PUBLIC AND ENVIRONMENTAL HEALTH SERVICES

Manufacturing Controls for Raw Egg Products 2008

Department of Health and Human Services

Tasmania
Explore the possibilities

Manufacturing Controls for Raw Egg Products

Introduction

Consumption of raw egg products will always carry some risk of foodborne illnesses such as *Salmonella* infection, but it is possible to minimise these risks by implementing appropriate controls at the point of manufacture. In an attempt to reduce risks to the public, food businesses electing to make raw egg products will be required to document the method of manufacture and follow strict and auditable procedures governing egg receipt, product preparation, storage and handling. These new Controls are important - irrespective of the original source of the eggs.

This manual outlines information about the new Controls and also includes information about pH control, the 4 hour/2 hour rule and *Salmonella*.

Scope

Application:

These Controls apply to all food businesses that manufacture raw egg products such as dressings and sauces (for example, aioli, mayonnaise, tartare, hollandaise and béarnaise sauce), desserts (for example, tiramisu) and drinks (for example, egg nog).

What is not covered?

Omelettes, poached eggs, coddled eggs, custards, panna cotta, crème caramel and other partially cooked products are not covered by the Controls as they are usually made to customer preferences and must be manufactured, served and eaten within a short time-frame. However, it remains important to keep partially cooked egg products under refrigeration at all times other than when serving, and to discard all leftovers daily.

Disclosure:

Businesses are required to advise their local council (by fax or e/mail) if they are manufacturing raw egg products. Council will then issue the Food Business Registration Certificate conditional on the business complying with these Controls.

Menu Advice:

Businesses are encouraged to include on menus advice to patrons about the use of raw or partially-cooked egg products. Customers can then make an informed choice, particularly in circumstances where the customer may be very young, elderly or immuno-compromised and such foods should be avoided.

Commencement:

Businesses electing to manufacture raw egg products should implement these Controls immediately.

Enforcement:

The Controls will be legally enforceable by local government authorised officers (Environmental Health Officers), as part of annual food business registration and inspection procedures.

Outline of the New Requirements

Egg Purchase and Use:

Only clean, fresh, crack-free eggs from accredited suppliers[1] are to be used in the manufacture of raw egg products. **Avoid** cross-contamination with other foods.

Documentation:

Each business manufacturing raw egg products must document on Form 1 (attached[2]) and make available for verification by an authorised officer, the following:-

1. the recipe of each raw egg product – where possible, the recipe should aim to achieve a pH of less than 4.8[3]; and
2. the intended use – for example, coleslaw dressing or sandwich dressing, dip etc.

and

3. For each batch record on Form 1:-
   a. name of the egg producer, the delivery date of the eggs and the relevant use-by date/batch codings;
   b. name(s) of the chef/cook/maker of the raw egg product(s);
   c. time and date of making – this information must also be recorded on each container of raw egg product made at that time;
   d. the quantity made[4];
   e. storage conditions – raw egg products must be kept at less than 5°C at all times other than during manufacture or serving. Refrigerator temperatures must be checked and recorded daily with a calibrated thermometer;
   f. time out of refrigeration control – use the 4-hour/2-hour rule[5] and record elapsed time for each container - such as by marking on the lid; and
   g. time of disposal – **no more** than 24 hours after manufacture. Dispose of other than for human consumption and verify by recording the batch number, the time disposed of, and by whom (name and signature).

Off-site catering of raw egg products:

Off-site catering presents more risk because of the additional time and temperature abuse that may arise due to transportation delays and serving constraints. Venues used for catered functions often do not have sufficient capacity to refrigerate or re-heat foods, and staff may well

1 Commercial egg producers (those with more than 20 hens) must be approved by the Department of Primary Industries and Water (DPIW) and must have in place an approved Quality Assurance (QA) program meeting criteria specified in the ***Egg Industry Act 2002***

2 Photocopy as needed or download more copies from www.dhhs.tas.gov.au

3 The ratio of acetic acid (vinegar) is important to limiting further bacterial growth. See recommendations under section headed 'pH Control'.

4 Avoid making large quantities of raw egg product. Make smaller batches more regularly.

5 See: http://www.foodstandards.gov.au/_srcfiles/Appendix.pdf and information overleaf.

be unaware of the dangers of leaving foods at room temperature for extended periods of time, prior to serving and eating.

Under these circumstances, there is a need to minimise the *additional* risks arising from use of raw egg products in non-cooked foods that are served off-site. This typically includes sandwiches dressed with raw egg products such as aioli, as well as containers of raw egg sauces used for dipping.

Where raw egg products are used in off-site catering, the following additional conditions apply (see Form 2 attached):-

1. the customer **must be** advised beforehand about the use of any raw egg products - for example, discuss this at the time the order is placed;
2. the raw egg product **must be** made fresh for each order; and
3. each tray or container of food containing raw egg product **must be** labelled with "CONTAINS RAW EGG" of at least 3mm capital letters.

The following delivery details must also be recorded on Form 2[6]:-

a. the name of the customer;
b. time of making;
c. despatch and delivery times; and
d. the temperature on arrival.

(note: the 4 hour/2 hour rule also applies to off-site catered foods)

NOTE: Forms and all related information must be kept on the premises and made available to an Authorised Officer on request.

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6 In 2009/10 all off-site catering businesses will be required to implement a food safety program.

FORM No. 1

Manufacturing Controls for Raw Egg Products

(see Form 2 for additional controls required for off-site catering)

Name of Business:.....

Business Street Address:.....

Name of Egg Producer:.....

- Delivery date …../…../20…..
- Use-By Date …../…../20…..
- Batch Number (if provided) .....

Recipe: (append the recipe of each of the raw egg products manufactured by the business)

Intended Use: .....

(eg., coleslaw dressing, sandwich dressing, dip, dessert)

Date and Time of Making: date: …../…../20….. time:.....am/pm.

(note: also record date and time on each container of product made)

Quantity Made:.....litres or grams or kgs

(note: make smaller batches more frequently)

Storage Temperature: Record temperature at time of storage:.....°C

(note: product must be stored at less than 5°C)

Estimated Total Time out of Temperature Control: .....hrs and mins

(note: 4 hour/2 hour rule applies – mark elapsed time on container lid)

Time of Disposal: date:…../…../20….. time:.....am/pm.

Operator's Name and Initials:.....

(note: dispose of within 24 hours of making or as required by the 4 hour/2 hour rule)

FORM No. 2

Manufacturing Controls for Raw Egg Products

Additional Controls for Off-Site Catering of Raw Egg Products

Application

These additional controls apply wherever raw egg product is used in the supply of non-cooked and off-site catered foods including sandwiches dressings, dipping sauces.

Advice to Customers

Customers **must be** advised beforehand about the presence of raw egg product in any off-site catered foods. This should be done at the time of order.

Warning Statement

All off-site catered food containing raw egg product **must be** labelled with the following statement in capital letters of no less than 3mm attached to or included with the food or container:

"CONTAINS RAW EGG"

Businesses supplying non-cooked, off-site catered foods must also record the following information for each delivery:-

1. Name of the customer .....
   .....
2. Customer Address .....
   .....
3. Date and time of making date: ...../...../..... time:.....
4. Despatch and delivery times: despatch time 1:.....am/pm.
   delivery time 2:.....am/pm.
5. Temperature on arrival ..... °C

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pH Control (does not apply to desserts)

What is pH?

pH is the measure of acidity or alkalinity. A pH of less than 7 is known as *acid* whereas solutions with a pH of more than 7 are known as *alkaline*. pH 7 is neutral.

How can pH be changed and why is it important?

The pH of a food is important because it has an effect on the stability and shelf life of the food. Most bacteria for example do not like low pH (acid) foods.

Adding vinegar (which contains acetic acid) lowers the pH making the food more acid. Vinegar has been made and used by people for thousands of years and it is commonly added to provide extra flavour and taste, and more importantly to extend the shelf life of the food. Pickling is a good example of using vinegar (acetic acid) to preserve food.

Will vinegar kill bacteria or stop bacteria growing?

Most foods such as raw egg sauces do not contain enough vinegar to actually kill the bacteria present in the food but a pH of less than 4.8 can stop bacteria growing.

Provided that the ingredients contain low or no bacteria, maintaining a pH of less than 4.8 will help to prevent bacteria from reaching dangerous levels. Refrigeration below 5°C also protects against bacterial growth.

How do I achieve a pH of less than 4.8?

As a general rule add at least 5ml of commercially available vinegar **per** egg in the mix. A metric teaspoon contains 5ml. 'Stick' blend all ingredients[7].

How can I be sure?

Whilst most recipes for raw egg sauces contain sufficient vinegar to achieve a pH of less than 4.8, the best way to tell is to do a laboratory test. This is a straightforward process and should not be expensive. Once the pH has been validated at less than 4.8, you will only need to test the food again if the ratio of ingredients is altered.

What about pH test strips?

Litmus test strips are not accurate enough and cannot be relied upon to validate the pH of the final mix.

Is this a legal requirement?

There is no legal requirement to validate the pH of your raw egg products. However, knowing it is below pH 4.8 provides greater confidence about the stability and safety of the food — provided that the in-going ingredients are not already contaminated to dangerous levels.

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7 Use a stick blender to thoroughly mix all ingredients and ensure that oil and water do not separate.

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The 4 Hour/2 Hour Rule

What is the 4 Hour/2 Hour Rule?

Food businesses are required to maintain the temperature of potentially hazardous[8] food either at or below 5°C or at or above 60°C during transport, storage and display *unless* the food business can demonstrate that maintaining food at another temperature for a specific length of time will not adversely affect the microbiological safety of the food.

The 4 hour/2 hour rule is a system that can be used when potentially hazardous food needs to be stored out of temperature control, for example, during preparation, serving or display for sale.

Holding potentially hazardous food between 5°C and 60°C for a short time will not reduce the safety of the food because it takes time for the bacteria to grow. As a general rule, the **total time** that a ready-to-eat potentially hazardous food can be at temperatures between 5°C and 60°C is 4 hours.

How to use the 4 Hour/2 Hour Rule

The Rule states that any ready-to-eat potentially hazardous food, if it has been at temperatures between 5°C and 60°C:

- for a total of less than 2 hours, **must be** refrigerated or used immediately;
- for a total of longer than 2 hours but less than 4 hours, **must be** used immediately and cannot be returned to the refrigerator; or
- for a total of 4 hours or longer, **must be** thrown out.

Documentation

In using the 4 hour/2 hour rule it is important to know the history of the potentially hazardous food so that the total time the food is out of temperature control can be monitored and controlled. This *must* also include any time the food was out of temperature control before you received the food.

Documentation should include:

- the temperature history of the potentially hazardous food; and
- the time history that the potentially hazardous food has been out of temperature control, including when it was previously out of temperature control.

Remember, the time is cumulative. For example, if an item of potentially hazardous food has been out of temperature control for half an hour before being placed back into the refrigerator, then 3 and a half hours remain before it must be either used or discarded.

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8 *Potentially hazardous food* means food that has to be kept at certain temperatures to minimise multiplication of any food-poisoning bacteria that may be present in the food or to prevent the formation of toxins in the food.

Salmonella and eggs

Important information for restaurants, takeaways and delicatessens.

What is *Salmonella*?

Salmonella is a bacterium that can cause diarrhoea, abdominal pain, headache, nausea, and sometimes vomiting. In Tasmania Salmonella infections can be caused by people eating infected food, drinking untreated water or having contact with native animals.

Salmonella can contaminate a wide range of foods - including eggs - and can be passed on to humans if the food is not properly cooked. In recent years there have been a number of cases of salmonellosis (Salmonella infection) in Australia that have been found to be caused by eating raw or partly-cooked eggs. Salmonella can contaminate eggs at any stage – from laying, packing, transportation and storage, to use in the kitchen.

There is no evidence of increased risk of eggs being infected with Salmonella from caged, barn or free-range chickens.

Your egg supply and storage

- A *Salmonella* outbreak that is traced back to food you sold could do your business's reputation immense harm.
- Check the eggs when they arrive and always reject eggs that are broken, cracked or dirty, or that are supplied in dirty, defective, re-used or improperly labeled packaging. Suppliers should not deliver eggs in poor condition – and if you accept them you are placing your business at risk. If you see eggs that are being delivered broken, cracked or dirty, report this to your local government Environmental Health Officer.
- Commercial egg producers (those with more than 20 hens) must be approved by the Department of Primary Industries and Water (DPIW) and must have in place an approved Quality Assurance (QA) program meeting criteria specified in the *Egg Industry Act 2002*. The QA program must be developed and audited to the satisfaction of DPIW officers. If you have reason to believe that an egg producer is not operating in accordance with an approved program, report it to DPIW's Food Safety Branch by telephoning 6336 5280.
- Suppliers with 20 hens or less are not required to have a QA program. You should avoid purchasing eggs from non-approved suppliers as there is no guarantee they are producing eggs safely.
- It is best by far to store eggs in the fridge, at 5°C or less. At this temperature, Salmonella grows more slowly and that reduces the risk of it growing into large numbers inside the egg. If you cannot refrigerate your eggs, store them at below 15°C, out of direct sunlight and away from any source of heat.
- Store eggs so they are used in rotation - old eggs are more likely to contain high numbers of bacteria so make sure eggs with the earliest 'best-before' date are used first.

Preparing food

Poor hygiene or improper procedures at any stage in the food supply chain can result in illness among your customers. As a food business, you have an obligation to maintain high standards of hygiene in your kitchen.

- It is important to your business that staff wash their hands often with soap and warm running water (or other effective means e.g. alcohol-based gel or wipes). Likewise, all working surfaces must be kept clean and tidy – even when the kitchen gets very busy.
- Never use any egg that is broken, cracked or dirty – even a minor crack is a high risk. Egg yolk is a very good environment for bacterial growth. That's why even a small leakage of *Salmonella* bacteria into an egg can become a very big problem very quickly.
- Cooking eggs to at least 72°C kills Salmonella bacteria. As a guide, the egg is cooked properly if the white is firm and the yolk is thick. 'Runny' eggs have not been cooked sufficiently to kill the *Salmonella* bacteria.
- If you serve any food that contains raw or partly cooked egg, you are placing your patrons at risk of *Salmonella* infection.
- If you have assessed the risks but still intend to make foods containing raw or partly-cooked egg, note that new requirements now apply. You will need to document the method of manufacture and follow strict and auditable procedures governing egg receipt, product preparation, storage and handling. These requirements apply to all businesses choosing to manufacture raw egg products and will be strictly enforced by Local Government.
- You can reduce the risk considerably by using only pasteurised eggs when preparing foods containing raw egg, and being meticulous about preparing the raw egg foods. Make the food up in small batches, store batches in the refrigerator unless actually in use, and routinely discard all raw and partly-cooked egg products at the end of each day's business or no more than 24 hours after preparation.

Supplies containing raw or lightly cooked egg

If you buy-in commercially prepared foods that contain raw or lightly cooked egg, check that pasteurised egg has been used. This information should be on the label. If in doubt, contact the manufacturer or buy another brand where this information is provided on the label.

Such foods include some homemade mayonnaises and salad dressings, some béarnaise and hollandaise sauces, some desserts (e.g. mousse, soufflé, home made ice-cream), some milk shakes and egg nog, egg butter and some cake, pancake or pastry mixes or biscuit dough.

Key contacts

For more information about Salmonella contact the Public and Environmental Health Service (Department of Health and Human Services) by telephoning 1800 671 738.

To report any unhygienic practice in food businesses contact your local Council Environmental Health Officer.

To report any issues relating to egg production, contact the Department of Primary Industries and Water Food Safety Branch by telephoning 6336 5280.