

Australian Standard[®]

Hygienic production of crocodile meat for human consumption



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The following are represented on Committee FT-021:

- ACT Health
 - Australian Chicken Meat Federation and Australian Poultry Industries Association
 - Australian Meat Industry Council
 - Australian Quarantine and Inspection Service, Commonwealth
 - Australian Renderers' Association
 - Department of Health, WA
 - Department of Primary Industries and Water Tasmania
 - Department of Primary Industry, Fisheries and Mines, NT
 - Food Standards Australia New Zealand
 - Meat and Livestock Australia
 - Meat Standards Committee
 - NSW Food Authority
 - Primary Industries Standing Committee
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 - PrimseSafe
 - SafeFood Queensland
 - South Australian Meat Hygiene Advisory Council
 - The Australian Game Meat Producers Associations
 - WA Meat Industry Authority
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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee.

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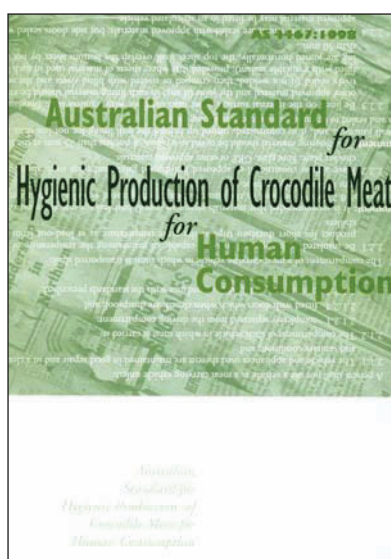
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*Australian
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Hygienic Production
of Crocodile Meat for
Human Consumption*

**Australian Standard for
Hygienic Production of Crocodile Meat
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Full details of all Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine *The Australian Standard*, which subscribing members receive, and which gives details of new publications, new editions and of withdrawn Standards.

Suggestions for improvements to this Standard, should be addressed to:

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PREFACE

The Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) comprises the Australian Federal, State and Territory, and New Zealand Ministers responsible for agriculture, soil, water and rural adjustment policy issues.

In March 1995 the Ministerial Council determined that aspects of all existing national meat industry codes relevant to human health would be mandated by amendment of legislation in all States and Territories.

This decision was given effect by appointment of a Steering Group comprising Chairmen and Chief Executives of State and Territory meat hygiene authorities, the Australian Quarantine and Inspection Service, meat industry organisations, food safety technical advisers and the Australia New Zealand Food Authority.

The Steering Group commenced a fundamental review of existing Codes of Hygienic Practice to express mandatory national standards in outcome terms. The new Australian Standards provided for the implementation of quality assurance programs consistent with the AS/NZS ISO 9000 (1994) series. Process control shall be achieved through the application of Hazard Analysis Critical Control Point (HACCP) methodology as defined by the Codex Alimentarius Commission and will allow flexibility in techniques and facilities provided that standards relating to wholesomeness and safety have been met.

"The responsibility for production of safe and wholesome meat should be shared by industry and the controlling authority. The use of the HACCP approach and quality assurance systems reinforces this joint responsibility. The controlling authority will supervise and audit these arrangements to ensure compliance with requirements." (Codex Alimentarius Vol. 10 (1994))

This Standard is written in substantial compliance and consistency with *Codex Alimentarius* Volume 10. Minor technical variations reflect accepted Australian terminology or commercial industry practice, but with quality standards and performance criteria equivalent to those in the *Codex*.

Where an operator proposes a technique substantially different from those detailed in this Australian Standard the assessment of equivalence shall be determined by the ARMCANZ Meat Standards Committee. This Committee will establish the methodology for determining the equivalence of benchmarks or standards. The proposer of the alternative technique shall supply sufficient supporting information to validate the procedure to the relevant Controlling Authority who will advise the ARMCANZ Committee on Meat Industry Standards. The submission must include a HACCP plan which ensures that equivalence is maintained. Where the ARMCANZ Meat Standards Committee cannot reach agreement on the approval of an alternative technique the final decision shall be made by the Ministerial Council (ARMCANZ).

This publication has been approved as an Australian Standard. Other Standards in the series are:

Construction of Premises Processing Meat for Human Consumption;
Construction of Premises Processing Animals for Human Consumption;
Hygienic Production of Meat for Human Consumption (2nd edition);
Hygienic Production of Poultry Meat for Human Consumption;
Hygienic Production of Rabbit Meat for Human Consumption;
Hygienic Production of Game Meat for Human Consumption;
Transportation of Meat for Human Consumption.

AGRICULTURE AND RESOURCE MANAGEMENT COUNCIL OF AUSTRALIA AND NEW ZEALAND

The Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) consists of the Australian Federal, State/Territory and New Zealand Ministers responsible for agriculture, soil, water (both rural and urban) and rural adjustment policy issues.

The objective of the Council is to develop integrated and sustainable agricultural and land and water management policies, strategies and practices for the benefit of the Australian community.

The Council is supported by a permanent Standing Committee, the Standing Committee on Agriculture and Resource Management (SCARM). Membership of Standing Committee comprises relevant Departmental Heads/CEOs of Commonwealth/State/Territory and New Zealand agencies as well as representatives of the CSIRO and the Bureau of Meteorology.

1 SCOPE

This Standard applies to the construction and equipment and procedures of all premises where crocodiles are slaughtered and processed for the production of crocodile meat for human consumption. It contains the minimum construction and procedural requirements for premises used for the production of wholesome crocodile meat.

Authorities with regulatory responsibilities for the processing of crocodiles for human consumption shall enforce compliance with this Standard.

The overall goal of the standard is that there be no more than a log (10-fold) increase in the load of indicator bacterial pathogens on the surface of meat from the time of dressing until the product is packaged for sale or used as an ingredient for further processing.

Techniques for validation and verification of this goal are included in Appendix A.

Alternate techniques or procedures to those detailed in the standard may be used by operators providing compliance with the overall goal can be verified through the use of Hazard Analysis and Critical Control Point (HACCP) based programs.

The Standard shall be applied at all crocodile processing establishments, whether operating under a full-time meat inspection program (incorporating HACCP principles), or a HACCP-based quality assurance arrangement approved and monitored by the controlling authority.

The Standard does not address controls over the commercial exploitation of crocodiles under the Convention of International Trade in Endangered Species (CITES) and under legislation covering wildlife management and conservation. However, the Standard does require that all structures and procedures conform with the legal requirements of authorities responsible for regulating the possession and trade of wildlife and wildlife products.

Operators of premises to which this Standard refers should be licensed by a State wildlife management authority and/or meat industry authority to farm and process crocodiles for the production of crocodile meat for human consumption.

In addition to the requirements outlined in this Standard, the Food Standards Code and associated State/Territory food hygiene regulations must be taken into account when applying this Standard.

If offals are to be recovered for human consumption, Meat Standards Committee is to make application to Australia New Zealand Food Authority (ANZFA) with appropriate supporting evidence that there is no risk to public health and safety from eating crocodile offal.

2 QUALITY PERFORMANCE STANDARDS

OUTCOMES REQUIRED

The application of this Standard is based on the following quality criteria:

- microbiological safety
- prevention of physical contamination
- prevention of zoonotic disease associated with meat
- prevention of harmful or unacceptable chemical residues
- conformance with consumer image of product wholesomeness.

2.1 Physical contamination

Means contamination with material presenting a risk to product safety, including material likely to carry a heavy microbiological load.

Operational procedures are given in Part B.

2.2 Microbiological safety

Means carrying a bacteriological load consistent with a safe and wholesome product.

Refer to Appendix A.

Operational procedures are given in Part B.

2.3 Zoonotic disease

Means a disease or condition of animals capable of transmission from live or dead animals to humans.

Diseases and conditions of concern, together with required inspection procedures for detection and action are given in Section 20 (Ante-mortem inspection), Section 21 (Diseases and Conditions) and Appendix B.

2.4 Chemical residues

These are defined from time to time by national authorities. International standard definitions and Maximum Residue Limits are published in the *Codex Alimentarius*.

Procedures for sampling, testing and subsequent action are published in operating instructions issued by Federal and State authorities. Mandatory procedures and standards are given in Appendix C.

2.5 Product wholesomeness

Means free from diseases and conditions which, while not necessarily bearing direct risk to human health, affect the consumer image of product safety.

Procedures for detection and elimination of these conditions are given in Section 21 (Diseases and Conditions) and Appendix B.

3 DEFINITIONS

In this Standard, the meaning of the words and phrases set down below apply throughout the Standard, unless the context otherwise requires.

Antimicrobial treatment	The application of approved chemical agent or process to reduce microbial numbers on the meat surface.
Approved	Approved by the controlling authority.
Audit	A systematic and independent examination to determine whether activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.
Bleeding	The severing of the large blood vessels in the back region of the neck to allow the free flow of blood from the carcase as soon as possible after death.
Clean	In relation to: (a) <i>carcasses or meat</i> , means free from all visible contaminants, for example ingesta, dust, rail grease, faecal material, excretions and pathological conditions; (b) <i>premises</i> means surfaces of floors, walls, ceilings, equipment, accessories and utensils free of visible contamination, washed, sanitised and free of objectionable odours.
Condemned	In relation to a crocodile carcase or crocodile carcase part means that the carcase or carcase part is not suitable for use for human or animal food, and requiring destruction.
Contamination	The presence of objectionable matter including substances or micro-organisms that make crocodile meat unwholesome.
Controlling Authority	A person or a body that under a law of a State, Territory or the Commonwealth, has statutory responsibility for the control of hygiene in crocodile meat production.
Crocodile meat	The edible part of any slaughtered crocodile excluding offal.
Disease	In relation to an animal, means the presence of an infectious agent or pathological process that: (a) affects the health of an animal to an extent that would prevent acceptance of the carcase, the meat or the parts derived from the animal for human consumption; or (b) may not necessarily affect the health of the animal, but may be transmitted to other animals or humans who contact the animal, contact the carcase or who might consume meat derived from the animal.
Dressing	In relation to the slaughter of crocodiles, the removal of skin, tail (including the 4-11 vertebra), feet up to the carpal and tarsal joints, head, viscera (including kidneys) and genital organs.
Edible	Suitable for human consumption.
Inedible	Unsuitable for human consumption.
Inspector	A person appointed by the controlling authority, or appointed by the registered company and approved by the controlling authority, for the purpose of auditing quality assurance systems and control of hygiene in a processing premises.
Meat	See Crocodile Meat.
Operator	The person, owner or manager who at the time is in attendance and responsible for the operation of the crocodile slaughtering facility.

Potable	In relation to water means a water quality that is consistent with standards for drinking water in the respective states.
Premises	A building or structure, and equipment, where crocodiles are processed for the production of meat for human consumption.
Quality Assurance (QA) arrangement	An arrangement between the controlling authority and the operator of a crocodile processing establishment with an approved quality system based on AS/NZS ISO 9002, where the operator takes responsibility for ensuring the production of wholesome crocodile meat. The controlling authority's role is to monitor the effectiveness of a company's approved QA system through an audit program to ensure compliance with the relevant provisions of this Standard.
Residue	The residue of a veterinary drug, pesticide or contaminant as defined for the purposes of <i>Codex Alimentarius</i> .
Sanitise	The application of approved chemical and/or physical agents and processes to cleaned surfaces to minimise the risk of contamination of meat by micro-organisms.
Sterilise	In relation to equipment or utensils used in the hygienic slaughtering or processing of crocodiles, cleaned and immersed in water heated to not less than 82°C until sterilisation is effected, or treated by other effective means. For the purpose of this Standard it means 'make commercially sterile'.
Stunning	The procedure by which an animal is rendered unconscious before being bled to death.
Wholesome	Means: (a) will not cause food borne infection or intoxication when properly handled and prepared for its intended use; (b) does not contain chemical residues in excess of established limits; (c) free of obvious physical contamination; (d) free of defects recognised as unsafe (objectionable) to consumers; and (e) produced under adequate hygiene control.

4 QUALITY ASSURANCE PROGRAMS

Where the controlling authority approves a quality assurance arrangement for the purpose of production and hygiene quality control of crocodile meat, as required under this Standard, the quality assurance arrangement shall conform to the following principles:

- (a) the quality assurance arrangements shall be consistent with the quality management and quality assurance standards outlined by Standards Australia (AS/NZS ISO 9002). The essential elements of these arrangements shall reflect ISO 9002 Clauses under Section 4 — Quality System Requirements¹:
 - 4.1 Management responsibility (quality policy, organisation, management review)
 - 4.2 Quality system
 - 4.3 Contract review
 - 4.4 Design control — exclusion statement
 - 4.5 Document and data control (document approval and issue, document changes/modification)
 - 4.6 Purchasing
 - 4.7 Control of customer - supplied product
 - 4.8 Product identification and traceability
 - 4.9 Process control
 - 4.10 Inspection and testing (including records)
 - 4.11 Control of inspection, measuring and test equipment
 - 4.12 Inspection and test status
 - 4.13 Control of non-conforming product
 - 4.14 Corrective and preventive action
 - 4.15 Handling, storage packaging, preservation and delivery
 - 4.16 Control of quality records
 - 4.17 Internal quality audits
 - 4.18 Training
 - 4.19 Servicing
 - 4.20 Statistical techniques
- (b) Process control (ISO 9002 Clause 4.9 above) shall be achieved through the application of the Hazard Analysis Critical Control Point (HACCP) approach, using the seven principles defined by the Food Standards Programme of the Codex Alimentarius Commission.

The seven principles are:

1. Identify the potential hazard(s) associated with all stages of production. Assess the likelihood of occurrence of the hazard(s) at each stage and identify preventative measures.

1. Australian/New Zealand Standard - *Quality Systems — Model for Quality Assurance in Production, Installation and Servicing* (AS/NZA ISO 9002: 1994).

2. Determine the points/procedures/operational steps that can be controlled to eliminate the hazard(s) or minimise its likelihood of occurrence — (Critical Control Point (CCP)). A 'step' means any stage in food production and/or manufacture including raw materials, their receipt and/or production, harvesting, transport, formulation, processing, storage, etc.
 3. Establish critical limit(s) which must be met to ensure the CCP is under control.
 4. Establish a system to monitor control of the CCP by scheduled testing or observations.
 5. Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control.
 6. Establish procedures for verification which include supplementary tests and procedures to confirm that the HACCP system is working effectively.
 7. Establish documentation concerning all procedures and records appropriate to these principles and their application.
- (c) Under quality control arrangements as required by the controlling authority or as specified in the quality assurance program, animals and carcasses shall be inspected in accordance with the Standard by people holding recognised meat inspection qualifications or other qualifications approved by the controlling authority.
- (d) Where a quality control program incorporating full-time meat inspection system is applied, the quality control program shall include a company-managed HACCP system of process control (ISO 9002, Clause 4.9) as outlined in (b) above. In addition the quality control program shall include compliance with ISO 9002 Clause 4.8 – 'Product Identification and Traceability'.
- (e) Controlling Authorities shall institute:
1. a process of QA program development and approval (including amendments) which ensures that a manual accurately describes individual plant operations and which gives confidence that regulatory standards are consistently satisfied;
 2. audit policies and procedures which are aligned with the Standards Association of Australia (AS 3911);
 3. corrective action and a sanctions policy which effectively address non-compliance with standards and fraud.

PART A CONSTRUCTION

5 SITE AND SERVICES

OUTCOMES REQUIRED

Premises located and provided with essential services to facilitate the hygienic processing of crocodiles.

- 5.1 Premises shall be located on a site:
- (a) not subject to flooding; and
 - (b) free from objectionable odours, smoke, ash, dust or other environmental contamination.
- 5.2 Premises shall be provided with:
- (a) potable water in a quantity and under pressure as necessary to ensure all activities involved in the production of wholesome crocodile meat can be carried out efficiently;
 - (b) a reliable energy supply (electricity, gas etc) that ensures efficient operations;
 - (c) waste disposal systems sufficient to handle, and where necessary, treat all liquid and solid waste; and
 - (d) traffic ways constructed and maintained so as to not create dust and other environmental contamination.

6 ANIMAL-HOLDING AND KILLING FACILITIES

OUTCOMES REQUIRED

Animal welfare is not jeopardised and animal handling facilities are not a source of contamination.

- 6.1 Where holding facilities are provided, they shall be constructed to ensure crocodiles are humanely handled.
- 6.2 Facilities shall be provided for the antimicrobial treatment of the bleeding site and where necessary the washing of crocodiles to remove contamination from the skin.
- 6.3 To facilitate hygienic processing, bleeding facilities shall be:
 - (a) constructed and maintained to control blood and liquid waste, and drained to a drainage system or container which can subsequently be disposed of as required under Section 9.6;
 - (b) supplied with an adequate supply of potable water sufficient to wash hands and equipment during processing; and
 - (c) supplied with an adequate supply of a suitable agent for sanitising hands and equipment.