conventional indoor pork producers. He said that after 20 years all of their expensive infrastructure was obsolete, but was still fixed to the landholding. He said that one significant benefit of having a free range farm was that he was not investing in permanent fixed infrastructure. If he decided to change enterprises he could because he did not have his capital tied to the land. It also gave him a lot more flexibility to lease land and alternate his land use, integrating it with his and other farmers' cropping rotations.



## 6. The International Experience

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### Weaning Systems.

All weaning generally took place on a Thursday. From there each system varied substantially to suit the individual production system in use.

#### System #1

- Removed sows on a Wednesday.
- Locked piglets into the farrowing hut on Wednesday evening after they had settled down to sleep.
- On Thursday mornings, piglets were collected from the locked house by two staff.



*Pig house with lockable door*

The advantages of this system were:

- It did not require a four am/early morning weaning to ensure the pigs were all still in their house.
- The sow had already been removed and therefore it avoided stress for the sow when handling her piglets and minimised the risk for workers from aggressive sows.

#### System #2

- Removed piglets on a Thursday from the sow.
- The sow would be fed outside of the house; the piglets were then removed from the house.

#### Disadvantage of this system were:

- A very early start (i.e. 4am) was required to ensure the piglets were still in the house
- This system does not work as effectively with later weanings as the piglets become more mobile.

## 6. The International Experience

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### System #3

- Removed the sows from the piglets on weaning day. Sows were fed in a trailer which could be lowered to ground level to make loading easier. The sows were then taken for a drive to stimulate heat (oestrus).
- Piglets were removed from the field/enclosure in the sows' absence.
- Sows were returned to the same paddock (without piglets).
- Boars were introduced.



*Trailers for transportation of sows*

The advantage of this system is:

- The sows remain in their harem groups which reduced fighting and increased conception rates.

Most systems separated piglets into male and female groups at weaning to:

- Reduce sexual activity
- Reduce injuries from sexual activity and aggression from litter siblings
- Reduce stress and risk of early pregnancies.

Most systems also preferred weaning at six or nine weeks of age to fit in with three week batch farrowing cycles.

## 6. The International Experience

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### Straw management – ‘An art’.

At Eastbrook Farm, straw management was considered to be a critical success factor to maximising production. All houses could be seen with copious amounts of straw bursting forth from each pig house and farrowing hut. The justification for having so much wet straw on the outside of the pig huts was that it acted as a door mat on which pigs would wipe their feet, removing excess dirt and minimising mud from the doorway entering the house.

The benefit of this was that has shown to reduce the clinical symptoms of pneumonia (coughing and ill thrift). Eastbrook considered straw management to be an art form and they engaged a person referred to as the ‘straw fairy’ whose sole job two days each week was to top up all of the straw in every pig house. As an art form, the secret was said to be:

Top up little and often in the first few days when piglets are first born. Provide lots of straw at the front of each house to stop bringing in mud from outside to reduce incidence of pneumonia which leads to set backs.



*Straw in front of the pig houses*



## 6. The International Experience

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### Housing.

The free range pig housing systems tended to be set around the following:

- Individual housing for sow and litters
- Group housing for dry sows
- Farrowing huts grouped in small paddocks shared with three to four other farrowing sows
- Weaner chalets with straw bale fillers in the early days and weeks post weaning.

### Genetics.

The JSR conference focused on the target Two-Tonne Sows (2TS) goal of pig genetics that allowed each sow to rear two tonne of progeny per year by raising 20 pigs per sow per year weighing 100kg at market.

At Eastbrook Farm, Helen Browning used mainly British Saddleback pigs as the basis of her organic herd. Helen believes that rearing replacement pigs on farm allows the pigs to adapt to their local environment and is preferable to bringing in genetics from outside. In Helen's experience, the traditional British Saddlebacks were only ten per cent slower in reaching their growth target compared with other more commercial breeds or crosses.

Other issues relating to genetics and breeding were the extensive use of artificial insemination in the pursuit of achieving the 2TS targets. Whilst artificial insemination has the benefit of bringing about rapid genetic improvement in terms of productive gain, it was not without problems. Some male terminal line pigs were said to be no longer capable of breeding naturally because their body length had become too long and their hams had been grown to such proportions in the pursuit of improving carcass yields. This appears to be a value challenge; efficiency against ethics of long term sustainability and animal welfare. Which is right or wrong can only be measured by a person's or society's values. Care needs to be taken however that the trend toward increasingly fast growing and high yielding genetics does not play out in free range enterprises to the extent that it threatens violating the international welfare guidelines in terms of the animal being no longer suited to the local climate and able to adapt to the local diseases, parasites, and nutrition (OIE, Article 7,1,4,3).

A difficulty arises however, when consumers are not aware of the implications of their buying decisions and how those decisions drive production trends – or in this case the trend towards breeding males that can no longer mate naturally.

# 7. Knowledge Transfer: Applying the Outcomes

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The ISS Fellowship has provided many valuable insights into free range pig production systems and the policy and legislation requirements surrounding them. In no way can this report summarise all of the insights gained.

It has been a great pleasure and honour however, to be able to share so many of the lessons learned in the following ways:

1. Contributing to the ongoing development of the national standards for free range production systems in Australia as a member of APL's extensive pork producer advisory panel.
2. Running regular Pig Day Out pig handling workshops for people wanting to learn how to operate a free range piggery. Since completing the ISS Fellowship, 57 people have attended the intensive one day workshop to learn about free range pig keeping. The workshops incorporate ideas learned from the fellowship and attendees have come from every state and territory across Australia with the exception of Northern Territory.
3. Running regular farm open days at the newly established site at Nehill Brothers' Farm. The site is a conservation breeding centre for rare breeds of domestic farm livestock and was opened by the Governor of Victoria Alex Chernov, OA in October 2011. The site is open to the general public and regularly hosts tours for groups including schools, universities and Probus clubs. It is a site where farmers, consumers and the general public can come and ask questions relating to free range pig keeping and see a free range production system in practice.
4. Offering to deliver presentations at the Victorian Pig Fair and Pan Pacific Pork Expo – the two major pig industry events in Australia.
5. Lecturing as a guest lecturer at Melbourne University on animal welfare and free range pork production systems.
6. Hosting more than 50 veterinary students for their five days of industry placement experience on a free range piggery as part of their course requirements. Students have come from five universities from across Australia including The University of Adelaide, The University of Sydney, The University of Melbourne, Charles Sturt University and James Cook University.

# 8. Recommendations

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Three key recommendations have come out of the Fellowship and these are outlined below.

## **Government:**

The definition of animal welfare in Australia as stated by DAFF needs to be reviewed and amended to encompass a broader definition focussing more on the animal and its intrinsic physical and behavioural needs rather than its extrinsic treatment conditions.

In addition, the concept of animal enrichment needs to be incorporated into the general vernacular. The Fellow is continuing to advocate for this through:

- Involvement on APL's extensive pork producer advisory panel
- Lecturing roles
- Running of Pig Day Out Workshops.

## **Industry**

Uniform definitions and standards for free-range production and independent audit processes are necessary to enable consumers to be confident they are making decisions that are consistent with their values. The Fellow is continuing to contribute to the development of these uniform standards through:

- Involvement on APL's extensive pork producer advisory panel
- APL free-range standards establishment and Australian Pig Industry Quality Assurance (APIQ) review processes.

## **Community Education**

There is a need to increase consumer awareness of the impact their food choices have on animal welfare and the environment. Currently in developed countries, the food chain is very long and people live in a highly urbanised environment with little interaction with agriculture and the rural environment.

There is a disconnect between the producer and the consumer. This increased awareness is being facilitated through:

- The open farm days which encourage the general public and consumers to visit and/ or become involved in the site
- Doing media interviews in relation to free range pork production.

There is also an opportunity to brand products using clear statements of the brand's values or unique selling points above and beyond the basic free range standard. This might include, for example, "no nose rings used". This can be incorporated into a community education program as part of an integrated communication and marketing exercise.

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# 10. Appendix

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## INTRODUCTION TO THE RECOMMENDATIONS FOR ANIMAL WELFARE

### Article 7.1.1.

Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress.

Good animal welfare requires disease prevention and appropriate veterinary treatment, shelter, management and nutrition, humane handling and humane slaughter or killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment.

### Article 7.1.2.

#### Guiding principles for animal welfare

1. That there is a critical relationship between animal health and animal welfare.
2. That the internationally recognised 'five freedoms' (freedom from hunger, thirst and malnutrition; freedom from fear and distress; freedom from physical and thermal discomfort; freedom from pain, injury and disease; and freedom to express normal patterns of behaviour) provide valuable guidance in animal welfare.
3. That the internationally recognised 'three Rs' (reduction in numbers of animals, refinement of experimental methods and replacement of animals with non-animal techniques) provide valuable guidance for the use of animals in science.
4. That the scientific assessment of animal welfare involves diverse elements which need to be considered together, and that selecting and weighing these elements often involves value-based assumptions which should be made as explicit as possible.
5. That the use of animals in agriculture, education and research, and for companionship, recreation and entertainment, makes a major contribution to the wellbeing of people.
6. That the use of animals carries with it an ethical responsibility to ensure the welfare of such animals to the greatest extent practicable.
7. That improvements in farm animal welfare can often improve productivity and food safety, and hence lead to economic benefits.
8. That equivalent outcomes based on performance criteria, rather than identical systems based on design criteria, be the basis for comparison of animal welfare standards and recommendations.

### Article 7.1.3.

#### Scientific basis for recommendations

1. Welfare is a broad term which includes the many elements that contribute to an animal's quality of life, including those referred to in the 'five freedoms' listed above.
2. The scientific assessment of animal welfare has progressed rapidly in recent years and forms the basis of these recommendations.
3. Some measures of animal welfare involve assessing the degree of impaired functioning associated with injury, disease, and malnutrition. Other measures provide information on animals' needs and affective states such as hunger, pain and fear, often by measuring the strength of animals' preferences, motivations and aversions. Others assess the physiological, behavioural and immunological changes or effects that animals show in response to various challenges.
4. Such measures can lead to criteria and indicators that help to evaluate how different methods of managing animals influence their welfare.

### Article 7.1.4.

#### General principles for the welfare of animals in livestock production systems

1. Genetic selection should always take into account the health and welfare of animals.
2. Animals chosen for introduction into new environments should be suited to the local climate and able to adapt to local diseases, parasites and nutrition.
3. The physical environment, including the substrate (walking surface, resting surface, etc.), should be suited to the species so as to minimise risk of injury and transmission of diseases or parasites to animals.
4. The physical environment should allow comfortable resting, safe and comfortable movement including normal postural changes, and the opportunity to perform types of natural behaviour that animals are motivated to perform.
5. Social grouping of animals should be managed to allow positive social behaviour and minimise injury, distress and chronic fear.
6. For housed animals, air quality, temperature and humidity should support good animal health and not be aversive. Where extreme conditions occur, animals should not be prevented from using their natural methods of thermo-regulation.
7. Animals should have access to sufficient feed and water, suited to the animals' age and needs, to maintain normal health and productivity and to prevent prolonged hunger, thirst, malnutrition or dehydration.
8. Diseases and parasites should be prevented and controlled as much as possible through good management practices. Animals with serious health problems should be isolated and treated promptly or killed humanely if treatment is not feasible or recovery is unlikely.
9. Where painful procedures cannot be avoided, the resulting pain should be managed to the extent that available methods allow.
10. The handling of animals should foster a positive relationship between humans and animals and should not cause injury, panic, lasting fear or avoidable stress.
11. Owners and handlers should have sufficient skill and knowledge to ensure that animals are treated in accordance with these principles.