



FOOD STANDARDS
Australia New Zealand
Te Mana Kounga Kai – Ahitereiria me Aotearoa

10 October 2005

Limit on fluid loss from thawed poultry

DISCUSSION PAPER

RELATING TO

**PROPOSAL P282
PRIMARY PRODUCTION & PROCESSING STANDARD FOR
POULTRY MEAT**

**DEADLINE FOR PUBLIC SUBMISSIONS: 6pm (Canberra time) 25 October 2005
SUBMISSIONS RECEIVED AFTER THIS DEADLINE
WILL NOT BE CONSIDERED**

(See 'Invitation for Public Submissions' for details)

INVITATION FOR PUBLIC SUBMISSIONS

FSANZ has prepared a discussion paper regarding the issue of fluid loss from frozen poultry. FSANZ invites public comment on this discussion paper for the purpose of considering this issue through the standard development process for the Primary Production and Processing Standard for the poultry industry (P282).

Written submissions are invited from interested individuals and organisations to assist FSANZ in preparing the Draft Assessment Report for this Proposal. Submissions should, where possible, address the objectives of FSANZ as set out in section 10 of the FSANZ Act. Claims made in submissions should be supported wherever possible by referencing or including relevant studies, research findings, trials, surveys etc. Technical information should be in sufficient detail to allow independent scientific assessment.

The processes of FSANZ are open to public scrutiny, and any submissions received will ordinarily be placed on the public register of FSANZ and made available for inspection. If you wish any information contained in a submission to remain confidential to FSANZ, you should clearly identify the sensitive information and provide justification for treating it as commercial-in-confidence. Section 39 of the FSANZ Act requires FSANZ to treat in-confidence, trade secrets relating to food and any other information relating to food, the commercial value of which would be, or could reasonably be expected to be, destroyed or diminished by disclosure.

Submissions must be made in writing and should clearly be marked with the word 'Submission' and quote the correct project number and name. Submissions may be sent to one of the following addresses:

Food Standards Australia New Zealand
PO Box 7186
Canberra BC ACT 2610
AUSTRALIA
Tel (02) 6271 2222
www.foodstandards.gov.au

Food Standards Australia New Zealand
PO Box 10559
The Terrace WELLINGTON 6036
NEW ZEALAND
Tel (04) 473 9942
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Submissions need to be received by FSANZ **by 6pm (Canberra time) 25 October 2005.**

Submissions received after this date will not be considered, unless agreement for an extension has been given prior to this closing date. Agreement to an extension of time will only be given if extraordinary circumstances warrant an extension to the submission period. Any agreed extension will be notified on the FSANZ Website and will apply to all submitters.

While FSANZ accepts submissions in hard copy to our offices, it is more convenient and quicker to receive submissions electronically through the FSANZ website using the Standards Development tab and then through Documents for Public Comment.

Questions relating to making submissions or the application process can be directed to the Standards Management Officer at the above address or by emailing slo@foodstandards.gov.au.

This discussion paper is available for viewing and downloading from the FSANZ website. Alternatively, requests for paper copies of reports or other general inquiries can be directed to FSANZ's Information Officer at either of the above addresses or by emailing info@foodstandards.gov.au <<mailto:info@foodstandards.gov.au>>.

1. INTRODUCTION

Limits are set for fluid loss from thawed poultry in the Australia New Zealand Food Standards Code (the Code) to assist in preventing deceptive or misleading practices. These limits apply in both Australia and New Zealand. The current limit in the Code permits 60 g fluid loss /kg of thawed poultry and was set in 2000 as part of the process of developing the meat standard for the joint Australia New Zealand Food Standards Code. Prior to this, the limit for fluid loss was 80 g/kg in Australia and 60 g/kg in New Zealand.

Following some recent surveillance of fluid loss from frozen poultry, the Australian poultry industry has raised concerns that it may not be feasible to consistently apply with the standard. Industry has suggested that this is due to the implementation of Hazard Analysis Critical Control Programs (HACCP) in the poultry processing sector has led to an increase in the number of washing steps during processing. That, and the potential consumer demand for larger birds has resulted in some processors not being able to consistently meet the current limit in the Code of 60 g/kg of fluid loss from thawed poultry.

FSANZ proposes to consider the issue of fluid loss from thawed poultry as part of the development of the Primary Production and Processing Standard for Poultry Meat. This is because the relevant stakeholders are already engaged and the issues and practices within the poultry meat industry known to FSANZ.

To inform this process, stakeholders are requested to provide comment on the issues raised in this discussion paper, in particular any information or data relating to the questions in Section 8. FSANZ will also contact a wide range of stakeholders to gather information that will assist in reviewing this standard. Comments are, and will be, sought from stakeholders in Australia and New Zealand.

Any data and information obtained will be considered in the Draft Assessment Report for P282 – Primary Production & Processing Standard for Poultry Meat, which is expected to be released for public comment late 2005.

2. PURPOSE OF THE PAPER

The purpose of this discussion paper is to raise issues and seek comments and information regarding the current standard for fluid loss from thawing frozen poultry. Questions or issues that FSANZ seeks comment on are shown in Section 8.

3. WHY DOES FLUID LOSS OCCUR?

All frozen meats will have some fluid loss on thawing. There are two main reasons for this fluid loss. The first is cellular breakdown and is an unavoidable consequence of the freezing process. The second is the loss of water that has been absorbed and retained as a result of specific processing practices. It is the water that is absorbed and retained due to this second factor that the limit in the Code aims to minimise.

Fluid is absorbed in poultry meat when the carcass comes into contact with water. During poultry processing, the carcass is in contact with water during the washing, rinsing and chilling steps.

The washing and chilling steps are expected to contribute the most to water absorption and retention as the majority of poultry processors use water immersion washing and chilling.

Water is absorbed and retained either under the skin, in the muscle meat or on the outside carcass surface. Water retained during washing, rinsing and chilling does not completely drain from the poultry carcass prior to freezing. No more water can be absorbed once the poultry is frozen.

As a carcass defrosts, some, if not all, of the fluid absorbed and retained and the fluid resulting from cellular breakdown, is lost.

4. WHY ARE LIMITS FOR FLUID LOSS SET FOR POULTRY?

It is important to note that limits on fluid loss from thawed poultry are set for fair trading reasons, not food safety ones as the limits assist in preventing deceptive or misleading practices. For example, because poultry is purchased by weight, the presence of additional water would increase the final weight of the product meaning that consumers could be paying for water and not meat.

5. WHAT IS THE CURRENT REQUIREMENT REGARDING FLUID LOSS IN POULTRY?

The current requirement in the Code relating to fluid loss in poultry is Standard 2.2.1- Meat and Meat Products, Clause 2- Limit on fluid loss from thawed poultry.¹

To ensure that processors do not intentionally add unnecessary water to their poultry carcasses during processing thereby increasing the weight, Standard 2.2.1 Clause 2 sets a limit on fluid loss from thawed poultry and by direct association minimises the amount of fluid permitted to be absorbed and retained by poultry carcasses.

Standard 2.2.1 Clause 2 states that:

Frozen poultry when thawed must yield no more than 60 g/kg of fluid as determined by the method prescribed in the Schedule (Attachment 1).

This standard applies to all poultry and means that the sell weight of a frozen chicken (for instance) cannot be more than 106% of the weight of the thawed product. For example, if a frozen chicken weighs 1460 g when purchased, it can legally lose up to 87 g of fluid on thawing, according to Standard 2.2.1. This means that the net weight of the thawed chicken could be as low as 1372 g, but depending on how this bird is labelled, it may or may not be considered misleading.

6. WHY WAS THE CURRENT LIMIT FOR FLUID LOSS SET?

The current limit for fluid loss from thawed poultry was set in 2000 as part of the process of developing the meat standard for the joint Australia New Zealand Food Standards Code. Initially it was proposed that the limit of fluid loss from thawed poultry be 80 g/kg.

¹ Fluid added to poultry is not covered under Standard 1.2.4 and therefore does not have to be included in the ingredient list as water is considered a processing aid.

Eight submissions were received² of which 5 supported the proposal to limit fluid loss to 80 g/kg, one questioned whether the issue of fluid loss could be handled as a fair trading issue and one proposed a level of 60 g/kg because it was the level in the New Zealand Food Regulations and represented good manufacturing practice. The final submission did not directly comment on the limit.

From these submissions, FSANZ (then ANZFA) proposed to lower the limit from 80 g/kg to 60 g/kg and subsequently sought a second round of public comment. No comments were received.

7. IS THE CURRENT REQUIREMENT JUSTIFIED?

Recently issues have been raised by the poultry industry in Australia regarding the limit for fluid loss from thawed poultry. This follows some surveillance of fluid loss from frozen poultry that showed that there has been some non-compliance with the standard. Industry suggested that this is because poultry processors have difficulty in consistently meeting the 60 g/kg requirement due to changes in food safety practices, such as a considerable increase in washing steps as a result of the introduction of HACCP.

HACCP was introduced into the poultry meat industry in 1997 as a requirement of the Australia Standard. The current standard is entitled, Australian Standard for the Construction of Premises and Hygienic Production of Poultry Meat for Human Consumption (AS 4465-2001) and requires poultry processors to develop and implement HACCP programs, which must address the food safety hazards associated with the processing of poultry.

A number of food safety practices involving water have been implemented under the required HACCP program. The poultry industry have advised that one of the main practices is the use of water immersion chilling, which is an effective way of bringing the deep muscle temperatures down to levels that limit bacterial growth during subsequent processing, packing and handling of the product. In addition, carcasses are sprayed with a chlorine spray at a number of points in the processing chain.

It has been suggested that the increase in carcass washing steps introduced as a result of HACCP leads to increased contact time between the carcasses and water which can increase the water absorbed and retained in poultry carcasses.³ The poultry industry have indicated that contact time between carcasses and water needs to be increased for larger birds to enable the carcass core to reach chill temperatures and that, due to consumer demand, larger birds are increasingly being processed. It may therefore not be technologically feasible to consistently meet the 60 g/kg limit without potentially lowering the safety of the final product.

Another issue with the current requirement that the Australian poultry industry has asked FSANZ to consider is the method for determining fluid loss. As it stands, every bird must meet the fluid loss requirements: there is no mechanism to account for differences in water uptake of individual carcasses by averaging the fluid loss over a number of carcasses.

² Submissions were received from a variety of industry and consumer agencies and representatives.

³ Some processing practices, such as air chilling minimise or reduce the amount of fluid that is absorbed or retained. However, whilst these methods may result in less fluid loss once the poultry has been thawed, the end product may be drier and may not be acceptable to consumers.

It may (or may not) be that simply modifying the method of analysis to require the fluid loss limit to be set over an average of x birds may mitigate the issue of consistently meeting the limit.

Alternatively, industry have proposed that the method as it is currently written may inadvertently disadvantage processors as it does not take into account the price the poultry is sold for. For example, some poultry may lose fluid on thawing at levels greater than 60 g/kg, but are sold at a price based on their thawed weight not their frozen weight. In this situation consumers are not being misled as the sell price is based on the thawed weight, but the poultry does not meet the 60 g/kg fluid loss requirement, which could lead to product rejection and/or the processor being fined. Consideration of the sell price in the fluid loss calculations may, depending on how it is done, be one option to alleviate this issue.

FSANZ currently has no data to verify the situation and will be seeking this information during the period of review.

8. WHAT INFORMATION IS FSANZ SEEKING?

There are a number of questions FSANZ is seeking answers to so that this issue can be resolved. These are:

1. How do poultry processors control the level of water absorption and retention by the poultry carcass?
2. What processing practices impact on water absorption by poultry carcasses?
3. How have these practices changed since the shift in focus to food safety, as illustrated by the introduction of HACCP?
4. Is the current limit of 60 g fluid loss/kg weight technologically feasible using good manufacturing practice? If not, what limit can be consistently achieved? (provide data where possible)
5. What are the costs and benefits to industry of maintaining the current requirement of 60 g/kg fluid loss for frozen poultry? What are the costs and benefits to industry of returning to a limit of 80 g/kg fluid loss for frozen poultry?
6. Is the current method for determining fluid loss appropriate? Would changing the method of determining fluid loss be appropriate? How should the method be changed?
7. What are the implications of weight and measures requirements? What other measures are in place to protect consumers from misleading and deceptive practices? Would these adequately address this issue negating the need for a standard for fluid loss from thawed poultry in the Code?
8. What other ways could this issue be addressed (e.g. labelling of the percentage of water content)?

9. WHAT ARE THE NEXT STEPS?

FSANZ will prepare the Draft Assessment Report for the Primary Production and Processing Standard for Poultry Meat, which will further detail the issue of fluid loss in thawed poultry and propose an option for its resolution. It must be noted, however, that although this issue will be considered through the Primary Production and Processing Standard for Poultry Meat process, it will not be included as part of that standard, but will remain in chapter 2 and apply in both Australia and New Zealand. The Primary Production and Processing Standard for Poultry Meat will be included in chapter 4 of the Code and will apply to Australia only.

The Draft Assessment Report will be considered by the FSANZ Board in late 2005 and will subsequently be released for public comment.

10 ATTACHMENTS

1. Standard 2.2.1, Clause 2 and relevant Schedule

STANDARD 2.2.1- MEAT AND MEAT PRODUCTS

CLAUSE 2

Limit on fluid loss from thawed poultry

Frozen poultry when thawed must yield no more than 60g/kg of fluid as determined by the method prescribed in the Schedule.

SCHEDULE

Determination of fluid in a package of frozen poultry carcass

Take a double plastic bag of suitable size (approximately 700 mm by 300 mm) and weigh to the nearest gram - called 'A' in the formula.

Place the frozen carcass, still in its wrapping, in the double plastic bag. Without taking the frozen carcass from the double plastic bag, remove its wrapping and any included label. Retain in the double plastic bag any ice formed on the inside of the carcass wrapping or on any included label.

Discard the carcass wrapping and any included label.

Weigh the frozen carcass and the double plastic bag to the nearest half gram - called 'B' in the formula.

Suitably suspend the frozen carcass within the double plastic bag and securely close the neck of the bag around the suspending device. (Sharpened 230mm hooks made from 3mm diameter wire are convenient)

Suspend the frozen carcass and enclosing double plastic bag in an air-space maintained at the temperature of $20 \pm 5^{\circ}\text{C}$ for a period of 14 to 18 hours.

Open the double plastic bag and, without removing the thawed carcass or allowing any fluid to escape, remove and retain any device securing the legs and extract any giblet contained in the carcass.

Drain excess liquid from the giblet pack into the double plastic bag, remove the giblets and suspend them from a wing of the bird by means of a small wire hook. Retain the empty giblet package.

Ensure that all parts of the carcass can drain freely and securely reclose the neck of the double plastic bag.

Weigh the combined empty giblet package and any leg securing device to the nearest gram - called 'C' in the formula.

Drain for a further period of two to four hours. At the end of the period remove the carcass after shaking it to remove any fluid that may be trapped within the bird.

Weigh the double plastic bag and the contents to the nearest gram - called 'D' in the formula.

Where there is no edible oil layer in the double plastic bag:

Use this formula to calculate the proportion of fluid:

$$\begin{array}{l} \text{Proportion of fluid} \\ \text{expressed as g/kg} \end{array} = \frac{D-A}{B-A-C} \times \frac{1000}{1}$$

Where there is an edible oil layer in the double plastic bag -

Carefully pour the contents of the double plastic bag into a centrifuge tube of suitable volume (approximately 250 mL).

Weigh the centrifuge tube and its contents to the nearest gram - called 'E' in the formula.

After centrifugation at 1000 g for 5-10 minutes, remove the edible oil layer with the aid of a pasteur pipette.

Re-weigh the centrifuge tube and its contents to the nearest gram - called 'F' in the formula.

Use this formula to calculate the proportion of fluid -

$$\begin{array}{l} \text{Proportion of fluid} \\ \text{expressed as g/kg} \end{array} = \frac{D-A-(E-F)}{B-A-C} \times \frac{1000}{1}$$