

Animal Welfare (Pigs) Code of Welfare 2005

A code of welfare issued under the Animal Welfare Act 1999

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National Animal Welfare Advisory Committee
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Preface

The Animal Welfare Act 1999 came into force on 1 January 2000. It establishes the fundamental obligations relating to the care of animals. These obligations are written in general terms however. The detail is found in codes of welfare. Codes set out minimum standards and recommendations relating to all aspects of the care of animals. They are developed following an extensive process of public consultation and reviewed every 10 years, or sooner if necessary.

I recommend that all those who care for animals become familiar with the relevant codes. This is important because failure to meet a minimum standard in a code could lead to legal action being taken.

I issue codes on the recommendation of the National Animal Welfare Advisory Committee. The members of this committee collectively possess knowledge and experience in veterinary science; agricultural science; animal science, the commercial use of animals; the care, breeding, and management of companion animals; ethical standards and conduct in respect of animals; animal welfare advocacy; the public interest in respect of animals; and environmental and conservation management.

The Animal Welfare (Pigs) Code of Welfare 2005 is issued by me, by a notice published in the Gazette on 24 December 2004, under section 75 of the Animal Welfare Act 1999. This Code comes into force on 1 January 2005.

This code is deemed to be a regulation for the purposes of the Regulations (Disallowance) Act 1989 and is subject to the scrutiny of Parliament's Regulations Review Committee.



Hon Jim Sutton
Minister of Agriculture

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1 Introduction, Purpose and Interpretation of Code

1.1 History

The original Code of Recommendations and Minimum Standards for the Welfare of Pigs was prepared by the Animal Welfare Advisory Committee (AWAC), which was established in 1989 by the then Minister of Agriculture to advise him on matters concerning animal welfare. The codes were of a voluntary nature and had no legal standing under the Animals Protection Act 1960.

The Animal Welfare Act 1999 established the National Animal Welfare Advisory Committee (NAWAC) that replaced AWAC, and provided for the issue of codes of welfare with legal effect. One of the responsibilities of NAWAC is to advise the Minister on the content of codes of welfare following a process of public consultation.

1.2 Legal Status of Codes of Welfare

Codes of welfare are deemed to be regulations for the purposes of the Regulations (Disallowance) Act 1989. This means that they are subject to the scrutiny of the Regulations Review Committee of Parliament.

Codes of welfare contain minimum standards and may also contain recommended best practices. Only minimum standards have legal effect and in two possible ways -

- evidence of a failure to meet a relevant minimum standard may be used to support a prosecution for an offence under the Act (see Appendix I)
- a person who is charged with an offence against the Act can defend himself/herself by showing that he/she has equalled or exceeded the minimum standards (see Appendix I).

Recommendations for best practice under New Zealand conditions set out standards of care and conduct over and above the minimum required to meet the obligations in the Act. They are included for educational and information purposes.

Any person or organisation aggrieved at the operation of a code of welfare has a right to make a complaint to the Regulations Review Committee, Parliament Buildings, Wellington.

This is a parliamentary select committee charged with examining regulations against a set of criteria and drawing to the attention of the House of Representatives any regulation that does not meet the criteria. Grounds for reporting to the House include -

- the regulation trespasses unduly on personal rights and freedoms
- the regulation is not made in accordance with the general objects and intentions of the statutes under which it is made, or
- it was not made in compliance with the particular notice and consultation procedures prescribed by statute.

Any person or organisation wishing to make a complaint should refer to the publication *Making a Complaint to the Regulations Review Committee* which can be obtained from the website:

<http://www.clerk.parliament.govt.nz/Publications/Other/>

or by writing to: Clerk of the Committee
Regulations Review Committee
Parliament Buildings
Wellington.

1.3 Process for Code Development

A draft code may be developed by anyone including NAWAC or the Minister. It is then submitted to NAWAC. Provided the draft meets criteria in the Act for clarity, compliance with the purposes of the Act, and representatives of persons likely to be affected by the code have been adequately consulted, NAWAC publicly notifies the code and calls for submissions. NAWAC is then responsible for recommending the form and content of the code to the Minister after having regard to the submissions received, good practice and scientific knowledge, available technology and any other relevant matters.

NAWAC may recommend draft standards that do not fully meet the obligations in the Act if certain criteria specified in the Act are met.

The Minister issues the code by notice in the *Gazette*.

1.4 Scope

This Code is intended for all persons responsible for the welfare of pigs.

Pig production, if it is to be done well, requires both experience and the observance of high standards. Unless that work is done well, the welfare of the pigs cannot be adequately protected. This code is intended to encourage all those responsible for its implementation to adopt the highest standard of husbandry, care and handling, to equal or exceed the minimum standards.

Under the Act the “owner” of an animal and the “person in charge” are responsible for meeting the legal obligations for animal welfare. In the case of pigs the owner of the animals may place the pigs in the care of others for the purposes of rearing, transport and slaughter.

Responsibility for meeting minimum standards relating to the provision, design and maintenance of the facilities and equipment, the allocation of operational responsibilities and the competence and supervision of performance of employees will lie with the owner or person in charge of the pigs.

Advice is given throughout the code and is designed to encourage owners/operators to strive for a high level of welfare. Explanatory material is provided where appropriate.

Responsibility for meeting minimum standards during the operation of particular tasks will lie with the person responsible for carrying out that particular task. That person is "in charge" of the animals at that particular point in time. Generally, a stockhandler is the person in charge of the animals in that stockhandler's care. In practice, the identification of the person in charge will depend on the minimum standard in question.

This code provides for the general principles for the care of pigs and is dependent on each facility implementing its own quality assurance programme that incorporates the recommendations and minimum standards of this Code (see Section 9 - Quality Management).

Other codes that are relevant, and that are either being produced for the first time, or are in the process of being reviewed, include codes concerned with the transport of animals, slaughter at licensed and approved premises, emergency slaughter, and the use of animals for scientific purposes. If relevant these other codes should be consulted (see Appendix II).

The original draft was written by the New Zealand Pork Industry Board, the statutory body representing the interests of New Zealand pork producers. Pork producers and other interest groups were consulted. As required by the Act, NAWAC publicly notified the draft code of welfare on 1 November 2001. A further draft of the code was publicly consulted on 9 December 2002.

The final version is as recommended by NAWAC after the conclusion of this consultation and deliberation process.

1.5 Contents of this Code

Section 69 of the Animal Welfare Act 1999 provides that a code of welfare may relate to one or more of the following -

- a species of animal
- animals used for purposes specified in the code
- animal establishments of a kind specified in the code
- types of entertainment specified in the code (being types of entertainment in which animals are used)
- the transport of animals
- the procedures and equipment used in the management, care, or killing of animals or in the carrying out of surgical procedures on animals.

In deciding to issue a code of welfare, the Minister must be satisfied as to the following matters set out in section 73(1) of the Animal Welfare Act -

- that the proposed standards are the minimum necessary to ensure that the purposes of the Animal Welfare Act 1999 will be met; and
- that the recommendations for best practice (if any) are appropriate.

Despite the provisions of section 73(1), section 73(3) of the Animal Welfare Act allows NAWAC, in exceptional circumstances, to recommend minimum standards and recommendations for best practice that do not fully meet the obligations of –

- sections 10 and 11 - obligations in relation to physical, health and behavioural needs of animals
- section 12(c) - killing an animal
- section 21(1)(b) - restriction on performance of surgical procedures
- section 22(2) - providing comfortable and secure accommodation for the transport of animals
- sections 23(1) and 23(2) - transport of animals
- section 29(a) - ill-treating an animal.

In making a recommendation under section 73(3), section 73(4) requires NAWAC to have regard to -

- the feasibility and practicality of effecting a transition from current practices to new practices and any adverse effects that may result from such a transition
- the requirements of religious practices or cultural practices or both
- the economic effects of any transition from current practices to new practices.

This code provides for the physical, health, and behavioural needs of animals. These needs include -

- proper and sufficient food and water
- adequate shelter
- opportunity to display normal patterns of behaviour
- physical handling in a manner which minimises the likelihood of unreasonable or unnecessary pain or distress
- protection from, and rapid diagnosis of, any significant injury or disease -

being a need, which, in each case is appropriate to the species, environment, and circumstances of the animal - *section 4 Animal Welfare Act 1999*.

This code also takes account of -

- good practice
- scientific knowledge
- available technology.

1.6 Preparation and Revision of the Code

This code is based on the knowledge and technology available at the time of publication, and will be reviewed in the light of future advances and knowledge. In any event this code will be revised no later than 24 December 2014 (being 10 years from the date on which this code was issued by the Minister).

Comments on this code are always welcome and should be addressed to -

The Secretary
National Animal Welfare Advisory Committee
PO Box 2526
Wellington.

Further information can be obtained from the MAF website -

<http://www.biosecurity.govt.nz/animal-welfare>

1.7 Deemed Codes of Welfare and Codes of Recommendations and Minimum Standards

Deemed codes of welfare, and codes of recommendations and minimum standards and guidelines that were endorsed by AWAC prior to the commencement of the Act, are listed in Appendix II of this Code. The deemed codes of welfare are valid until 31 December 2004 unless revoked prior to that date.

On 19 December 2002 the Animal Welfare Amendment Act 2002 amended the Animal Welfare Act 1999 to deem the regulations and circular listed in Appendix II to be a code of welfare known as the Animal Welfare (Commercial Slaughter) Code of Welfare 2002.

The Code of Recommendations and Minimum Standards for the Welfare of Pigs expired on 31 December 2004.

1.8 Interpretation and Definitions

1.8.1 Interpretation

Minimum Standards

Minimum standards are identified in the text by a heading and use the word “must” or similar words. They are highlighted in boxes within the text.

Recommended Best Practice

The Act provides that codes of welfare may contain recommendations for best practice.

Recommended best practice is taken to mean -

The best practice agreed at a particular time, following consideration of scientific information and accumulated experience and public submissions. It is usually a higher standard of practice than the minimum standard, except where the minimum standard is the best practice. It is a practice that can be varied as new information comes to light.

Recommendations for best practice will be particularly appropriate where it is desirable to promote or encourage better care of animals than is provided as a minimum standard.

Recommended best practices are identified by a heading and, generally, use the term “should”.

Good Practice

The Act does not define “good practice”. NAWAC takes “good practice” to mean a standard of care that has a general level of acceptance among knowledgeable practitioners and experts in the field; is based on good sense and sound judgement; is practical and thorough; has robust experiential or scientific foundations; and prevents unreasonable or unnecessary harm to, or promotes the interests of, the animals to which it is applied. Good practice also takes account of the evolution of attitudes about animals and their care.

Scientific Knowledge

The Act does not define “scientific knowledge”. NAWAC takes “scientific knowledge”, relevant to its areas of responsibility, to mean knowledge within animal-based scientific disciplines, especially those that deal with nutritional, environmental, health, behavioural and cognitive/neural functions, which are relevant to understanding the physical, health and behavioural needs of animals. Such knowledge is not haphazard or anecdotal; it is generated by rigorous and systematic application of the scientific method, and the results are objectively and critically reviewed before acceptance.

Available Technology

The Act does not define “available technology”. NAWAC takes “available technology” to represent, for example, existing chemicals, drugs, instruments, devices and facilities which are used practically to care for and manage animals.

1.8.2 Definitions

Act—means the Animal Welfare Act 1999

Animal— This code applies to animals as defined in the Animal Welfare Act 1999.

“Animal” —

- (a) Means any live member of the animal kingdom that is—
 - (i) A mammal; or
 - (ii) A bird; or
 - (iii) A reptile; or
 - (iv) An amphibian; or
 - (v) A fish (bony or cartilaginous); or
 - (vi) Any octopus, squid, crab, lobster, or crayfish (including freshwater crayfish); or
 - (vii) Any other member of the animal kingdom which is declared from time to time by the Governor-General, by Order in Council, to be an animal for the purposes of this Act; and
- (b) Includes any mammalian foetus, or any avian or reptilian pre-hatched young, that is in the last half of its period of gestation or development; and
- (c) Includes any marsupial pouch young; but
- (d) Does not include—
 - (i) A human being; or
 - (ii) Except as provided in paragraph (b) or paragraph (c) of this definition, any animal in the pre-natal, pre-hatched, larval, or other such developmental stage.

—Section 2.

1.9 Glossary

Ad libitum	allowing pigs to eat an unrestricted amount of feed.
Adult	any pig over the age of 9 months.
Ark	a weatherproof moveable structure designed for housing sows and/or piglets in outdoor production systems.
Boar	an uncastrated male pig over 9 months of age.
Body condition score	a five stage scoring system used to classify the condition of pigs, based on the amount of fat and/or muscle covering they have.
Crate	crates are used as independent pieces of equipment and are purpose designed for confining pigs for a number of husbandry functions, including weighing, handling for veterinary interventions, farrowing and assisting with other reproductive processes.
Creep area	separate area within a farrowing facility in which piglets are protected from crushing or overlying by the sow, and which is usually heated to provide a temperature that is more suitable for maintaining the welfare of piglets, at the same time as maintaining the comfort of the sow.
Creep meal	a highly palatable, nutritious feed fed to piglets while they are suckling the sow.
Colostrum	milk secreted by the sow for the first few days after farrowing, characterised by high protein and antibody content.
Deep litter system	a type of group housing system in which pigs are kept on a deep layer of bedding material, usually straw or sawdust.
Dry feeding	providing feed in a 'dry' form, i.e. separate from any additional water.
Dry sow	a female pig that has been mated and has not yet farrowed.
Dry sow stall	an enclosure in which gilts and sows are kept individually. Stalls are normally joined together in rows and may be used for total confinement or allow the pig free choice of access. In addition the period of confinement may vary from part of the pregnancy to the

	entire pregnancy.
Farrowing	giving birth to piglets.
Farrowing crate	an enclosure closely related to the sow's body size, in which sows are kept individually during and after farrowing.
Farrowing pen	an enclosure for confining individual sows and their litters during and after farrowing. Such pens contain a creep area and a farrowing crate or other structure for confinement of the sow.
Feeder	equipment from which feed is dispensed.
Feeding station	an enclosure used in conjunction with group housing systems, which animals enter into one at a time to be individually fed.
Finisher	pigs that are generally above 70 kg liveweight, until they are sold or retained for breeding. The same meaning applies for pigs referred to as "Finishing".
Foster	a management practice whereby a piglet is moved soon after farrowing, so that it is fed by a sow that is not its mother.
Gilt	a young female pig, selected for reproductive purposes, before she has been mated.
Grower	pigs generally with liveweights between 30 and 70 kg. The same meaning can apply for pigs referred to as "Growing".
Growing pigs	weaners, growers and finishers.
Husbandry	care and management practices in pig keeping.
Hut	see definition for "ark".
Lactating sow	a sow that has given birth, and is producing milk to feed her piglets.
Lux	an international measure of light intensity (not to be confused with watts).
Mated gilt	a young female pig that has been mated, but has not had a first litter.
p2	a fat depth measurement which is taken at the level of the last rib, 6.5cm from the mid-line of the back (lateral to the centre of the vertebral column).

Pathogen	a disease-causing agent of an infectious nature, such as a bacterium or virus.
Pecking order	the social hierarchical order whereby individuals establish their dominance position within a group of pigs.
Pen	an enclosure for confining pigs in which they can turn around which may be used for housing pigs in groups, housing boars individually, management purposes such as mating or farrowing, or for confining pigs individually.
Persistent bullying	enduring aggression of a pig by one or more other pigs, leading the stockhandler to consider that the welfare of a pig is being compromised.
Piglet	a pig up to the time it is weaned from the sow.
Proprietary liquid supplement	a liquid product purchased from a commercial company to add nutrients to a pig's diet.
Reproductive cycle	the period from mating to the following mating, which in the context of this code is defined as 150 days.
Rooting	a behaviour of pigs whereby they use their nose to dig in the ground or in any available material.
Routine procedures	husbandry procedures routinely undertaken in commercial pig production.
Salt	Sodium chloride (NaCl).
Sow	an adult female pig, which has had one or more litters.
Stall	an enclosure, closely related to the pig's body size, in which gilts, sows and boars are kept individually. Stalls are normally joined together in rows and may be used for total confinement or allow the pig free choice of access.
Stockhandler	a person who undertakes the immediate day-to-day husbandry tasks associated with looking after pigs.
Stockhandling	putting into practice the skills, knowledge, experience, attributes and empathy necessary to manage stock.
Suckling piglet	a piglet between birth and weaning i.e. an unweaned pig.
Tethering	a method of restraining pigs whereby a neck or girth collar is attached to a short length of chain, which is in

turn fixed to the floor or the front of a pen.

- Thoracic sticking** severing the major blood vessels around the heart by inserting a knife into the thoracic cavity in order to exsanguinate (drain the blood from) an animal.
- Weaner** a pig after it has been weaned from the sow up until approximately 30kg in liveweight.
- Weaning** the act of permanently separating piglets from the sow.
- Wet feeding** providing feed in a slurry form, where water and feed are combined.

2 Legal Obligations of Owners and People in Charge of Animals

The owner or other person in charge of the pigs has overall responsibility for the welfare of the animals held in the facility. The legal obligations set out below are not an exhaustive list of the obligations in the Act,

- (1) The owner or person in charge of a pig must:
 - (a) Ensure that the physical, health, and behavioural needs of the pigs are met in a manner that is in accordance with both good practice and scientific knowledge;
 - (b) Ensure that a pig that is ill or injured receives treatment that will alleviate any unreasonable or unnecessary pain or distress being suffered by the pig or that it is killed humanely.
- (2) The owner or person in charge of a pig must not without reasonable excuse:
 - (a) Keep a pig alive when it is in such a condition that it is suffering unreasonable or unnecessary pain or distress;
 - (b) Sell, attempt to sell, or offer for sale, otherwise than for the express purpose of it being killed, a pig, when it is suffering unreasonable or unnecessary pain or distress;
 - (c) Desert a pig in circumstances in which no provision is made to meet its physical, health and behavioural needs.
- (3) No person may:
 - (a) Ill-treat a pig;
 - (b) Release a pig that has been kept in captivity, in circumstances which the pig is likely to suffer unreasonable or unnecessary pain or distress;
 - (c) Perform any significant surgical procedure on a pig unless that person is a veterinarian;
 - (d) Perform on a pig a surgical procedure that is not significant in such a manner that the pig suffers unreasonable or unnecessary pain or distress.

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Defences are set out in Appendix I. The Animal Welfare Act 1999 contains specific procedural requirements before these defences can be relied on, and these requirements are described in Appendix I.

3 Feed and Water

3.1 Feed: General

Introduction

Animals should receive a daily diet in adequate quantities and containing adequate nutrients to meet their requirements for good health and welfare.

When considering the amount of food and nutrients animals require, a number of factors need to be taken into account:

- physiological state
- extensive or intensive management systems
- nutritional composition of feed
- age
- sex
- size
- state of health
- quality of diet
- growth rate
- previous feeding levels
- feeding frequency
- terrain
- genetic effects of strain or breed
- level of activity and exercise
- maximum periods of food deprivation (e.g. during transportation)
- introduction of new feeds
- climatic factors (e.g. inclement weather, droughts).

Due to the above factors and the considerable variation that occurs between individual animals, food and nutrient requirements vary from one individual to another. The appropriate level of feeding will be best determined by monitoring the body condition of the pigs, and feeding accordingly, rather than feeding a pre-determined level of feed. Therefore it is not appropriate to specify a complete range of the quantities of food and nutrients required as minimum standards.

Minimum Standard No.1 – Feed

- (a) Feed must be available to weaners at least twice daily and to all other pigs at least daily.
- (b) Feed must be provided in such a way as to prevent undue competition and injury.
- (c) Pigs must receive adequate quantities of food and nutrients to enable each pig to:
 - (i) maintain good health;
 - (ii) meet its physiological requirements; and
 - (iii) avoid metabolic and nutritional disorders.
- (d) Automatic feeding systems must be checked at least once every 24 hours to ensure they are in working order and any problems rectified promptly.
- (e) When the body condition score of grower and finisher pigs, gilts, sows and boars falls below 2.5 (on a scale of 1-5), remedial action either through veterinary attention, improved nutrition or husbandry practice must be taken to improve body condition.
- (f) All pigs (excluding piglets) must be maintained at a body condition score of 2 or above (on a scale of 1-5).

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Recommended Best Practice

Weaner and young growing piglets should have a continual supply of feed.

The body condition score of breeding sows after weaning should be 3 or above.

The body condition score of breeding sows at farrowing should be 3.5 to 4.

The body condition score of grower and finisher animals and boars should be 3 or above.

If any pig falls below these recommended best practice body condition scores, it should undergo treatment to restore its body condition as appropriate.

Salt levels should not exceed 10 kilograms per tonne of feed.

Pregnant sows should be given enough bulky feed or high fibre feed to satisfy hunger.

A minimum level of crude fibre in grain-based diets of 4.5-5.0% should be provided for sows, gilts and boars that are not fed ad libitum.

General Information

Body condition scoring is a useful method of visually and manually assessing whether animals are receiving adequate nutrition.

Refer to Appendix III for a body condition scoring scale in sows and to Appendix IV for a body condition scoring scale in grower and finisher pigs.

Another method of evaluating the body condition of a pregnant or lactating sow is the use of ultrasound. As an indication, a p2 measurement of less than 9 millimetres is an indication that an animal is receiving inadequate nutrition to meet its physiologic and metabolic requirements and that corrective action may be required.

The recommended nutrient requirements of different types of pigs are shown in Tables 1, 2 and 3. Genetic differences between breeds of pigs, health status, sex, and housing environment may substantially affect these requirements.

Table 1: Recommended Digestible Energy Levels of a Balanced Diet for Indoor Housed Weaner, Grower and Finisher Pigs

Category	Liveweight of Pig(kg)	Digestible Energy MJ/day
Weaners	7 – 20	13.8 – 16.6
	21 – 30	16.6 – 20.7
Growers	31 – 45	19.5 – 24.7
	46 – 70	24.7 – 28.6
Finishers	71 – 85	28.8 – 31.1

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Table 2: Recommended Digestible Energy Levels of a Balanced Diet for Indoor Housed Breeding Stock (MJ/day)

Weight (kg)	Boars	Pregnant Sows	Lactating Sows Number of Piglets				
			6	8	10	12	14
150	25.6	25.4	71.4	88.8	106.2	123.6	141.0
200	29.8	29.6	76.0	93.4	110.8	128.2	145.6
250	34.1	33.8	80.3	97.7	115.1	132.5	149.9
300	38.3	38.1	84.4	101.8	119.2	136.6	154.0

Table 3: Recommended Gross Nutrient Levels for Pigs Fed a Cereal-Based Diet				
Liveweight Range (kg)	3 – 6	7 – 30	31 – 85	Breeding Pigs
Protein (% feed)	20 – 22	18 – 20	16 – 18	14
Lysine (% feed)	1.4	1.2	0.95	0.6
Methionine + Cystine (% feed)	0.8	0.7	0.7	0.5
Tryptophan (% feed)	0.25	0.2	0.2	0.18
Calcium (% feed)	1.0	1.0	1.0	1.0
Phosphorous (% feed)	0.65	0.65	0.6	0.7

Specific advice on suitable feeds and feeding systems for various classes of pigs can be obtained from qualified nutritionists.

The salt content of diets is important because of the effect it can have on water requirements. Without appropriate water intake, excessive salt in the diet can be toxic to pigs leading to convulsive signs such as tremors, paddling movements and/or excessive salivation or sudden death.

Hungry dry sows in stalls are prone to stereotypic behaviour, and hungry dry sows in pens are prone to showing aggression. There are a number of ways of addressing this issue: ensuring that there is a minimum level of crude fibre in the diet, providing adequate amounts of wet feed rather than just dry feed alone, or electronic or trickle feeding systems.

The feed intake for dry sows needs to be nutritionally balanced, appropriate to the sow's physiological needs which vary during pregnancy, and to provide satiety without the sow becoming overweight.

Fibre content which increases the bulk of diets is important, particularly for sows, gilts and boars which are not fed ad libitum. Provision of adequate fibre will maintain healthy gut function and assist in satisfying the animals' appetite whilst at the same time managing their energy intake. Additional benefits of more bulky diets for sows, gilts and boars are reductions in stereotypic behaviours and in aggressiveness.

The increased feed requirements for outdoor pigs (because of increased variability in their environment and feed wastage e.g. from trampling by stock and stealing by birds) may represent up to 25% over that required indoors, especially during the winter months. Appropriate allowances therefore need to be made for outdoor feeding.

Piglets and young growing pigs need more frequent feeding than older animals.

Sudden changes in the composition of the diet need to be avoided as they can cause digestive upsets.

Owners or persons in charge of pigs need to have a reliable source of feed and some reserves on hand in case supply or delivery fails.

3.2 Feed: Electronically, Mechanically, Individually Controlled Feeding Stations

Introduction

The main objective in using these systems is to group house the animals but individually control the feed provided to each animal depending on its requirements, through one or more feeding points. The number of feed points depends on the number of animals housed in the group. Thus the animals may benefit from the freedom of group housing while being fed amounts related to their individual needs.

Recommended Best Practice

The design and operation of the system should allow animals to flow into and out of the feeder in a manner which minimises intimidation, bullying and aggression. Likewise the introduction of new pigs into the group should be done in such a manner as to minimise bullying and aggression (see Section 5.3 – Mixing of Pigs).

Pigs should be trained and, if necessary, re-trained in the use of the facility.

General Information

Any individual feeding systems that are based around the group housing of pigs require good stockhandling to ensure that each pig receives their daily feed allowance.

The stockhandler needs to monitor the health and condition of all pigs just as often as would be done with manual feeding i.e. once every 24 hours (see Minimum Standard No.18). This monitoring will ensure that any failure in the system, including any pig losing its individual identification or becoming trapped in the feeder, is rapidly identified and promptly rectified.

3.3 Feed: New-Born Piglets

Introduction

It is essential that new-born piglets receive an adequate supply of colostrum from the sow, or an appropriate colostrum substitute, as soon as possible after birth, but certainly within the first 24 hours. This is necessary in order to give them immunological protection from pathogens that may be present in their environment and to provide a readily digestible source of energy and protein.

Minimum Standard No.2 – New-Born Piglets

- (a) All piglets must receive colostrum or an appropriate substitute within 24 hours of birth.
- (b) If a lactating sow dies, or her milk supply fails, or if her piglets are receiving inadequate nutrition, the piglets must be fostered, hand-reared or humanely destroyed.

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Recommended Best Practice

It is recommended that all piglets should receive colostrum within the first 12 hours following birth.

General Information

Piglets receiving inadequate nutrition should, if possible, be transferred (fostered) to another appropriate lactating sow. Fostering is an important aid to the welfare of unweaned pigs, where their mothers are (for whatever reason) unable to produce milk to feed them. Fostering should be carefully managed to ensure that the sow accepts the foster piglets. Alternatively, piglets are to be hand-reared using a milk substitute, split suckled or humanely destroyed (see Section 8.1 – Emergency Humane Destruction: Suckling Piglets).

After being fed colostrum or an appropriate colostrum substitute, hand-reared piglets then need to be fed on milk or a proprietary liquid supplement, with the introduction of a creep meal three days later. After the first week, the amount and composition of the total feed provided may need to be altered as the piglet grows, to ensure that it continues to thrive. Water should be provided separately.

3.4 Water

Introduction

The provision of an adequate supply of water is critically important for maintaining animal health and welfare in any pig production system. The way in which animals are supplied with their daily requirement varies between farms. While some farming systems are based on animals having continuous access to water, others that utilise wet feeding systems for example, may provide the daily water requirements in another way.

Minimum Standard No.3 – Watering Systems

- (a) An adequate daily supply of water that is palatable and not harmful to health must be accessible to all pigs.
- (b) Pigs on pasture must have access to a water supply to meet their daily requirements.
- (c) Automatic watering systems must be checked at least once every 24 hours to ensure they are in working order and any problems rectified promptly.
- (d) The water supply for a piggery must be sufficient and the reserves adequate to cope with the 24 hour demand.
- (e) Alternative arrangements must be available in case of equipment failure to ensure that pigs get their daily water requirements.
- (f) The water delivery system must be at a height that is appropriate for the size of the animal it is supplying.
- (g) Water supplied to pigs must be at a temperature which does not inhibit drinking.

Recommended Best Practice

There should be one nipple or bowl drinker or other suitable drinker for every 10-15 weaner to finisher pigs.

If trough drinkers are used, 300mm trough space per 20 finishing pigs should be allowed.

In hot weather the water supply should be checked at least twice daily to ensure that the increased requirements of the pigs are met.

Water should be available to piglets from birth.

General Information

The daily consumption of water by a pig can vary according to environmental temperature and liveweight. Table 4 is a guide to the daily water consumption by various classes of pig assuming normal ambient temperatures as experienced in New Zealand.

Table 4: Guide to daily water requirements for various classes of pigs at normal ambient temperatures		
Class of Pig	Daily Water Requirements (litres)	Optimal flow rate from nipple drinkers (litres/min)
Pigs up to 10kg	1.2 – 1.5	0.5
Pigs from 11 – 25kg	2.3 – 2.5	0.7
Pigs from 26 – 50kg	3.0 – 5.0	1.0
Pigs from 51 – 120kg	6.0 – 8.0	1.5
Boars	5.0 – 10.0	1.5 – 2.0
Gilt	5.0 – 8.0	1.5 – 2.0
Pregnant sow or gilt	5.0 – 10.0	1.5 – 2.0
Lactating sow	15.0 – 50.0	2.0 – 2.5

Flow rates will vary depending on the number of drinking points. It is important to note that the more drinking points there are the lower the flow at each drinking point, unless pump capacity is matched accordingly. Medicated water should be used only on veterinary advice, as the overuse or mixing of medications, or the medication itself, may cause toxic injury to the pig.

When a piggery is first established, or a new water source obtained, the water needs to be tested for salt content, mineral content and microbiological contamination, and advice obtained on its suitability for pigs. Information on water testing can be generally obtained from a territorial authority health officer.

4 Shelter and Other Facilities

4.1 Pigs Kept Indoors: Site Selection, Buildings and Maintenance

Introduction

The standard of the facilities in which pigs are housed and sheltered, and the way in which these facilities are operated, can have a direct impact on the health, productivity and welfare of pigs.

Minimum Standard No.4 – Indoors – Buildings and Maintenance

- (a) Natural or artificial light of at least 20 lux must be available at pig level in all buildings for a minimum of nine hours daily.
- (b) All pig sheds must have sufficient light of at least 20 lux available to enable inspection of animals.
- (c) All sharp projections and edges including damaged flooring likely to cause injury to pigs must be removed or covered.
- (d) Pen fittings must be kept in good working order.
- (e) Any electrical fittings and attachments to mains voltage must be out of the reach of pigs, or protected from interference or damage by pigs.
- (f) All mechanical equipment used in pig production must be maintained in good working order – this includes feeding and effluent removal equipment, drinkers, ventilation systems, lighting units, heaters, fire extinguishers, water pumps and hoses and emergency power generators.
- (g) In case of power failure or mechanical breakdown in a fully enclosed system, provision must be made for other means of heating, lighting and ventilation, and for the feeding and watering of stock.
- (h) In case of power failure or mechanical breakdown in a fully enclosed system, an alarm with a back-up battery system must be installed to warn of any ventilation system breakdown.
- (i) For deep litter systems, provision must be made to minimise the impact of flooding through water pipes bursting.
- (j) All pig sheds must contain suitable fire fighting equipment and have a documented emergency plan to be followed in the case of fire. This also applies to feed milling areas where they are adjacent to pig housing.

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General Information

When new pig sheds or shelters are being built or old buildings are being renovated or converted for pigs, advice should be sought from experienced industry personnel on the essential accommodation requirements necessary to maintain pig welfare.

Floors should have non-slip surfaces. Weld mesh where the top surface runs in one direction only is prone to causing slipping.

Paint and timber preservatives toxic to pigs should not be used on surfaces to which the pigs have access.

Fire-resistant and flame-retardant building materials should be used where possible. Some systems of pig production now being developed are based on housing of groups of animals in low cost structures that utilise straw and other flammable materials to a large extent. It is particularly important for the operators of these systems to have a contingency plan in case of fire.

It should be noted that there is a particular fire risk inherent in farrowing units where heating is provided for piglets. Smoke alarms and fire-fighting equipment should be located as near as possible to these units, as experience shows that this is where the majority of piggery fires originate.

Pig sheds should be built on sites that are not prone to flooding or landslides.

The stockhandler should have adequate technical and practical knowledge and experience in maintaining facilities such that pig welfare is not compromised, particularly in piggeries which have specialised buildings and complex mechanical and electrical equipment.

Poor maintenance of concrete, slatted or perforated floors can cause problems such as lameness or damage to feet.

In deep litter housing systems the effluent is absorbed by the bedding material. Drainage channels if existent, are not sufficient to cope with anything more than seepage from the bedding. In the case of burst pipes, water will not be able to flow out of the pen, and flooding may occur.

An important aspect of slatted floor design is the width of the slat and the width of the gap in relation to the size of the pig it is designed for. Recommendations vary but a general guide is given in Table 5.

Table 5: Guide to slatted floor design in relation to size and type of pig		
Size and type of Pig	Width of Slat (mm)	Gap Size (mm)
Farrowing Sows and Piglets (up to 5kg)	15 – 25	8 – 10
Weaners (5 – 30kg)	15 – 25	10 – 14
Growers and Finishers (30 – 100kg)	60 – 100	10 – 25
Gilts, Sows, Finishers & Boars (over 100kg)	80 – 125	10 – 25

Note: If wire mesh is used for flooring the preferred wire gauge is 6.4 mm.

The aim of the proportion of gap size to slat width is to encourage weight bearing on the entire sole of the foot so as to minimise foot damage.

Information on suitable fire fighting equipment can be obtained from Standards New Zealand, Private Bag 2439, Wellington.

4.2 Pigs Kept Indoors: Space

Introduction

There are many factors that influence pig welfare in housing systems. Space is one of these, but there are many other interrelated factors that combine to make up any one housing system, and all of these need to be taken into account when determining what space allowance is appropriate. These factors include management systems, feeding strategies, group size, age, breed, temperature, insulation, ventilation, pen shape, flooring, lighting and other husbandry factors. For design and management of accommodation systems suitable for individual classes of pig see Section 5.1 – Design and Management of Accommodation Systems.

Lying areas and bedding contaminated with faeces and urine can pose a threat to the health and well-being of pigs, or disrupt the normal instinct of pigs to have separate dunging and sleeping areas.

In cold conditions or climates, the benefits of additional space may be offset by chilling and associated health and welfare problems when there are too few pigs to heat the air space sufficiently.

Minimum Standard No.5 – Indoors – Space

(a) Each pig housed indoors must be provided with the following minimum space allowances:

(i) Growing pigs must be provided with an area calculated in accordance with the following formula:

$$\text{Area (m}^2\text{) per pig} = 0.030 \times \text{liveweight}^{0.67}(\text{kg})$$

Note: Minimum space allowances for particular weights of pig are shown in Appendix V.

(ii) Breeding stock must be provided with an area determined in accordance with Table 6 below.

(b) Where a dunging area, as part of a total slab, and/or an open drain, is provided, this area must be excluded from the calculation of the total space requirement per pig.

(c) In hot conditions (over 25° C) steps must be taken to reduce overheating of pigs such as opening flaps and doors, misting, increasing ventilation or providing more space.

(d) Table 6: Minimum space requirements (m²) for breeding stock

Pig Class	Area (m ²)
Unmated Gilts in groups	1.00
Mated Gilts in groups	1.50
Boars in individual stalls or crates	1.68 (0.7m x 2.4m)
Boar pens	6.0
Adult sows in groups	2.0
Pregnant Sows in individual stalls	1.20 (0.6m x 2.0m)
Lactating Sows and litters:	
Farrowing crates and creep areas	3.2 (total area)

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Recommended Best Practice

Increased aggression and inappropriate soiling of the lying area are signs that stocking densities are too high, therefore stocking densities should be decreased sufficiently until such behaviours disappear.

For boars, sows and gilts not kept in stalls and for all growing and finishing pigs, sleeping areas should be of sufficient size to accommodate all the pigs lying comfortably on their sides, with dunging areas provided separately. Appendix VI provides for sufficient room for every pig to lie down laterally

without sharing space. It should be remembered that pigs in groups will in many conditions be able to share the available space.

If an individual boar pen is used for both living and mating purposes, the floor area should not be less than 10m², with the shortest side not less than 2.5m long. In either case, the pen divisions should not be less than 1.2m high.

General Information

There is a wide range of housing systems in use. Minimum space requirements may need to be increased depending on the interaction of the factors listed in the introduction.

The need for adequate space, warmth and good ventilation should be a priority in the design of any piggery accommodation. Space allowances for pigs must provide for their comfort at all times throughout the year. As far as possible, in periods of high ambient temperatures, enough space should be provided to allow pigs in a pen to lie in lateral recumbency without the need to have body contact with other pigs. In periods of low ambient temperatures accommodation should be such that chilling resulting in huddling or inappropriate dunging patterns should be avoided.

4.3 Pigs Kept Indoors: Temperature

Introduction

Pigs more than 8-10 weeks of age tolerate a wide range of temperatures, as long as changes are not abrupt. The “chill factor” produced by draughts and/or excessive moisture is particularly important with pigs because of their relatively sparse hair covering, and little subcutaneous fat, both of which make them susceptible to temperature stress. New-born piglets have difficulty in maintaining their body temperature independent of their surroundings and so temperature control is very important.

Minimum Standard No.6 – Indoors: Temperature

- (a) Provision must be made to ensure an appropriate ambient temperature range to maintain normal body temperatures of new-born piglets.
- (b) Heating devices (e.g. infrared lamps, heat pads) must be securely fixed and protected from interference by the sow and piglets.
- (c) An airflow, or other measures, that will ensure pigs do not become overheated or cold stressed must be maintained during extremes of weather.

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Recommended Best Practice

Housed pigs should be protected from wide or abrupt temperature fluctuations within any 24-hour period.

For piglets an initial temperature of 28 – 32°C should be maintained in the creep area at the time of birth with a gradual decline to 25°C at three weeks of age. It is important that localised heating devices, such as heat lamps, which are used to provide a warm creep area for piglets, are positioned so as not to cause discomfort to the sow.

Management strategies including a reduction in stocking density and the use of cooling devices should be implemented to ensure that pigs do not experience heat stress when internal house temperature and humidity are high. The installation and use of alternative ventilation systems should be considered where such problems are likely to occur regularly.

Similarly, management strategies and ventilation control should be used to ensure that pigs housed indoors do not experience cold stress when external temperatures are low. For example, this could include manually or thermostatically controlled curtains and vents, lids, enclosures for pigs to sleep in, or deep litter. Deep litter needs to be managed so that it does not compromise pig health and welfare.

General Information

The comfortable temperature range for a sow is significantly cooler than for the piglets, so there is the need to balance their varying requirements.

For new-born piglets, the distance they lie apart is an excellent guide to their comfort. Hunched backs, sluggish movement, shivering, and the huddling of piglets are indications that they are cold. The provision of bedding, insulation and artificial heat/light in the creep area may be necessary. Attraction of piglets to the heat/light source also helps reduce piglet mortality from crushing by the sow at farrowing.

Special consideration should be given to the higher risk of fires in the farrowing areas associated with heat lamps. However, the risk of fires is not a justification for withholding heat from the piglets. The risk should be managed in other ways.

Table 7 provides guidelines for the optimal range of temperatures. As a general rule, the lower the bodyweight, the higher the temperature required.

Table 7: Guide to optimum temperature ranges for housed pigs in still air at normal feed intakes and at the recommended stocking density		
	Body Weight (kg)	Temperature Range (°C)
Boars and Dry Sows	-	15 – 24
Lactating Sows	-	15 – 21
Suckling Piglets	1 – 5	28 – 32
Weaners	6 – 7 8 – 25	25 – 30 21 – 27
Growers	26 – 60	15 – 24
Finishers	61 – 100	14 – 21

4.4 Pigs Kept Indoors: Air Quality

Introduction

Consideration of air quality in enclosed houses is necessary to:

- provide fresh air
- remove excess heat and moisture
- minimise the transmission of air-borne infectious agents
- remove waste gases
- .minimise dust particles in the atmosphere.

A balance between the need to provide fresh air and prevent the build-up of noxious gases, and the need to protect pigs from draughts is required.

Control of ammonia levels in enclosed pig housing is particularly important, as high ammonia concentrations for prolonged periods can cause eye and respiratory irritation in pigs, resulting in discomfort and respiratory disease and a decrease in growth performance. Ammonia is produced as a component of pig effluent.

Occasional increases in air ammonia concentrations can occur for short periods in enclosed housing because of the need to restrict airflow to avoid draughts and chilling of pigs during cold or windy weather. Whilst these increases of ammonia are not harmful to pigs, operators of enclosed pig housing systems must be vigilant for any causes of prolonged high ammonia levels occurring at pig level and take corrective action accordingly.

Minimum Standard No.7 – Indoors: Air Quality

- (a) Ventilation must be sufficient to prevent the build-up of harmful concentrations of gasses such as ammonia and CO₂.
- (b) If ammonia levels of 25ppm or more are detected within the pig house during regular daily inspections (see Minimum Standard 18), immediate and appropriate action must be taken to ensure a return to levels which do not cause eye and nasal irritation in people and to reduce ammonia levels below 25ppm.

General Information

The stockhandler needs to regularly check for the presence of noxious gases at pig level, since levels that are uncomfortable to the pig may not be recognised at normal human standing height.

As a guide a level of 10-15ppm of ammonia in the air can be detected by smell and an ammonia level over 25ppm will cause eye and nasal irritation in people. In general if the level of noxious gases within a building is uncomfortable to people, it is also uncomfortable to pigs and may predispose them to respiratory disease and reduce performance.

Particular care with ventilation is required when pigs are kept over static effluent storage systems as dangerous fumes may result from the effluent. Mixing the effluent prior to pumping out of the shed can pose a particular risk to stock above the effluent pit.

4.5 Pigs Kept Outdoors

Introduction

Farming of pigs outdoors is dependent on a range of environmental factors. Free-draining soil, low rainfall, and a temperate climate are all desirable, which means that many areas of New Zealand are unsuitable for this system of production. Even where conditions are suitable, pigs are still susceptible to welfare problems arising from the increased variability of conditions with which they must cope. Proper facilities, together with good stockhandling, are just as important for the outdoor operation as for pigs farmed indoors. Many of the topics already covered in the previous sections are therefore equally applicable, particularly Section 3.1. – Feed: General, Section 3.3 Feed: New-born Piglets and Section 3.4 – Water.

Minimum Standard No.8 – Outdoors: Environment

- (a) A warm, dry, adequately ventilated area for sleeping and resting must be provided for all classes of pig.
- (b) Piglets must be provided with a warm dry area which is adequately ventilated and protected from harmful draughts.
- (c) If there is no artificial heating, bedding materials must be available for piglets.
- (d) To prevent heat stroke or sunburn, shelter must be provided from the sun, or a wallow must be provided, or both.
- (e) Effective fencing must be provided to prevent stock from fouling drinking water and gaining access to areas containing toxic plants or other hazards.
- (f) Handling facilities must be available to deal with pigs and piglets undergoing routine procedures or for animals that are sick and requiring treatment.
- (g) Accommodation for lactating sows must be of suitable design and sufficient size to allow the sow to lie down at full length and without leg restriction. The sow must also be able to lie down, rise and stand comfortably without undue risk of injury to her litter.

Recommended Best Practice

Arks or huts should have insulated roofs or through-ventilation to provide cooling in hot weather, or cooling should be provided in other ways. In cold weather, protective material should be fitted on the entrance to minimise cold draughts and help retain heat.

Bedding materials should be available in shelters for all classes of outdoor-reared pig. This is important to allow pigs to maintain their body temperature in cold weather. On-going maintenance of shelters is important, particularly to avoid draughts.

New-born piglets should be confined to the farrowing ark for the first week after birth.

Larger piglets should be prevented, to the extent possible, from sucking from recently farrowed sows, to ensure the sow's own litter will obtain the milk they require.

Where stock are introduced to electric fencing, care should be taken to ensure they do not become trapped or harmed.

General Information

Some natural factors may make a site unsuitable from a welfare point of view, e.g. high rainfall, poorly drained soil, steep slopes or areas that are susceptible to flooding.

Summer infertility may be reduced by providing shade or housing.

Because the pigs are directly exposed to climatic variations, the role of the stockhandler is crucial in assuring animal welfare.

When determining feeding levels, the amount of feed provided and the amount eaten by pigs may be considerably different, because of unavoidable wastage associated with feeding outdoors.

Feeding methods and watering facilities need to be designed to reduce fouling and wastage.

The average stocking density for the entire herd should not exceed 20 sows per hectare. While stocking density will depend on the suitability of the land to be used (soil type) and rainfall, general guidelines are that lactating sows and litters should be stocked at 9-14 sows per hectare and pregnant animals at 12-24 sows per hectare.

If stocking rates are too high, there can be an accumulation of excrement, which may also result in health and welfare issues.

Sudden disturbance of a sow in an ark can lead to piglet crushing. It is important to approach an ark without alarming the sow.

Gate shyness is a potential problem where gateways have been electrified and it is helpful to use gate markers so that the pigs can identify when the gateway is open.

5 Husbandry Practices

5.1 Design and Management of Accommodation Systems

Minimum space requirements have been given in Section 4.2 – Pigs Kept Indoors: Space. This section refers to the design and operation of the accommodation systems used for various classes of pig.

5.1.1 Farrowing Sows and Suckling Piglets

Introduction

The primary purpose of any farrowing facility is to reduce piglet mortality, whilst also providing comfort for the sow. These objectives can be conflicting, so underlying all aspects of the management of farrowing sows and suckling piglets is the need to balance their differing requirements. All farrowing systems seek to do this, and one of the most common systems is the farrowing crate, although there are a number of alternative systems that may also be used.

Confinement of the sow in farrowing crates has the following advantages:

- reduces the normally high rate of piglet mortality
- protects piglets from overlying
- allows for cross fostering of small piglets.

The disadvantages for the sow include the restriction of movement and a reduced ability to carry out nest building. Continuous improvements and new alternatives that enhance the welfare of both the sow and the piglets are strongly encouraged.

NAWAC wishes to see further research conducted into alternative housing systems in which the sow can be kept loose and carry out normal nest building, without the systems compromising piglet survival.

Minimum Standard No.9 – Farrowing

- (a) Whatever type of farrowing system is used, it must be of suitable design and size to allow the sow to lie down at full length and without leg restriction. Sows must also be able to rise and stand comfortably.
- (b) ~~If sows are to be confined in farrowing crates, they must be confined for no more than 6 weeks in any one reproductive cycle.~~
- (c) There must be a space of 300mm width on the narrowest side of the farrowing crate to provide an escape area for the piglets.

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Note:

Section 73(3) of the Animal Welfare Act 1999 provides that the National Animal Welfare Advisory Committee (NAWAC) may, in exceptional circumstances, recommend minimum standards that do not fully meet the obligations to ensure that the physical, health and behavioural needs of the animal are met. In making this recommendation NAWAC must have regard to, among other things, the feasibility and practicality of effecting a transition from current practices and any adverse effects that may result from such a transition, and the economic effects of any transition from current practices to new practices.

NAWAC considers that the keeping of sows in farrowing crates does not fully meet the obligations of the Act. Minimum Standard 9 allows for the confinement of sows in farrowing crates for no more than six weeks in any one reproductive cycle.

Based on current knowledge, NAWAC would ideally like to see farrowing crate use reduced to a much shorter period than six weeks, and eventually phased out altogether if viable alternative systems become available which maintain overall welfare of the sow and her piglets. NAWAC notes, however, that any decision to reduce or phase out farrowing crate use will be left to such a time as this code is reviewed. NAWAC will, at that time, consider: current New Zealand and international research on farrowing crates and alternative farrowing systems; current good practice as it relates to farrowing crates and alternative systems; available technology; public submissions; international practices and trends; and the feasibility, practicality and economic effects of any change. NAWAC has indicated the areas of research that it would like to see undertaken in New Zealand. NAWAC expects to review this code in 2009 when it will review the results of the research it has requested.

Recommended Best Practice

If farrowing crates are used, it is strongly recommended that the sow should remain confined for a much shorter period than the maximum of 6 weeks, provided that the welfare of the piglets is not significantly compromised.

Farrowing crate floors should have a non-slip surface.

General Information

Sows should be introduced to clean farrowing quarters about two to three days before the piglets are due to be born.

Farrowing crates are one of a range of farrowing systems that are used. Where farrowing crates are used, they need to be appropriate for different sized sows. Table 8 provides a guide to appropriate sizes.

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Most piglet mortality occurs within the first 4 days after farrowing. At that time the sow becomes more active. It is beneficial to provide her with more space at this time or within 7 days of farrowing.

<i>Measurement</i>		At 150kg (mm)	At 200kg (mm)
Length	Lying area	1600	1850
	Rump rail	200	200
	Trough	300	300
Total Lengths		2100	2350
Width	Floor level to 200mm	800	900
	200mm to 1000mm above floor level	500	500
Bottom Rail	height from floor	180-220	220-250
	distance from draught barrier	300	300

The bottom rails, or “prongs” of farrowing crates, need to be positioned to allow access for all the piglets to suck freely at one time.

Since most piglet deaths occur within the first 4 days after birth alternatives to confinement of the sow in farrowing crates after this time should be pursued. Systems which reduce confinement may include:

- the farrowing unit is converted to a pen (e.g. by removal of rear-gate to allow access to a greater area) which allows for continuous (free) exercise, or,
- the restraining rails or other devices are removed from the farrowing crate to allow access to a larger floor area, or,
- the sow and piglets are placed in a nursery pen which has a heated creep area, straw bedding and a dunging area
- alternative farrowing system designs such as the Werribee Farrowing System are used.

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5.1.2 Grower and Finisher Pigs

General Information

Grower and finisher pigs are routinely kept in groups that can vary greatly in number. As such, many of the comments relating to group housing covered in section 5.1.5 below are also applicable to this class of pig.

Minimum standards for space are given in Section 4.2.

5.1.3 Sows and Gilts

General Information

Minimum standards for space are given in Section 4.2.

5.1.4 Dry Sow Stalls

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Introduction

Sows and mated gilts are often housed in stalls to minimise aggression, embryonic losses and to manage nutrition, health, hygiene and stress in early pregnancy. Alternative systems are available for managing these problems.

The decision on whether to discontinue the use of dry sow stalls during the first four weeks after mating is a complex one. The mixing of sows usually results in various degrees of fighting as they establish a hierarchy. NAWAC is concerned that the number of injuries which may occur due to fighting coupled with a reduced ability by the stockhandler to provide individual attention to sows could result in the welfare of some individuals in group housing systems, especially those younger, thinner and subordinate sows, being poorer and in fact worse than would be the case if they were confined in dry sow stalls for the first four weeks after mating.

NAWAC therefore wishes to see further research conducted into alternative housing systems, their impact on the welfare of sows in the first four weeks after mating, and ways and means that negative aspects can be managed.

Minimum Standard No.10 – Dry Sow Stalls

- (a) Dry sow stalls must allow sufficient clearance to enable sows and gilts to stand comfortably in their natural stance and be able to lie comfortably on their sides.
- (b) Sows that show severe lameness or severe behavioural problems e.g. prolonged 'dog sitting' must be removed from dry sow stalls and placed in alternative accommodation to facilitate rehabilitation or be culled.
- (c) From 10 years after this code comes into force (1 January 2015), individual confinement in dry sow stalls must be for no more than the first 4 weeks after mating.
- (d) Dry sow stalls in any new facility built after the issue of this code must not be used to house sows and gilts from 4 weeks after mating until the completion of that pregnancy.

Note:

Section 73(3) of the Animal Welfare Act 1999 provides that the National Animal Welfare Advisory Committee (NAWAC) may, in exceptional circumstances, recommend minimum standards that do not fully meet the obligations to ensure that the physical, health and behavioural needs of the animal are met. In making this recommendation NAWAC must have regard to, among other things, the feasibility and practicality of effecting a transition from current practices and any adverse effects that may result from such a transition, and the economic effects of any transition from current practices to new practices.

NAWAC considers that the use of dry sow stalls for extended periods does not fully meet the obligations of the Act. Minimum Standard 10 allows for a transition period for the phasing out of dry sow stall use beyond 4 weeks after mating.

Based on current knowledge, NAWAC would ideally like to see dry sow stall use completely phased out if viable systems are available which maintain overall welfare of the sow. NAWAC notes, however, that any decision to completely phase out dry sow stall use will be left to such time as this code is reviewed. NAWAC will, at this time, consider: current New Zealand and international research on sow stalls and alternative housing systems; current good practice as it relates to dry sow stalls and alternative housing systems; available technology; public submissions; international practices and trends; and the feasibility, practicality and economic effects of any change. NAWAC has indicated the areas of research that it would like to see undertaken in New Zealand NAWAC expects to review this code in 2009 when it will review the results of the research it has requested.

Recommended Best Practice

Alternatives to dry sow stalls should be used.

Competent stockmanship is the key factor in maintaining sow welfare, regardless of the housing system being used. Those responsible for the care of pigs should be competent and well trained.

General Information

When moved from a dry sow stall the sow or mated gilt needs to be shifted to alternative accommodation that allows it relatively unrestricted movement but also limits opportunities for excessive aggression from other pigs in that area. This change of management system should be carefully managed so that the welfare of each animal is not compromised by increased aggression, competition for food and decreased individual care.

Continuous improvement and new developments are strongly encouraged to enhance the welfare of breeding pigs, through systems that allow individual management of feed and health and a greater degree of movement while

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improving opportunities to express normal behaviour but which minimise aggressive behaviour.

5.1.5 Group Housing

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Introduction

Where sows and gilts are kept in groups, aggressiveness can present a severe problem. Group size, feeding method, and competent stockhandling are important in management of such problems. Much of the success of group housing systems relies on the temperament of individual pigs and the ability of the stockhandler to ensure that persistent bullying does not take place. This necessitates a high degree of skill on behalf of the stockhandler.

Providing sows with straw or other bedding material gives them the opportunity to perform investigative and manipulative behaviours.

Minimum standards for space are given in Section 4.2.

Recommended Best Practice

Where practical, sows should be provided with straw or other appropriate bedding material.

General Information

There needs to be an adequate feeding area and a competent feeding strategy (see Section 3 – Feed and Water).

Facilities in which sows or gilts are group housed but are individually fed, i.e. either individual feeding stations or via a computerised feeding system, can be beneficial to reduce aggression at feeding times.

Separate penning needs to be considered when persistent bullying takes place.

Pen floors, particularly the dunging area, need to be drained effectively.

5.1.6 Tethering

Formatted: Bullets and Numbering

Introduction

Tethers are used to restrain individually housed sows. Tethers are attached to the sows at the neck, or girth. Tethers are made of webbing material or chain and are joined to the floor or front stanchion

Minimum Standard No.11 – Tethering

Confinement of pigs must be by methods other than tethering.

Introduction

Boars can be kept on their own, in small groups or with a group of breeding gilts or sows (usually outdoors). Boars that are kept in stalls are normally taken out of their stalls several times a week for mating purposes.

Minimum standards for space are given in Section 4.2.

Minimum Standard No.12 – Boars

- (a) From 5 years after this code comes into force, boars, including young boars selected for breeding purposes must be housed in accommodation other than stalls, except where individual housing to treat injury or disease is temporarily necessary.
- (b) If stalls are used, prior to minimum standard (a) taking effect, they must allow sufficient clearance to enable the boar to stand comfortably in his natural stance and to lie down comfortably on his side.
- (c) If stalls are used, prior to minimum standard (a) taking effect, daily inspections must be carried out to ensure that any skin conditions especially those arising from urine scald, are treated.
- (d) If stalls are used, prior to minimum standard (a) taking effect, boars must be removed from stalls at least twice per week either for mating purposes or to be given sufficient exercise to maintain adequate locomotory function and to prevent skeletal and muscular weakness.

Note:

Section 73(3) of the Animal Welfare Act 1999 provides that the National Animal Welfare Advisory Committee (NAWAC) may, in exceptional circumstances, recommend minimum standards that do not fully meet the obligations to ensure that the physical, health and behavioural needs of the animal are met. In making this recommendation NAWAC must have regard to, among other things, the feasibility and practicality of effecting a transition from current practices and any adverse effects that may result from such a transition, and the economic effects of any transition from current practices to new practices.

NAWAC considers that the use of boar stalls does not fully meet the obligations of the Act. Minimum Standard No.12 allows for a transition period for the phasing out of boar stalls by 5 years after this code comes into force.

General Information

Boars need adequate exercise to ensure that their physical needs are met. Long periods of confinement may compromise their muscular and skeletal development to such an extent that they may suffer pain or injury during the performance of the reproductive functions.

Because of the anatomy of boars, where boars are kept in stalls, regular attention needs to be given to ensure skin conditions, which may arise due to urine coming into contact with the abdominal and prepuccial area of the boar, are treated.

Regardless of housing type, a boar may spend a period of the day in, for example, a Detection Mating Area (DMA) to assist with the detection of heat in sows.

Where boars are kept in groups, they need to be selected for mutual compatibility.

Boars can be kept with a group of breeding gilts or sows, provided that persistent bullying does not occur.

The floor of the mating area needs to have a non-slip surface and adequate drainage.

Recommended Best Practice

Alternatives to stalls should be used.

Competent stockmanship is the key factor in maintaining boar welfare, regardless of the housing system being used. Those responsible for the care of pigs should be competent and well trained.

5.2 Elective Husbandry Procedures

Introduction

It is important to minimise the impact and stress of procedures that cause pain or discomfort. In general, procedures that may themselves be painful or stressful for the animal should only be carried out where such procedures are in the best interests of the animal to prevent undesirable consequences that would otherwise occur and subsequently result in animal suffering. Minimising the stress, pain or discomfort of these procedures requires that strict attention is paid to the suitability of the area in which the operation is to be performed, the catching facilities, the type and amount of restraint, the selection and maintenance of instruments, hygiene and the after-care of the animals, and the training of stockhandlers.

Minimum Standard No.13 – Elective husbandry procedures

- (a) Elective invasive procedures must be carried out by competent operators.
- (b) Surgical castration or tail docking of pigs over 7 days of age must only be carried out by a veterinarian.
- (c) If tail docking is performed, it must be done before 8 days of age and must be carried out using clippers, a searing iron, knife or other instrument that severs the tail immediately.
- (d) If performed, teeth clipping of pigs must be carried out before 3 days of age.
- (e) Non-invasive equipment must be used to measure back-fat on live animals.

Deleted: Tail docking of pigs more than 7 days of age must only be carried out by a veterinarian.

Deleted: intrusive

Recommended Best Practice

If surgical castration is carried out, it should be done as early as the management practice will allow.

Teeth clipping is a painful procedure, often considered necessary to prevent facial injury to other piglets and udder damage. Where performed, the clipping of “needle” teeth should be done singly and within 72 hours of birth, but preferably no sooner than six hours after birth. Teeth clipping may not be necessary in small litters.

Tail docking should only be done when tail biting is prevalent. Where tail docking is undertaken as a preventative measure for tail biting, it should be carried out on the piglets within 72 hours of birth, but preferably no sooner than six hours after birth. One-third to one-half of the tail should be removed.

Where performed, ear notching should be done within 72 hours of birth, but preferably no sooner than six hours after birth.

If nose rings, clips or wires are used on pigs kept on pasture, they should be placed through the cartilage at the top of the snout or in the tissue separating the nostrils. Repeated nose ringing should be avoided by using long-lasting rings.

Tusks may be trimmed as a precaution in aggressive boars.

Where tusk trimming is performed, appropriate methods of restraint should be used (see Section 5.4 – Restraint and Handling), and tusks should be severed above the level of the gums without causing damage to other tissues. Current knowledge indicates that there is no nerve supply to the tusk above the gum line. However, if practical experience indicates that boars experience pain during trimming analgesics should be used.

Surgical castration after 4 weeks of age should be carried out using analgesics.

General Information

Where it is necessary for permanent identification, the ears may be notched, tagged, punched or tattooed, or the body may be tattooed, or an electronic identification system used (See Section 9.2 – Records).

Surgical castration is often unnecessary in modern pig production systems.

Before carrying out tail docking other measures such as topical application of unpalatable substances to the tail, environmental enrichment and amending stocking densities should be considered.

Clipping of needle teeth prevents laceration of the sows' udder and damage to litter mates. Clean equipment needs to be used, which does not cause splintering of the teeth or damage to gums or mouth. Teeth grinding maybe an alternative to the clipping of teeth.

Nose rings are used to discourage rooting. Alternatives to the use of nose rings include:

- provision of good grazing as pigs will be less inclined to root if good grazing is available
- encouraging alternative interests or activities to rooting e.g. supply forage crops
- allowing for sacrifice areas where the sows can root up the ground
- moving sows onto harder ground when damage starts to appear
- reducing the stocking density
- keeping the problem sows in paddocks which have well-established trees. Normally pigs choose damp patches, well away from tree roots which tend to obstruct rooting behaviour.

For all elective husbandry procedures, expert advice from a veterinarian or other person skilled in the proper application of techniques should be obtained.

5.3 Mixing of Pigs

Introduction

Pigs are hierarchical in nature, and mixing unfamiliar pigs can result in fighting and injury unless preventative measures are put in place. In sows the extent of fighting will depend on group size, management methods and pen design. Fighting can occur especially at feeding times. Good management of feeding can reduce the amount of aggression. There are a number of different systems which can be used to minimise fighting including:

- floor feeding
- individual feed systems (including electronic feeders)
- trickle feeding
- provision of low density feed.

Other recommendations include:

- culling over-aggressive lines of pigs
- drafting out subordinate sows
- grading for size evenness
- keeping groups stable
- providing environmental complexity e.g. straw
- escape areas for bullied pigs
- adequate drinking points.

An ability to keep sows individually if they are sick or the subject of severe aggression is necessary.

Recommended Best Practice

In commercial situations, where unfamiliar pigs need to be mixed this should be done in a manner that minimises aggression.

Techniques used to minimise aggression when mixing unfamiliar pigs include using a new pen, using group sizes of more than 50 pigs, providing feed on the floor, and using a pen with room for the pigs to escape.

Every effort should be made to minimise mixing of unfamiliar pigs. When pigs are destined for slaughter and mixing is inevitable, they should be mixed at the time of loading onto the truck, rather than before.

Where mixing has to occur, ways of reducing aggression, appropriate to each particular management situation should be considered. For example, in some management situations, it may be appropriate to mix the breeding sows at night, outdoors, and with scattered supplementary feed.

5.4 Restraint and Handling

Introduction

Minimisation of undue stress and the avoidance of injury are key considerations whenever pigs are being restrained or handled.

Minimum Standard No.14 – Restraint and Handling

Pigs, including piglets, must not be picked up or suspended by one or both of their front legs.

General Information

Piglets need to be lifted by a hind leg, and additional support given by the hand or arm under the chest.

Small pigs may be held by hand, but mature pigs can be hobbled with a rope around one hind leg, so that the leg is flexed, restrained on their side with their upper front leg held vertical, with a noose over the upper jaw behind the needle teeth, or by placing them in a crate.

If a crate is to be used to restrain a pig, it needs to be appropriately designed so as to minimise the risk of injury to the animal.

5.5 Movement

Introduction

Patience, care, good stockhandling and good design of facilities are required when moving pigs to ensure that any distress is minimised, and injury to either the pigs or stock handler is avoided.

Minimum Standard No.15 – Movement

(a) Pigs must not be prodded in sensitive areas, including the eyes, nose, anus, vulva and testicles.

(b) Only the minimal force required must be used when moving pigs.

Recommended Best Practice

Electric prodders, plastic pipes and dogs (unless they are specifically trained for the purpose) should not be used on pigs.

If an aid is required to assist in moving pigs, or to protect the stockhandler, backing (moving) boards should be used.

5.6 Patterns of Behaviour

5.6.1 Normal Patterns of Behaviour

Introduction

Domestic pigs (*Sus scrofa domesticus*) belong to the family Suidae, and are a subspecies of the Wild Boar genera. Selection by humans over the last 200 years means that the modern pig is genetically remote from its wild ancestors.

While domestication of the pig has changed it from an aggressive, free-ranging, foraging animal, to one that is more easily handled, some of the original behavioural traits can be recognised.

These traits, in combination with the physical characteristics of the modern pig, dictate the requirements necessary to ensure their health, welfare and productivity.

Normal patterns of behaviour are not all beneficial for the welfare of pigs in some modern production systems. They are hierarchical animals by nature, and the aggression and bullying by more dominant pigs as they seek to establish a 'pecking order' can cause severe injuries to more subordinate pigs. Likewise, subordinate pigs may get less than their feed and water requirements when housed in group situations, if appropriate feed and watering systems are not put in place.

Recommended Best Practice

For indoor-reared pigs, environmental enrichment practices should be considered.

Such practices may include:

- the provision of rooting material such as straw, sawdust or wood shavings
- the provision of "toys" such as a length of hanging chain in finishing pens
- positive human contact (such as pats, rubs and talking)
- the use of a radio in growing sheds to accustom pigs to a range of noises and voices.

General Information

Where straw, sawdust or wood shavings are used it is critical that hygiene is maintained. Their use will not be practical in every situation and will be dependent upon the availability of material and the effluent management system in use.

The adoption of new developments and continuous improvement are encouraged to enhance the welfare of pigs. These developments include systems which allow individual management of feed and health but which also

allow a greater degree of movement and behavioural expression, which is free from aggression from other animals.

5.6.2 Control of Undesirable Behaviour

Introduction

Pigs may develop behaviour such as tail and ear biting. It is essential to be alert for any of these and to identify and minimise the factors that cause them.

Stress arising from such things as overcrowding, inadequate ventilation, competition at the feeding or watering place, incorrect diet, poor water quality and barren environmental conditions can contribute to undesirable behaviour such as tail or ear biting.

Recommended Best Practice

Pigs with ear or tail bite wounds should be immediately separated from pen mates and treated if necessary.

If the pig responsible for biting can be identified, it should be removed to an individual pen.

Where there is a high prevalence of such undesirable behaviours, management and environmental conditions should be reviewed to identify the cause, and appropriate steps taken to reduce or remove the causal factors.

5.7 Weaning

Introduction

Weaning is a stressful time and good management is required to avoid undue stress. Problems associated with weaning are generally related to the piglet's size and physiological maturity. The earlier the weaning age, the better the system of management and nutrition needs to be.

Minimum Standard No.16 – Weaning

Weaning must be managed in a way that avoids undue stress on the piglets and therefore minimises negative impacts on their health and welfare.

6 Disease and Injury Control

6.1 Health

Introduction

Normally a healthy pig has a keen appetite, and is active, curious and vocal. To ensure the welfare of pigs, it is necessary for pig owners and persons in charge of pigs e.g. staff, to be familiar with normal pig behaviour and the signs of good health.

Minimum Standard No.17 – Health

- (a) Those responsible for the care of pigs must be competent at recognising the signs of good health, ill-health, or injury and must consult a veterinarian as appropriate.
- (b) Medication must only be used in accordance with registration conditions, manufacturer's instructions or professional advice.
- (c) Piglets must receive sufficient iron to avoid anaemia.
- (d) Contaminated bedding, faeces and urine must not be permitted to accumulate to the extent that they pose a threat to the health and welfare of pigs.

Recommended Best Practice

A veterinarian should be consulted for advice on establishing a health programme covering disease, injury and parasite control.

Separate accommodation should be available to house sick and injured pigs during their treatment and recovery.

Owners or persons in charge of pigs should maintain a high standard of hygiene, both personally and in the pigs' environment as part of any programme to prevent disease in pigs.

Piglets may be given an iron supplement early in life.

Records detailing deaths, sick animals, treatments given and responses to treatment should be kept to assist disease investigations.

Porcine stress syndrome susceptible pigs should be carefully managed to minimise the effects of potentially stressful situations, which might lead to sudden death.

General Information

Regular cleaning needs to take place, to ensure that contaminated bedding, faeces and urine do not accumulate to the extent that they pose a threat to the health and welfare of pigs, or disrupt the normal instinct of pigs to have separate dunging and sleeping areas. The frequency of cleaning and disinfecting of pig accommodation is determined by the system of housing used, ambient temperature, the type of flooring and stocking density.

Signs of illness may include separation from the group, loss of appetite, elevated temperature, lameness, vomiting, changes in the appearance and consistency of urine or faeces, pallor or discoloration of the skin, shivering, sneezing, rapid or irregular breathing, persistent coughing or panting, rapid weight loss, abdominal distension, lack of co-ordination, excessive hairiness, abnormal behaviour, and swollen navels, udders or joints.

If a health problem occurs, its cause should be identified and action taken to remedy the situation as soon as possible. This may require veterinary advice.

A health programme may include vaccination, culling, medication, post-mortems, disposal of dead pigs and genetic selection.

Treatment of sole bruising in piglets and breeding pigs can include providing a soft surface.

Supplemental iron to compensate for the lack of iron in sows' milk and a lack of access to iron from soil can be provided orally or by injection. Such supplementation should be provided at 72 hours from birth but adequate results will be achieved if administered up to 7 days from birth.

The halothane double recessive (stress sensitive) gene was prevalent in some sire line pigs that were introduced into New Zealand's commercial pig population to improve carcass conformation and lean meat yields. However, it has been recognised world-wide that selection of this gene produced undesirable side effects, reducing the pig's ability to deal with stressful situations, such as transport to slaughter. Porcine Stress Syndrome in commercial pigs has been reduced by retaining the halothane gene in the sire line only. This ensures no progeny have the halothane double recessive gene.

6.2 Inspections

Introduction

Regularly inspecting pigs to ensure they are healthy is a vital part of ensuring animal welfare under all systems of pig production.

Minimum Standard No.18 – Inspections

The owner or person in charge must check pigs at least once each day for signs of ill-health or injury and take action as appropriate.

Recommended Best Practice

The frequency of inspections should be increased during hot or extremely cold weather, during outbreaks of disease, when farrowing is expected, or when groups of pigs have been recently mixed.

General Information

Good stockhandling is particularly important to ensure the welfare of pigs in larger groups or under outdoor conditions. Use of individual feeding stations allows the stockhandler to ensure visually that all pigs are up, eating and not lame or affected by other problems. Group housing systems require a greater degree of skill because pigs may have to be observed individually (see Section 4.5 – Pigs Kept Outdoors and Section 5.1.5 - Group Housing).

The welfare of pigs is related to the supply of sufficient feed and water. Regular checks must also be made to ensure the effectiveness of any automated feeding or watering systems (see Sections 3.1 – Feed: General and 3.4 – Water).

Inspections are best made at feeding times.

7 Pre-Transport Selection

Introduction

Transporting pigs presents special problems, particularly if they are not accustomed to being herded. Patience is essential, and the proper design of yards, loading ramps and other associated services is needed to facilitate loading with minimum distress and bruising.

A requirement of the Act is that pigs must be fit enough to withstand a journey without suffering unreasonable or unnecessary pain or distress.

Transport of pigs may also be covered by additional codes of welfare relating to the transport of animals.

Minimum Standard No.19 – Pre-Transport Selection

Pigs must be inspected prior to transport to ensure all are fit to be transported.

Recommended Best Practice

Pigs should be moved from their housing and loaded into the transport vehicle in one operation.

General Information

Pre-travel rest is not appropriate for pigs. This also means that additional holding accommodation is not required.

The timing of the last feed before transportation to slaughter needs to take into account a number of factors, including the need for a time lapse before transportation (to minimise stress in transport including travel sickness), and the total elapsed time until slaughter (to balance minimising hunger against minimising potential contamination from gut spillage). Depending on the size of the feed, ideally a time lapse of around 4 hours before transportation should be aimed for, providing the time to slaughter is not more than 12-14 hours. The most appropriate timing will need to be determined for each situation.

8 Emergency Humane Destruction

Introduction

There are circumstances when, for humane reasons, pigs with injury or disease may need to be destroyed. The Act provides that it is an offence to kill an animal in such a manner that the animal suffers unreasonable or unnecessary pain or distress. This means that the method of slaughter should be effective and cause immediate unconsciousness which persists until the animal is dead. It is also important that the animal be handled quietly beforehand to ensure it is not unnecessarily distressed or alarmed.

This area may also be covered by additional codes of welfare relating to slaughter.

General Information

Emergency slaughter needs to be undertaken in any circumstance where there is likely to be an unacceptable delay in treating the source of suffering, where the source of suffering is untreatable, or where transportation of the animal would perpetuate or aggravate the condition to a significant extent.

The animal needs to be observed for five minutes following slaughter to ensure that it is dead. The animal should be inspected to ensure that it is not breathing, that the heart has stopped beating and that the pupils have dilated in addition to an absence of any signs of recovery.

To ensure that death has occurred after the animal has been rendered unconscious, the main arteries in the neck or chest should be severed, and/or the pig shot in the head. Stockhandlers should use one of these techniques when the death of the animal is uncertain.

8.1 Suckling Piglets

General Information

For very young pigs i.e. pigs up to weaning, a blow to the frontal region of the head with a heavy metal object needs to be used to render it unconscious (see Figure 1 for appropriate positioning of the blow).

The blow should fracture the skull.

After the animal has been rendered unconscious, appropriate methods to ensure death include severing of the arteries in the neck or under the front leg.

Recommended Best Practice

Shooting should not be used as an option for suckling piglets.

8.2 Grower, Finisher and Adult Pigs

General Information

The skulls of mature pigs are massive structures. This makes shooting the preferred method of killing, although this can still be a difficult procedure, both in terms of accuracy and power of penetration of the projectile.

Grower, finisher and adult pigs should be shot by a method that causes gross damage to the brain, particularly the cerebrum (the front portions of the brain) and/or the brain stem. Following shooting the arteries in the neck or chest should be immediately severed, to ensure that death occurs.

Where a rifle or captive bolt pistol is used, the animal should be shot in the frontal region of the head at the point where the two imaginary lines intersect or to one side (as shown in Figure 1) and with the gun directed towards the base of the head.

Three types of firearm can be used: a rifle, a 12-gauge shotgun loaded with buckshot, or a captive bolt pistol. With very large (chopper) sows and boars, a standard captive bolt pistol may be unable to effectively penetrate the skull.

If a rifle or shotgun is used, it should be held several centimetres away from the head of the animal when discharged, to avoid any potentially dangerous build-up of back pressure in the barrel of the weapon. Where a captive bolt pistol is used, it should be held against the head of the animal.

If using a shotgun, it should be held about 20 cm away from the skin behind one ear and directed towards the eye on the opposite side of the head.

Using a 12-gauge shotgun loaded with buckshot and shooting the pig from behind one ear is probably the most effective method for killing large pigs. It is unlikely that any shot will penetrate the opposite side of the head.

With the exception of the captive bolt pistol, a current firearms licence is required if a firearm is to be used. Extreme care should be exercised when using a firearm in an enclosed area, as a bullet from a rifle may pass right through the head of a pig and injure other animals or people in the vicinity.

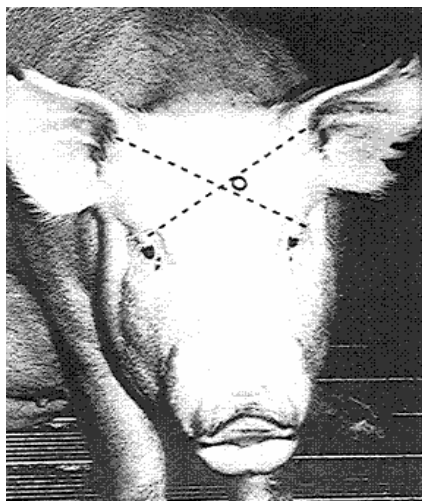


Figure 1: The site for percussive stunning of adult pigs

9 Quality Management

9.1 Quality Assurance Systems

Recommended Best Practice

To ensure that standards of animal welfare and husbandry are maintained, each commercial pig facility should implement a quality assurance system that provides for written procedures.

The elements of the quality assurance system should provide for the minimum standards and, where possible, the recommendations for best practice of this Code.

The quality assurance system should provide for all incidents resulting in significant sickness, injury or death of animals to be fully investigated and documented. Where the results of an investigation may have implications for current industry management practices, a report outlining the incident and implications should, as soon as it is available, be forwarded to the appropriate industry body for consideration.

The quality assurance system should require continual review of existing systems and procedures that could enhance the welfare of pigs. Pork producers and the New Zealand Pork Industry Board should encourage ongoing debate and assessments of management practices that may improve the welfare of pigs. Where improvements to current practice are identified, these should be communicated to pork producers via appropriate technology transfer methods such as seminars, workshops, and industry newsletters.

General Information

The adoption or adaptation of an industry generic quality assurance programme will meet these recommendations.

While the quality system should be based on the general principles of Standard AS/NZ 9002 or similar quality system it is not essential that the quality system be certified under the JASANZ (Joint Accreditation Standards for Australia and New Zealand) certification scheme.

9.2 Records

Introduction

The maintenance of good records is an integral part of a quality assurance system and good farm management.

Recommended Best Practice

Accurate records should be kept on the case history and treatment of any diseased or injured pigs.

Accurate identification of animals is important.

Due to problems of migration, the use of subcutaneous radio frequency identification devices (RFID) or microchips is not currently recommended.

10 Stockmanship

General Information

Pigs kept in controlled environment production systems are entirely reliant on the provision of their needs by human management. The care of pigs, at whatever stage of production, therefore requires both experience and the observance of high standards.

Under the Animal Welfare Act 1999 the “owner” of an animal and the “person in charge” is responsible for meeting the legal obligations to animal welfare. In the case of pigs the owner or person in charge may place the pigs in the care of others for the purpose of rearing, transport and slaughter.

This code establishes minimum standards of care for all pigs, and is intended to encourage all owners and persons in charge of pigs to adopt higher standards of husbandry, care and handling, based on the recommended best practices. While this code is based on current knowledge and technology available at the time of issue, it does not replace the need for experience and common sense in the handling of pigs.

The importance of good stockmanship cannot be over-emphasised. Those responsible for the care of pigs should be competent and well trained. Personnel should be appropriately instructed in the care and maintenance of pigs and how their actions may affect the pigs' welfare. Knowledge of the normal appearance and behaviour of pigs is essential for their health and welfare. It is important that those in charge of the pigs should be able to recognise early signs of distress or disease so that prompt action is taken or advice sought.

Owners or persons in charge of pigs should ensure that their personnel have either the relevant knowledge and training or appropriate supervision to ensure that the health and welfare needs of the pigs in their care are met. Personnel should undergo training either formally or on the job by experienced supervisors. Handling techniques should be included as written procedures in the quality assurance system, which should be easily accessible to all personnel.

Any contract or temporary staff should be trained and competent in the relevant activity.

Quality assurance programmes should emphasise the importance of training of personnel.

The New Zealand Qualifications Authority lists a number of training qualifications for stockhandlers.

Information on these qualifications and accredited training providers is available from the Agriculture Industry Training Organisation, PO Box 10 383, Wellington, or from the NZQA web site:

<http://www.nzqa.govt.nz/framework/>

Minimum Standard No. 20 – Stockmanship

Pigs must be cared for by a sufficient number of personnel who possess the appropriate ability, knowledge and professional competence to maintain the health and welfare of the animals in accordance with the minimum standards listed in this code.

Appendix I : Strict Liability and Defences

1. Strict Liability

In the prosecution of certain offences under the Animal Welfare Act 1999 committed after 19 December 2002, evidence that a relevant code of welfare was in existence at the time of the alleged offence and that a relevant minimum standard established by that code was not complied with is rebuttable evidence that the person charged with the offence failed to comply with, or contravened, the provision of the Animal Welfare Act to which the offence relates. (See sections 13(1A), 24(1) and 30(1A) of the Animal Welfare Act 1999, as amended by the Animal Welfare Amendment Act 2002).

2. Defences

It is a defence in the prosecution of certain offences under the Animal Welfare Act 1999 if the defendant proves that there was in existence at the time of the alleged offence a relevant code of welfare and that the minimum standards established by the code of welfare were in all respects equalled or exceeded. (See sections 13(2)(c), 24(2)(b) and 30(2)(c)).

If a defendant in a prosecution intends to rely on the defence under section 13(2)(c) or 30(2)(c), the defendant must, within seven days after the service of the summons, or within such further time as the Court may allow, deliver to the prosecutor a written notice. The notice must state that the defendant intends to rely on section 13(2) or 30(2) as the case may be, and must specify the relevant code of welfare that was in existence at the time of the alleged offence, and the facts that show that the minimum standards established by that code of welfare were in all respects equalled or exceeded. This notice may be dispensed with if the Court gives leave. (See sections 13(3) and 30(3)).

3. The strict liability provisions and the defence of equalling or exceeding the minimum standards established by a code of welfare apply to the following offences -

Failing to provide

Section 12(a) A person commits an offence who, being the owner of, or a person in charge of, an animal, fails to comply, in relation to the animal, with section 10 (which provides that the owner of an animal, and every person in charge of an animal, must ensure that the physical, health, and behavioural needs of the animal are met in a manner that is in accordance with both good practice and scientific knowledge).

Suffering animals

Section 12(b) A person commits an offence who, being the owner of, or a person in charge of, an animal, fails, in the case of an animal that is ill or injured, to comply, in relation to the animal, with section 11 (which provides that the owner of an animal that is ill or injured, and every person in charge of such an animal, must, where

practicable, ensure that the animal receives treatment that alleviates any unreasonable or unnecessary pain or distress being suffered by the animal).

Section 12(c) A person commits an offence who, being the owner of, or a person in charge of, an animal, kills the animal in such a manner that the animal suffers unreasonable or unnecessary pain or distress.

Surgical procedures

Section 21(1)(b) A person commits an offence who, without reasonable excuse, acts in contravention of or fails to comply with section 15(4) (which provides that no person may, in performing on an animal a surgical procedure that is not a significant surgical procedure, perform that surgical procedure in such a manner that the animal suffers unreasonable or unnecessary pain or distress).

Transport

Section 22(2) A person commits an offence who fails, without reasonable excuse, to comply with any provision of subsection (1) (which provides that every person in charge of a vehicle or an aircraft, and the master of or, if there is no master, the person in charge of, a ship, being a vehicle, aircraft, or ship in or on which an animal is being transported, must ensure that the welfare of the animal is properly attended to, and that, in particular, the animal is provided with reasonably comfortable and secure accommodation and is supplied with proper and sufficient food and water.)

Section 23(1) A person commits an offence who, without reasonable excuse, confines or transports an animal in a manner or position that causes the animal unreasonable or unnecessary pain or distress.

Section 23(2) A person commits an offence who, being the owner of, or the person in charge of, an animal, permits that animal, without reasonable excuse, to be driven or led on a road, or to be ridden, or to be transported in or on a vehicle, an aircraft, or a ship while the condition or health of the animal is such as to render it unfit to be so driven, led, ridden or transported.

Ill-treatment

Section 29(a) A person commits an offence who ill-treats an animal.

4. Inspection of premises

Inspectors appointed under the Animal Welfare Act 1999 have the power to enter any land or premises (with the exceptions of dwellings and marae), or any vehicle, aircraft or vessel, at any reasonable time, for the purpose of inspecting any animal—*Section 127(1)*.

Inspectors include officers of MAF Compliance and Enforcement Group, inspectors from approved organisations (e.g. Royal New Zealand SPCA, AWINZ) appointed by the Minister, and the Police.

Appendix II: Codes of Welfare

Codes of Welfare

- Animal Welfare (Broiler Chickens: Fully Housed) Code of Welfare No.1. 2003
- Animal Welfare (Rodeos) Code of Welfare No.2. 2003
- Animal Welfare (Pigs) Code of Welfare No.3. 2005
- Animal Welfare (Layer Hens) Code of Welfare No.4. 2005
- Animal Welfare (Zoos) Code of Welfare No.5. 2005
- Animal Welfare (Circuses) Code of Welfare No.6. 2005

List of Regulations and Circular Deemed to be the Animal Welfare (Commercial Slaughter) Code of Welfare 2002

- Clauses 1(a) and 2, and the heading preceding clause 2, of Part 7 of the Schedule 1 of the Fish Export Processing Regulations 1995 (SR 1995/54)
- Regulation 80(1) of the Game Regulations 1975 (SR 1975/174)
- Regulation 76 of the Meat Regulations 1969 (SR 1969/192)
- The Slaughter of Stock, Game, and Poultry Regulations 1969 (SR 1969/194)
- New Zealand Fishing Industry Agreed Implementation Standards 003.4 Live Eels and Rock Lobsters Circular 1995

Published Codes of Recommendations and Minimum Standards

- Code of Recommendations and Minimum Standards for the Sea Transport of Sheep from New Zealand, September 1991 Code No. 2
- Code of Recommendations and Minimum Standards for the Welfare of Sheep, July 1996 Code No. 3
- Code of Recommendations and Minimum Standards for the Welfare of Dairy Cattle, June 1992 Code No. 4
- Code of Recommendations and Minimum Standards for the Welfare of Deer During the Removal of Antlers, July 1992 Code No. 5, Amendments August 1994, August 1997
- Code of Recommendations and Minimum Standards for the Welfare of Horses, February 1993 Code No. 7
- Code of Recommendations and Minimum Standards for the Welfare of Bobby Calves, July 1997 Code No. 8
- Code of Recommendations and Minimum Standards for Care of Animals in Boarding Establishments, August 1993 Code No. 9

- Code of Recommendations and Minimum Standards for the Welfare of Animals at the Time of Slaughter at Licensed and Approved Premises, July 1996 Code No. 10
- Code of Recommendations and Minimum Standards for the Sale of Companion Animals, September 1994 Code No. 11
- Code of Recommendations and Minimum Standards for the Welfare of Animals Transported within New Zealand, November 1994 Code No. 15, Amendments May 1996, August 1998
- Code of Recommendations and Minimum Standards for the Welfare of Animals at Saleyards, June 1998 Code No. 16
- Code of Recommendations and Minimum Standards for the Emergency Slaughter of Farm Stock, December 1996 Code No. 19
- Code of Recommendations and Minimum Standards for the Welfare of Dogs, May 1998 Code No 20
- Code of Recommendations and Minimum Standards for the Welfare of Ostrich and Emu, June 1998 Code No. 21

Published Guidelines

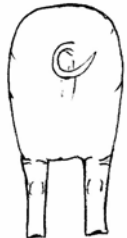
- Guidelines for the Welfare of Stock from which Blood is Harvested for Commercial and Research Purposes, April 1996
- Guidelines for the Welfare of Yearling Fallow Deer During the Use of Rubber Rings to Prevent Antler/Pedicle Growth, September 1997
- Guidelines for the Welfare of Red and Wapiti Yearling Stags During the Use of Rubber Rings to Induce Analgesia for the Removal of Spiker Velvet, September 1998

<p>Codes and Guidelines may be obtained from:</p> <p>Executive Co-ordinator Animal Welfare Biosecurity New Zealand Ministry of Agriculture and Forestry P O Box 2526 WELLINGTON</p> <p>Tel: 04 474 4129 e-mail: animalwelfare@maf.govt.nz</p>	<p>or can be inspected at:</p> <p>ASB House Reception Level 3 101-103 The Terrace WELLINGTON</p>
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Codes and Guidelines are available on MAF's website. The web page address is:

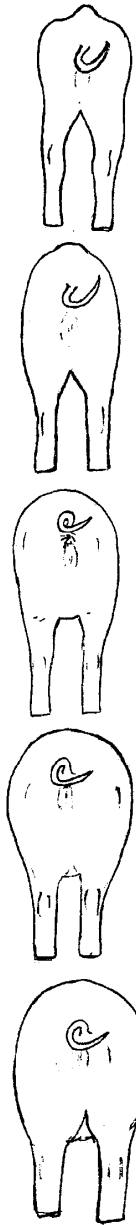
<http://www.biosecurity.govt.nz/animal-welfare>

Appendix III: Condition Scoring of Sows



Numerical Score	Pelvic Bones, Tail Head	Loin	Vertebrae	Ribs
1	Pelvic bones very prominent. Deep cavity around the tail head.	Loin very narrow. Sharp edges on transverse spinal process. Flank very hollow.	Prominent and sharp throughout the length of the backbone.	Individual ribs very prominent.
2	Pelvic bones obvious but some slight cover. Cavity around tail head.	Loin narrow. Only very slight cover to edge of transverse spinal process. Flank rather hollow.	Prominent.	Rib cage less apparent. Difficult to see individual ribs.
3	Pelvic bones covered.	Edge of transverse spinal processes covered and rounded.	Visible over the shoulder. Some cover further back.	Covered but can be felt.
4	Pelvic bones only felt with firm pressure. No cavity around tail.	Edge of transverse spinal processes felt only with firm pressure.	Felt only with firm pressure.	Rib cage not visible. Very difficult to feel any ribs.
5	Pelvic bones impossible to feel. Root of tail set deep in surrounding fat.	Impossible to feel bones. Flank full and rounded.	Impossible to feel vertebrae.	Not possible to feel ribs.

Appendix IV: Condition Scoring of Grower and Finisher Pigs



Numerical Score	Pelvic Bones	Loin	Vertebrae	Ribs
1	Pelvic bones very prominent.	Loin very narrow. Sharp edges on transverse spinal process. Flank very hollow.	Prominent and sharp throughout the length of the backbone.	Individual ribs very prominent.
2	Pelvic bones obvious but some slight cover.	Loin narrow. Only very slight cover to edge of transverse spinal process. Flank rather hollow.	Prominent.	Rib cage less apparent. Difficult to see individual ribs.
3	Pelvic bones covered.	Edge of transverse spinal processes covered and rounded.	Visible over the shoulder. Some cover further back.	Covered but can be felt.
4	Pelvic bones only felt with firm pressure.	Edge of transverse spinal processes felt only with firm pressure.	Felt only with firm pressure.	Rib cage not visible. Quite difficult to feel any ribs.
5	Pelvic bones impossible to feel.	Impossible to feel bones. Flank full and rounded.	Impossible to feel vertebrae.	Difficult to feel ribs.

Appendix V: Minimum Space Required by Liveweight

<i>Liveweight (kg)</i>	<i>Minimum Space Required (m²)</i>	<i>Liveweight (kg)</i>	<i>Minimum Space Required (m²)</i>
1	0.03	51	0.42
2	0.05	52	0.42
3	0.06	53	0.43
4	0.08	54	0.43
5	0.09	55	0.44
6	0.10	56	0.45
7	0.11	57	0.45
8	0.12	58	0.46
9	0.13	59	0.46
10	0.14	60	0.47
11	0.15	61	0.47
12	0.16	62	0.48
13	0.17	63	0.48
14	0.18	64	0.49
15	0.18	65	0.49
16	0.19	66	0.50
17	0.20	67	0.50
18	0.21	68	0.51
19	0.22	69	0.51
20	0.22	70	0.52
21	0.23	71	0.52
22	0.24	72	0.53
23	0.25	73	0.53
24	0.25	74	0.54
25	0.26	75	0.54
26	0.27	76	0.55
27	0.27	77	0.55
28	0.28	78	0.56
29	0.29	79	0.56
30	0.29	80	0.57
31	0.30	81	0.57
32	0.31	82	0.57
33	0.31	83	0.58
34	0.32	84	0.58
35	0.32	85	0.59
36	0.33	86	0.59
37	0.34	87	0.60
38	0.34	88	0.60
39	0.35	89	0.61
40	0.36	90	0.61
41	0.36	91	0.62
42	0.37	92	0.62
43	0.37	93	0.63
44	0.38	94	0.63
45	0.38	95	0.63
46	0.39	96	0.64
47	0.40	97	0.64
48	0.40	98	0.65
49	0.41	99	0.65
50	0.41	100	0.66

Appendix VI: Recommended Best Practice for Space Allowances, by Liveweight for Lateral Recumbency.

<i>Liveweight (kg)</i>	<i>Minimum Space Required (m²)</i>	<i>Liveweight (kg)</i>	<i>Minimum Space Required (m²)</i>
1	0.05	51	0.65
2	0.07	52	0.66
3	0.10	53	0.67
4	0.12	54	0.68
5	0.14	55	0.69
6	0.16	56	0.70
7	0.17	57	0.71
8	0.19	58	0.71
9	0.20	59	0.72
10	0.22	60	0.73
11	0.23	61	0.74
12	0.25	62	0.75
13	0.26	63	0.75
14	0.28	64	0.76
15	0.29	65	0.77
16	0.30	66	0.78
17	0.31	67	0.79
18	0.33	68	0.79
19	0.34	69	0.80
20	0.35	70	0.81
21	0.36	71	0.82
22	0.37	72	0.83
23	0.38	73	0.83
24	0.40	74	0.84
25	0.41	75	0.85
26	0.42	76	0.86
27	0.43	77	0.86
28	0.44	78	0.87
29	0.45	79	0.88
30	0.46	80	0.89
31	0.47	81	0.89
32	0.48	82	0.90
33	0.49	83	0.91
34	0.50	84	0.91
35	0.51	85	0.92
36	0.52	86	0.93
37	0.53	87	0.94
38	0.54	88	0.94
39	0.55	89	0.95
40	0.56	90	0.96
41	0.57	91	0.97
42	0.58	92	0.97
43	0.58	93	0.98
44	0.59	94	0.99
45	0.60	95	0.99
46	0.61	96	1.00
47	0.62	97	1.01
48	0.63	98	1.01
49	0.64	99	1.02
50	0.65	100	1.03