

ANIMAL WELFARE ASPECTS OF GOOD AGRICULTURAL PRACTICE (GAP) PIG PRODUCTION

LECTURERS' NOTES

The GAP pigs materials are designed as a flexible resource. The film, PowerPoint presentations and book can be used in lectures, seminars and workshops; they can also be used for private study.

These notes are divided into:

- Possible session outlines
- Using the film
- Using the PowerPoint presentations
- Using the book and case study material
- Developing your own local case-study material

POSSIBLE SESSION OUTLINES

We suggest the following order of activities:

1. Show the film, stopping at the end of sections if desired for questions or discussion.
2. Use part of the PowerPoint presentation. The 150 or so slides will be too much for one session, but you could run a few of the topics leaving the rest for future sessions or for private study. We do urge that the section on natural behaviour be included.
3. Get students in groups to study some of the case studies from the book, or local examples of your own. Give them a list of questions to answer including welfare, economic, social and environmental factors. A particularly good activity is to encourage them to analyse systems according to the "Five Freedoms". Encourage them to report back their findings to the others.
4. Use the book, which can be downloaded in pdf format from this DVD or [from the website](#), and the remainder of the PowerPoint presentations for private study.

If you have ideas, worksheets or case studies of your own that you would like to share with others, please email them to education@ciwf.org. We will aim to share the best of these. Do send materials in your own language, though an English translation will be appreciated.

USING THE FILM

The film is 25 minutes long and is divided into eight sections:

1. Introduction
2. Natural behaviour, ancestry and the development of modern pig farming
3. Good Practice 1 – space and foraging needs for dry sows
4. Good Practice 2 – avoiding aggression in dry sows
5. Good Practice 3 – space and nesting needs of farrowing sows
6. Good Practice 4 – weaning ages and piglet health
7. Good Practice 5 – avoiding tail-biting in growing pigs
8. Good Practice 6 – making humane and sustainable pig farming work economically

The sections are clearly marked to provide an opportunity to stop the film for questions and discussion. The DVD menu is also designed so that you can easily move to any section.

The film can be viewed or downloaded from the website for private study.

USING THE POWERPOINT PRESENTATIONS

We strongly recommend the use of the film first as an introduction if time allows. This helps prepare the students for the questions and discussion points which appear in the presentation.

Several of the slides include questions or discussion points as in the example below:

AGGRESSION BETWEEN DRY SOWS



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What are the main causes of aggression in dry sows?

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These **are all in blue** and fly in from the bottom to distinguish them from other pieces of text. They may be used in a variety of ways:

- As questions
- To stimulate discussion
- Rhetorically (if you don't want to stop for discussion)
- For self-testing or encouraging thought where the presentation is used for private study
- Or for a combination of the above – it is probably best not to stop for discussion every time

There is enough material in the main presentation for several lectures, seminars or workshops. If there is not enough time for this, the presentation may be started in lectures and completed by students in private study.

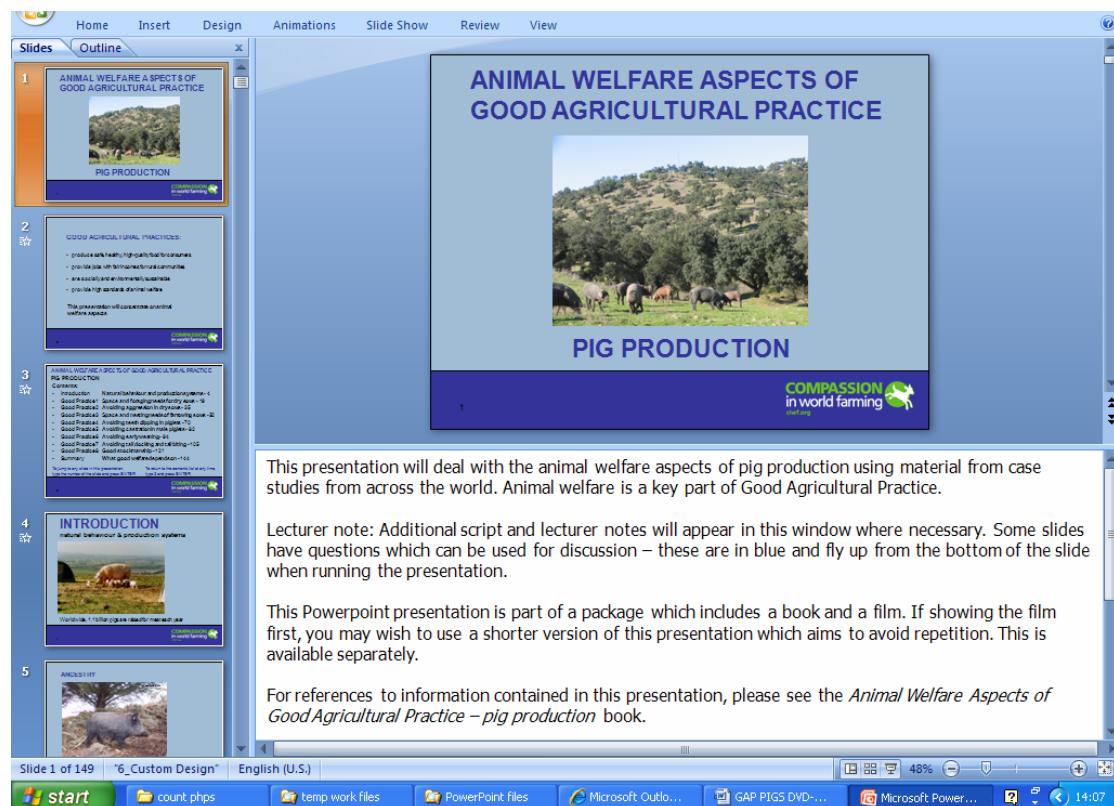
The presentations can also be edited to suit your own requirements. The PowerPoint presentations are available on the DVD-ROM both as PowerPoint slide-shows and

as editable presentations. The editable versions are located on this DVD-ROM under the PresentationCD folder.

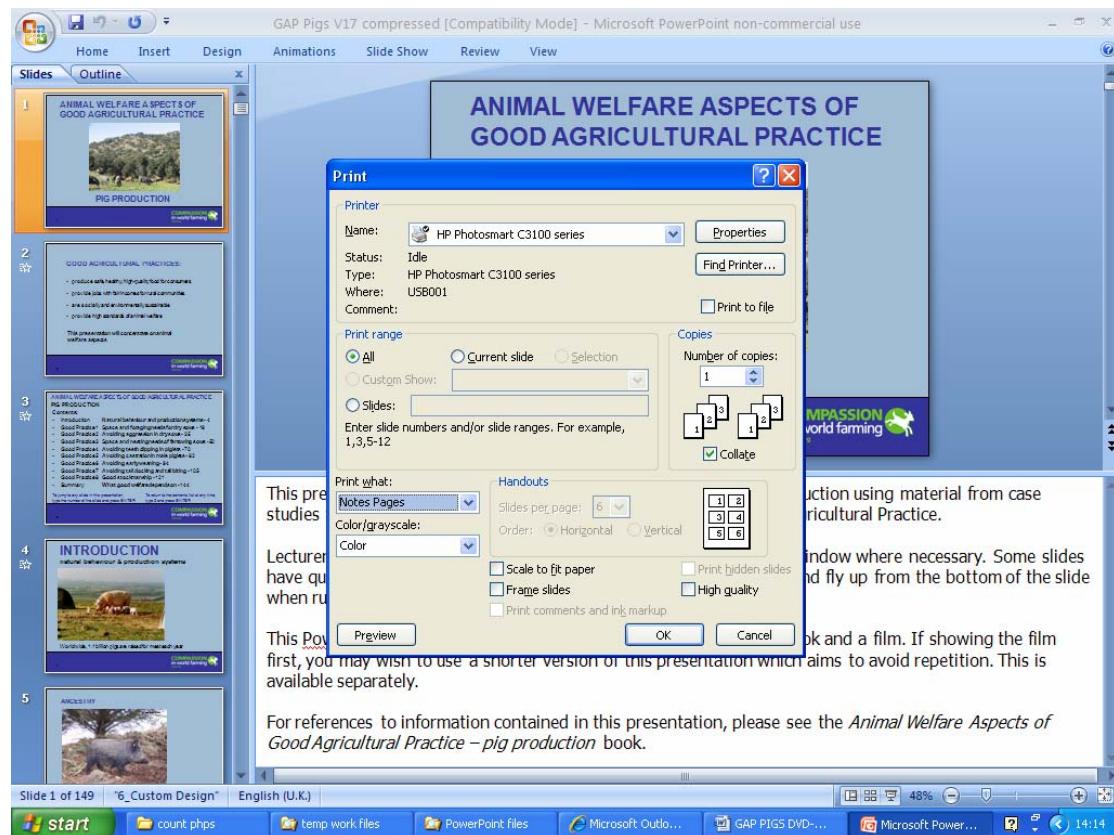
Some lecturers may prefer to extract some of the slides to include in their own presentations. You may do this provided that copyright to Compassion in World Farming is acknowledged and that relevant welfare issues are raised.

The full presentation can be made available to students for private study by making copies of the DVD or by transferring the presentation with the accompanying video files to a college intranet.

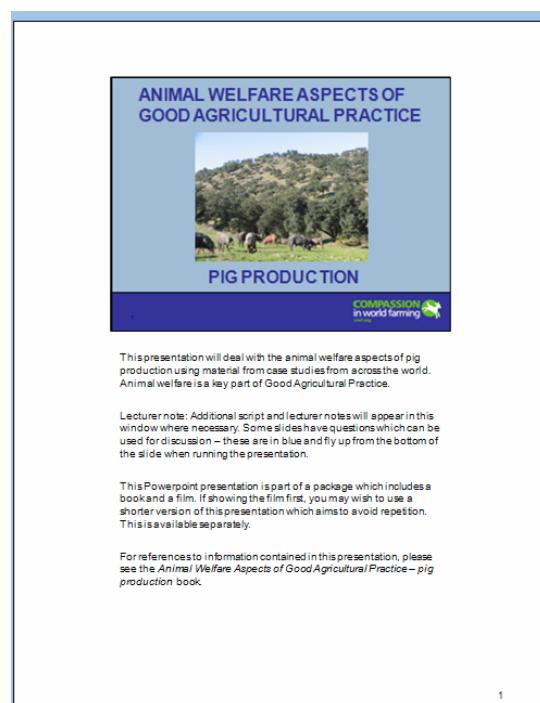
Lecturers' notes are incorporated in the "Notes pane" for most slides, as in the bottom right section of diagram below:



The lecturers' notes can be printed - select "notes pages" under *Print what* in bottom left hand section of the print box as below:



Please note that this prints one page per slide, together with its notes, as follows (unless your printer has a facility to print more than one page per sheet):



USING THE BOOK AND CASE STUDY MATERIAL

The book, including cases studies, can be used for a range of assignments and private study. It can be downloaded from the DVD or direct from the Compassion in World Farming website [GAP Pigs download page](#).

One useful activity would be to get groups of students to compare a selection of the case studies along with a typical intensive pig farm (sow stalls, farrowing crates, fully slatted, full range of mutilations) as follows. For each system:

1. Outline the welfare strengths of the system
2. Outline the welfare weaknesses
3. Analyse the system according to the Five Freedoms:
 - i.) **Freedom from thirst, hunger and malnutrition** - by ready access to fresh water and a diet to maintain full health and vigour
 - ii.) **Freedom from discomfort** - by providing a suitable environment including shelter and a comfortable resting area
 - iii.) **Freedom from pain, injury and disease** - by prevention or rapid diagnosis and treatment
 - iv.) **Freedom to express normal behaviour** – by providing sufficient space, proper facilities and company of the animal's own kind
 - v) **Freedom from fear and distress** – by ensuring conditions which avoid mental suffering
4. Discuss how each system could be improved

There are examples of the Five Freedoms worked for a range of animals in the teaching package *Concepts in Animal Welfare* published by the World Society for the Protection of Animals for veterinary colleges.

An example of possible answers is given below:

Intensive system (**as described in chapters 5-8**):

In many parts of the world this would include sow stalls and farrowing crates for sows, a fully-slatted system with castration, tail-docking and tooth-clipping practised for all piglets. However, this will vary according to local conditions. For example, in the UK sow stalls are banned and castration is not normally practised.

1) Freedom from thirst, hunger and malnutrition - by ready access to fresh water and a diet to maintain full health and vigour

Standard rations will prevent malnutrition in most pigs but not hunger. Dry sows are likely to suffer from hunger due to restricted diets, especially since they do not have access to fibrous foraging material. Farrowing sows may lose body condition in the process of feeding large litters. This could lead to metabolic hunger.

Closely confined sows may produce less milk resulting in slower piglet growth and increased risk of piglets starving, especially if litter sizes are large and if the sow is of a breed with a lower level of fat.

2) Freedom from discomfort - by providing a suitable environment including shelter and a comfortable resting area

The combination of restricted movement and hard concrete floors is likely to cause considerable discomfort. Both sows and piglets may suffer from heat or cold unless temperature is regulated since they have limited opportunity to affect their temperature naturally through behaviour.

3) Freedom from pain, injury and disease - by prevention or rapid diagnosis and treatment

Sows may suffer from pressure sores as a result of lying on a hard surface. Confinement in a crate is likely to increase the risk of urinary problems. Lack of exercise may lead to bone wasting.

Piglets are likely to suffer pain as a result of mutilations including castration, tail-docking and tooth-clipping. They are more likely to fight or to tail-bite in a barren slatted environment, leading to injuries. Other disease and injury issues will depend on management including levels of biosecurity, veterinary care and the provision of vaccination.

4) Freedom to express normal behaviour – by providing sufficient space, proper facilities and company of the animal's own kind

Most of the sow's natural behaviours will be curtailed including the opportunity to exercise or socialise freely. She will be hungry due to her restricted diet, but unable to forage. Frustration of her natural behaviour is likely to result in stereotypic behaviours which have been likened to clinical depression in humans. These include bar-biting, sham-chewing, tongue-rolling and other displacement activities such as excessive drinking. They are unable to follow their strong instinct to dung and urinate away from their lying area and both urination and dunging may be temporarily inhibited as a result. They are deprived of the opportunity to express nesting behaviour before farrowing which can result in stereotypic sham-nesting behaviours. Inability to get away from their piglets later on can cause stress.

Piglets kept in barren conditions are unable to show the full repertoire of foraging behaviour. This can result in increased tail and ear-biting (displaced feeding behaviours) as well as increased aggression. Along with early weaning, the barren conditions can also result in belly-nosing, another displaced foraging behaviour. Early weaning means that piglets are deprived of the comfort and protection of their mothers and the opportunity to suckle at an unnaturally early age.

All pigs are denied the opportunity to make a comfortable bed when they wish to lie down or to keep warm. They can huddle to keep warm, but cannot wallow if they are too cold (though pigs in some modern systems have access to showers). Pigs may end up wallowing in their own excrement to keep cool.

5) Freedom from fear and distress – by ensuring conditions which avoid mental suffering

The experience of fear during rearing will depend on the quality of the stockmanship and the relationship between stockperson and pigs. Barren environments do not prepare pigs well for unexpected stresses, so the trip to slaughter may be harder for them to deal with.

Stereotypic behaviour and other displacement activities are a sign that the animals have suffered distress as a result of the frustration of natural behaviours.

6) How welfare can be improved

Sows can be kept in groups with plenty of space and access to foraging material to enable natural behaviour and deal with hunger. At the same time steps would need to be taken to avoid aggression at feeding times and caused by mixing of unfamiliar sows. At farrowing, sows can be given plenty of nesting material, enough space to turn around and to show crushing-avoidance behaviours when lying down.

Piglets pens could have a solid lying area with plenty of straw for comfort and foraging. They should also have sufficient space. Better environments reduce the risk of tail biting and aggression so reduce the need for tail-docking or tooth-clipping. Breeding and managing sows which can sustain lactation without loss of body condition for the size of litters they produce will reduce the risk of teeth injury. Shower or wallowing facilities should be provided.

Good stockmanship and relationships between stockpeople and pigs are both crucial for health and welfare.

Indoor enriched system - Sparsholt College, United Kingdom Case Study 1

1) **Freedom from thirst, hunger and malnutrition** - by ready access to fresh water and a diet to maintain full health and vigour

Dry sows are likely to suffer from hunger due to restricted diets. However, the sows can always forage in the straw, some of which they eat to help them deal with hunger. Farrowing sows may lose body condition in the process of feeding large litters. There is no reason why provision of food and water need not be adequate.

2) **Freedom from discomfort** - by providing a suitable environment including shelter and a comfortable resting area

All pigs have access to bedding for comfort and for keeping warm. They can also huddle. If they get too hot, they can lie on the concrete and they may get some relief from the heat by using the water supply in the concrete area for wallowing.

3) **Freedom from pain, injury and disease** - by prevention or rapid diagnosis and treatment

Piglets are likely to suffer pain as a result of tooth-clipping. The pigs are spared castration which is not permitted by the main UK Pig farm assurance scheme and the farm does not practise tail-docking. Biosecurity measures (closed breeding system, provision of Wellington boots, disinfectant footbaths and a requirement to keep away from other pigs for 3 days beforehand), regular veterinary visits and vaccination against Erisipelas and Parvo virus should reduce the risk of disease.

4) **Freedom to express normal behaviour** – by providing sufficient space, proper facilities and company of the animal's own kind

The sow is able to perform most natural behaviours including nest-building before farrowing. She always has straw to forage through when she is hungry, so stereotypic behaviours are unlikely to occur. She can dung away from her foraging and lying area.

The piglets have plenty of space in which to forage. The farm has found that this has led to much lower levels of tail-biting and aggression. Early weaning at four weeks old means that piglets are deprived of the comfort and protection of their mothers and the opportunity to suckle at an unnaturally early age.

All pigs can control their temperature to a fair extent through their behaviour as discussed above.

5) **Freedom from fear and distress** – by ensuring conditions which avoid mental suffering

The experience of fear during rearing will depend on the quality of the stockmanship and the relationship between stockperson and pigs. The piglets at this farm were curious and not unduly fearful. Enriched environments prepare pigs better for unexpected stresses, so the trip to slaughter may be a little easier for them to deal with.

6) How welfare can be improved

This system has a fairly high welfare potential.

Taking steps to reduce the risk of piglets injuring each other or their mother while competing for milk without teeth-clipping. This involves breeding and managing a sow so that she has enough milk for all her piglets. Selection for better milk production or for smaller litters could help. At the same time, breeding a sow which can sustain a longer lactation would make later weaning sustainable. This would be good for piglet health and welfare.

Free-range system - Fittleworth, United Kingdom Case Study 3

1) Freedom from thirst, hunger and malnutrition - by ready access to fresh water and a diet to maintain full health and vigour

Dry sows are likely to suffer from hunger due to restricted diets. In a free-range system, the sows can forage in the soil for additional food. However, once the pigs have been there for a little while, most of this will have been used up. The pigs also satisfy their hunger by eating some of the straw bedding. Farrowing sows may lose body condition in the process of feeding large litters. There is no reason why provision of food and water need not be adequate to prevent malnutrition.

2) Freedom from discomfort - by providing a suitable environment including shelter and a comfortable resting area

All pigs have access to bedding for comfort and for keeping warm. They can also huddle. If they get too hot, they can wallow in mud to cool down. The farmer believes that keeping cool in summer is more of a problem in summer than keeping warm in winter provided they are given extra dry bedding. He finds the piglets grow better in winter which may be due to better sow comfort.

3) Freedom from pain, injury and disease - by prevention or rapid diagnosis and treatment

Piglets are likely to suffer pain as a result of mutilations such as tail-docking (however, since the case study was written, the practice of tail-docking has stopped since the pigs are now reared entirely free-range). There is a limit to the level of biosecurity which can be achieved in a free-range system. However, the common British requirement to require visitors to keep away from pigs for three days before visiting, regular veterinary visits along with vaccination against Erysipelas and pneumonia, should help to prevent disease.

4) Freedom to express normal behaviour – by providing sufficient space, proper facilities and company of the animal's own kind

The sow is able to perform most natural behaviours including nest-building before farrowing. She always has soil to forage through when she is hungry, so stereotypic behaviours are unlikely to occur. She can dung away from her foraging and lying area.

The piglets have plenty of space in which to forage. Early weaning at four weeks old means that piglets are deprived of the comfort and protection of their mothers and the opportunity to suckle at an unnaturally early age.

All pigs can control their temperature to a considerable extent through their behaviour as discussed above.

5) Freedom from fear and distress – by ensuring conditions which avoid mental suffering

The experience of fear during rearing will depend on the quality of the stockmanship and the relationship between stockperson and pigs. The piglets at this farm were curious and not unduly fearful. Enriched environments prepare pigs better for unexpected stresses, so the trip to slaughter may be a little easier for them to deal with.

6) How welfare can be improved

This system has high welfare potential.

Increasing the area available to the pigs and using frequent rotation would ensure that the pigs had access to a richer pasture with some grass left in it. This would be good for foraging. If forage still runs out, additional silage and other vegetable material could be provided. Good access to forage could reduce the incidence of stone chewing. Later weaning would be better for piglet health and welfare provided that it did not result in excessive loss of body condition in the sows.

DEVELOPING YOUR OWN LOCAL CASE-STUDY MATERIAL

The GAP pigs book and website include 25 illustrated case studies of good practice in animal welfare. We have already discussed how they can be used. They cover a range of systems from a range of countries.

However, it is always good wherever possible to supplement these with local examples of good husbandry. These can be written up by lecturers and extension workers to be used in the same way as the existing studies. Collecting material can also make for a good student project.

The purpose of case study material includes:

- Illustrating examples of good practice
- Encouraging analysis of the welfare aspects of a system, for example the extent to which the Five Freedoms are met
- Encouraging economic and environmental analysis of systems

In visiting a farm you should aim to obtain:

- Key information about the system and its animal welfare, economic and environmental aspects
- Key data about the system (as printed in the table at the end of each case study)
- Opinions of the farmers and stockpeople about key welfare and other aspects of the system
- Pictures of the system and its animals
- Video clips

It is wise before the visit to prepare questionnaires, tables for entering key data and picture and video shot-lists. Some of the information can be obtained through observation. Others will come from asking the stockpeople. Wherever possible, data should come from a recorded source. Don't forget the importance of obtaining the views and opinions of the stockpeople as to what constitutes good welfare. If it is not possible to record conversations, it is important to try to get key opinions verbatim, if necessary asking people to repeat themselves. Opinions in the stockman's own words add authenticity to the process.

It is best to prepare your own questionnaires and shot-lists. Below are some suggestions for inclusion. If you are not used to taking pictures and in particular video, it is worth practising and/or obtaining training in advance. One key principle in good video work is that the camera should be kept still for long periods, preferably on a tripod, whilst the animals move within the frame. If the camera keeps following the animals, the picture will be difficult to watch. If you don't have a tripod, find other ways of supporting the camera, or yourself while holding it, to enable you to keep the camera still.

Key data to collect (based on table at end of each case study)

Date of visit

Certification scheme

Nature of system (eg enriched indoor, deep bed, free-range, organic)

No. of sows

Breed

Food

Average and maximum farrowings per sow

Farrowings per year

% piglets stillborn

% live born piglet mortality

Average no. of piglets weaned per farrowing

No piglets per sow per year

Mutilations (eg castration, tail-docking, tooth-clipping, nose-ringing, detusking)

Weaning age

Growth rate (per day)

Food conversion rate

Weight when sold on or slaughtered

Transport to slaughter or further rearing (distance)

Price to farmer

Market

No. stockpersons

No. inspections (per day by stockperson)

Health problems

Welfare problems

Key information to obtain

The following information will be needed separately, where appropriate, for:

- Pregnant sows
- Farrowing sows
- Young piglets
- Growing pigs
- Boars

Basic accommodation and environment including:

- Space allowances
- Group sizes
- Nature of flooring (eg slatted, part slatted, solid, bedded, earth etc)
- Provision of straw or other bedding (including quantity, quality etc)
- Access to pasture (and state of it)
- Any other environmental enrichment

Health information including:

- Health and welfare plans
- Frequency of veterinary visits
- Biosecurity measures
- Vaccination programmes
- Policy towards antibiotics and frequency of use
- Levels of observed lameness
- Provision of hospital accommodation and level of use
- Policy with casualty animals
- Use of AI vs natural mating

Behaviours observed including:

- Positive natural behaviours, eg rooting, playing etc
- Aggressive behaviours
- Tail or ear-biting
- Any stereotypies or other displacement activities
- Responses to stockpeople including any fear responses
- Responses to visitors including fear responses, inquisitiveness etc

Stockpeople:

- Level of training
- Attitudes to the animals, knowledge, conscientiousness etc
- Relationships with the animals
- Opinions about welfare of the system, what constitutes good welfare, good health, good production, good environment, good stockmanship etc (best taken verbatim along with a range of comments which they make)

Economic and environmental information (not listed here, but a range of this could be very helpful).

Key pictures and video clips to obtain:

Long-shots, medium shots and close-ups of the different parts of the system including dry and farrowing sows, piglets, growing pigs and boars.

A range of natural behaviours including foraging, rooting, playing, wallowing, use of any enrichments, interactions with each other and with people, farrowing, suckling, nesting.

Any behaviours associated with poor welfare including aggression (and evidence of aggression, eg lesions), stereotypies and displacement behaviour including tail and teeth-biting, belly-nosing, bar-biting, sham-chewing etc.

The 25 case studies in the GAP Pigs book all illustrate farms which exhibit good practice in at least part of the system. It is always useful to suggest ways in which welfare can be improved. It can also be useful to obtain examples of indifferent or even poor practice for students to study critically.