Ministry for Primary Industries
Manatū Ahu Matua

Name of business:

Food Control Plan
Food Service and Food Retail

Template – March 2017

Specialist Retail – Bakery Safe

For retail businesses that process and handle bakery products.

Add to the food service and retail Basics pack.

Growing and Protecting New Zealand

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Food additives in bread and bakery products

Goal

To ensure that only permitted food additives are used to make bread and bakery products.

Act requirements:
- Food must be safe and suitable.
- The Australia New Zealand Food Standards Code (the Code) Standard 1.3.1 prescribes certain food additives and their amounts that can be added to bread and, bakery, fish and meat products.

Why?

- Herbs, spices and other ingredients may be contaminated with harmful microorganisms.
- Using a validated and tried and tested recipe helps make a safe product.
- If a non-permitted food additive is in a food, or the amount of a permitted food additive exceeds the limit prescribed in the Code, the food may be unsafe.

How this is done

Reputable suppliers

All ingredients and packaging must come from a supplier you have approved and must be suitable to use in the food made – see *Purchasing and receiving goods*.

Food additives and ingredients permitted at certain levels by the Code

What can be added to particular products, and the maximum levels permitted, are set out in the Code Standard 1.3.1 at: **https://www.comlaw.gov.au**.

Check the Code for the requirements for the products that you make or sell at: **http://www.foodstandards.govt.nz**

Examples of food additive requirements are provided in the *Guidance: Food additives.*

Voluntary addition of folic acid to bread

In New Zealand it is voluntary to fortify bread with folic acid. The New Zealand (Permitted Fortification of Bread with Folic Acid) Food Standard 2012 allows up to 2.5 micrograms/kg of folic acid to be present in bread.

MPI has developed a user guide to help bakers interpret and apply the requirements. It also contains information for bakers who want to add folic acid to bread at: **http://foodsafety.govt.nz**

What if there is a problem?

If a non-permitted food additive is in food, throw the food away.

If too much of a permitted food additive is present in the finished product, the product must be thrown away unless it can be reworked using a process that is acceptable to the verifier.

Review process to identify how this happened and work out how to prevent it happening again.

Write it down

Keep a record of your calculations of food additives to confirm that your products meet requirements of the Code – either in the Diary or with your recipes.

You must write down (e.g. in the Diary) what you did to deal with a problem, what you did with the food and what action you took to prevent this happening again.

Do I need to have a recipe written down?

Writing down and following a tried and tested recipe is a way to make a consistently safe product that meets compositional and other requirements each time it is made. The recipe can also be used to check what should have been added to each batch against the batch records showing what was actually added.

Following a recipe and keeping a record of what went into each batch can also help you to show how you consistently meet requirements in the Act and the Code.

If you change anything in a tried and tested recipe you may affect safety and composition of the end product. You will need to check (i.e. validate) that any change to the recipe, ingredients or process continues to make a safe and suitable food.

Food additives

Guidance on Permitted food additives in bread and bakery products

The Code places limits on the amount of food additives that can be in breads and bakery products, for example:

- breads and bakery products must contain no more than 1200mg/kg (parts per million) sorbic acid and sodium, potassium and calcium sorbates;
- biscuits, cakes and pastries must contain no more than 25 mg/kg annatto extracts, and no more than 300mg/kg (parts per million) sulphur dioxide and sodium and potassium sulphites.

Other permitted food additives

The Code places limits on the amount of other food additives that can be in breads and bakery products, such as proprionic acid.

All ingredients and food additives used must be permitted for use by, and comply with, the Code – see also *Food composition.*

Requirement to use iodised salt

Standard 2.1.1 of the Code requires iodised salt to be used in almost all bread and bread products. There are some exceptions to this including:

- organic bread;
- salt on the surface of bread, for example rock salt;
- other ingredients containing salt that are added to bread;
- bread not intended for sale in New Zealand or Australia.

MPI has developed a user guide to help bakers interpret and apply the requirements. It also contains information for bakers who want to add folic acid to bread at:
http://foodsafety.govt.nz/elibrary/industry/Addition_Folic-Manufacturers_Retailers.pdf

Adding Vitamins and Minerals

The Code Standard 1.3.2 permits vitamins and minerals to be added to biscuits and bread and prescribes the total of naturally occurring and added quantity that can be present in a reference quantity of product.

For example, no more than 0.55 mg of thiamin may be present in a 50 g sample of bread. (this represents 50% of the recommended daily intake of thiamine)

Limits for harmful microbes in bakery products

Goal

To ensure that bakery products meet microbiological requirements.

Act requirements:
- Food must be safe and suitable.
- The Australia New Zealand Food Standards Code (the Code) sets levels for the maximum permissible number of harmful microbes that may be present in food.

Why?

- Foods where microbiological limits aren't set in the Code may still contain harmful organisms if they aren't adequately processed and handled.

How this is done

Microbiology of bakery products

A check is made with suppliers that pre-packaged bakery products comply with microbiological requirements of the Code – see also *Food composition* and *Listeria*.

Herbs, spices or premixes used in products are sourced from suppliers who can provide information to show that they do not contain harmful organisms in amounts that may affect the safety of the food.

The Code Standard 1.6.1 sets maximum permissible levels of harmful organisms that may be present in certain foods. Check the Code for the requirements for the products that you make or sell at: **http://www.foodstandards.gov.au/publications/documents/Guidelines%20for%20Micro%20exam.pdf**

Other foods that are not included in Standard 1.6.1 may also support the growth of harmful organisms. Guidance on microbiological levels for harmful organisms found in a range of ready-to-eat products is at: **http://www.foodsafety.govt.nz/elibrary/industry/Microbiological_Reference-Guide_Assess.pdf**

Examples of limits for harmful microbes are provided in the *Guidance: Limits for harmful microbes*.

What if there is a problem?

A product that doesn't meet microbiological limits must not be used. It may be thrown away, returned to the supplier or reworked in a way that is acceptable to the verifier.

Review practices to identify how this happened and take action to prevent it happening again.

Write it down

You must write down (e.g. in the Diary) what you did to deal with a problem, what you did with the food and what action you took to prevent this happening again.

Limits for harmful microbes

Levels of harmful microbes in bakery products

The Code Standard 1.6.1 sets maximum permissible levels of harmful organisms that may be present in certain foods from a minimum of five sample units from one lot of the product.

Standard 1.6.1 doesn't list any bakery products; however some bakery products can support the presence of harmful organisms, particularly when containing dairy products such as cream or custard. Guidelines for the microbiological examination of ready - to – eat (RTE) foods published by Food Standards Australia New Zealand provide assistance in the interpretation of microbiological analyses of foods where no other microbiological criteria exist: **http://www.foodstandards.gov.au/publications/documents/Guidelines%20 for%20Micro%20exam.pdf**

The following table provides examples of guideline levels for harmful organisms of significance for bakery products. Microbiological quality is expressed in Colony Forming Units (CFU) per gram:

Test	Satisfactory	Marginal	Unsatisfactory	Potentially hazardous
E. coli per g	<3	3-100	>= 100	Pathogenic strains present
Coagulase +ve staphylococci per g	<100	100 -1000	1000 – 10000	>=10000
SET +ve per g				
B. cereus per g	<100	100 -1000	1000 – 10000	>=10000
Salmonella spp per g	Not detected in 25g			Detected

Herbs, Spices and Premixes

Herbs and spices such as capsicums, cinnamon and pepper can contain harmful organisms.

Guidance on microbiological levels for harmful organisms that may be found in herbs and spices is at: **http://www.foodsafety.govt.nz**. For example, in five 25g samples taken from a lot there should be no *Salmonella*.

Bakery Safe

Composition of bread and bakery products

Goal

To ensure that bakery products meet definition and compositional requirements.

Act requirements:
- Food must be safe and suitable.

Why?

The Australia New Zealand Food Standards Code (the Code) applies definitions, composition and labelling requirements to foods.

How this is done

Compositional requirements for bakery products

A check must be made that bakery products sold comply with compositional requirements of the Code – see also *Food composition*. Check the Code for the requirements for the products that you make or sell at:

http://www.foodstandards.govt.nz/code/Pages/Food-Standards-Code-from-1-March-2016.aspx

Examples of composition requirements for bakery products are in the *Guidance: Composition*.

What if there is a problem?

Products that don't meet compositional requirements but which are safe to eat may be reworked where the process is approved by a Food Safety Officer.

Review process to identify how this happened and work out how to prevent it happening again.

Write it down

You must write down (e.g. in the Diary) what you did to deal with a problem, what you did with the food and what action you took to prevent this happening again.

Keep a record of your calculations to confirm that your products meet compositional requirements of the Code – either in the Diary or with your recipes.

Composition of bread and bakery products

The information on this page is provided to help with meeting food compositional requirements.

Composition of bakery products

The Code Chapter 2 includes definitions, compositional and labelling requirements for a range of products, including:

- Iodised salt must be used for making bread where salt would otherwise be used;
- A pie must contain at least 250 g/kg of meat flesh to be called a meat pie;
- The presence of brain, heart, kidney, liver, tongue or tripe in a food must be declared either by its specific name (e.g. "liver", "kidney") or by the class name "offal";
- The presence of other offal in a food (i.e. blood, pancreas, spleen, thymus) must be declared by its specific name (e.g. "thymus");
- It is important to note that in either case above, even if a product containing offal is exempt from being fully labelled, the purchaser must be informed proactively, either verbally or in writing;
- To be called a sausage, the product must contain at least 500g/kg of fat free meat flesh. The proportion of fat in a sausage must be no more than 500g/kg of the fat free meat content;
- To call a product "jam" – e.g. a "jam doughnut" – each kilo of the jam must be made from no less than 400 grams of the fruit or fruits named and contain no less than 650 g/kg of water-soluble solids;
- To call a product "cream" – e.g. a "cream puff" – the cream must contain no less than 350g/kg of milk fat.

Preparing raw meat, poultry & fish

Goal

To prevent cross-contamination between meat, poultry, fish and other foods.

To hygienically prepare food and prevent microbes that may be present in food from multiplying to harmful numbers.

Act requirements:
- Food must be processed and handled in ways that minimise the contamination or deterioration of food and prevent food containing substances that are unexpected or unreasonable.
- There must be procedures for controlling hazards at each production and processing and handling step where it is essential to eliminate or reduce a hazard to an acceptable level.
- Ingredients may need to meet requirements in the Australia New Zealand Food Standards Code (The Code).

Why?

- Harmful microbes will grow rapidly at temperatures between 5ºC to 60ºC (the temperature danger zone) and people may be made ill.
- Harmful microbes can contaminate food through unclean people, other foods, equipment and utensils.
- Food contaminated by chemicals can cause illness.
- Objects can fall into uncovered food affecting its suitability and/or safety.

How this is done

Places and equipment

Situations where cross-contamination could occur between ready-to-eat (RTE) foods and raw foods such as meat, poultry, fish and vegetables must be identified at the business – see *Preventing cross-contamination* and *Food allergens*.

Where possible, surfaces, equipment and places used for preparing raw foods must different to those used for ready-to-eat food – see *Potentially hazardous foods, Chilled and frozen food storage*.

Surfaces and equipment used for preparing food must be in sound condition and clean before use.

Surfaces in contact with ready-to-eat foods must be sanitised before use - see *Cleaning* and *Equipment, packaging and other items*.

Good hand hygiene and personal hygiene practices must be followed – see *Hand hygiene* and *Personal hygiene*.

Sourcing and preparing

All meat, poultry and fish must come from a supplier you have approved – see *Purchasing and receiving goods*.
Raw meat, poultry and fish must be prepared (identify which option(s) are applied):
    in a dedicated area that is physically separate from cooked or RTE food;
    in the same area, but in a separate zone from the area used for cooked or RTE food;
    in an area shared with cooked or RTE food but where processing and handling is carried out at different times. Thorough cleaning and sanitising must be carried out before RTE food is handled (as an extra precaution, raw food preparation should be after cooked or RTE food);
    using dedicated utensils (e.g. knives) for raw foods and for cooked and ready-to-eat foods;
    using shared utensils but with thorough cleaning and sanitising in between.

Meat, poultry and fish must be kept covered and chilled when not being prepared.

How this is done

When preparing raw meat, poultry and fish:
- it must be suitable for its intended use;
- ingredients must meet the requirements of the Code, Standard 2.2.1 – see *Food composition, Composition of bread and bakery products*;
- it must be chilled or frozen as soon as possible after processing has been completed, or if intended to be sold hot, kept hot at or above 60ºC;
- packaging must be carried out hygienically and in ways that prevent cross-contamination from people, raw products and food surfaces.

Frozen food

Frozen meat, poultry and fish must be kept frozen solid until used or thawed. See *Chilled and frozen food* and *Defrosting frozen food*.

What if there is a problem?

Re-clean and sanitise surfaces and equipment that have not been cleaned (or sanitised) properly.

Find out why this happened and take action to prevent it happening again. Retrain staff where necessary.

Write it down

You must write down in the Cleaning schedule the surfaces and equipment used, when they need to be cleaned (and sanitised); how this is done, and by whom.

You must write down (e.g. in the Diary) what action you have taken if meat, poultry or fish has not been prepared correctly.

Guidance

Example of keeping raw and RTE food preparation separate by time

A retail bakery follows the procedures identified in their Plan and cooks and cools poultry to make their own sandwich fillings. They don't have a dedicated raw poultry preparation area so use a preparation board that is identified for 'chicken only'. Other utensils used to prepare the poultry are used with other foods.

After checking that utensils and boards are clean and have been sanitised the sandwich filling is made by taking cooled shredded cooked chicken from the 'fridge, adding other ingredients and making a batch of sandwiches. Excess filling is returned to the 'fridge. This is used to make additional sandwiches to order when the initial batch has been sold and any remaining filling is thrown away at the end of the day.

In the early afternoon, poultry is prepared for cooking. When the birds have been put in the oven, the preparation area, the preparation board and all the utensils are thoroughly cleaned, rinsed, sanitised and air dried. Cooked birds are taken out of the oven, the meat is taken off the bone and shredded, cooled and put in the fridge overnight. The area and utensils are thoroughly cleaned again.

Making bread, cakes and slices

Goal

To prevent bread, cakes and slices from becoming contaminated from:
- Physical contaminants – e.g. stones, pieces of wood, metal, glass etc;
- microbes e.g., bacteria and viruses;
- chemicals e.g. cleaning chemicals, pesticides etc.

To prevent the growth of harmful microbes.

Act requirements:
- Food must be processed and handled in ways that minimise the contamination or deterioration of food and prevent food containing substances that are unexpected or unreasonable.
- There must be procedures for controlling hazards at each production and processing and handling step where it is essential to eliminate or reduce a hazard to an acceptable level.

Why?

- Harmful microbes that can cause foodborne illnesses will grow rapidly at temperatures between 5°C and 60°C (the temperature danger zone).
- Harmful microbes can contaminate food through unclean people, other foods, equipment and utensils.
- Food contaminated by chemicals can cause illness.
- Objects can enter food (e.g. parts left after maintenance, breakages and poor handling practices) and affect its safety.
- Poor storage and cleaning practices can attract pests.

How this is done

Surfaces and equipment used for preparing food must be in sound condition and clean before use. Surfaces in contact with ready-to-eat foods must be sanitised before use – see *Cleaning, Equipment, packaging and other items, Maintenance* and *Food Allergens*

Good hand hygiene and personal hygiene practices must be followed when handling food – see *Hand hygiene* and *Personal hygiene.*

Preparation

Ingredients and finished products must meet requirements in the Code – see *Food Composition, Food allergens, Food additives in Bread and bakery products, Composition of bread and bakery products*.

Ingredients must be:
- sourced from a supplier you have approved – see *Purchasing and receiving food*;
- kept chilled (at or below 5°C) or frozen until use if potentially hazardous;
- checked for contamination before being used – e.g. by sieving or dicing into mix;

See also: *Potentially hazardous food, Perishable and shelf-stable food storage, Preparing fruit and vegetables*

Equipment

Bread, cakes, slices must be prepared: (identify which option(s) are applied)

  in a dedicated area that is physically separate from baked/finished products;

  in the same area, but separate from baked/finished products;

  in the same area, but processing and handling is at different times with thorough cleaning (and sanitising) in between (preparation should be after use for baked/finished products);

  using dedicated utensils (e.g. knives, boards, trays) for preparing and for baked/finished products;

How this is done

  using shared utensils but with thorough cleaning and sanitising in between.

Yeast
- fresh yeast must be kept chilled and only taken from the chiller in amounts needed at any one time;
- fresh yeast that is dark brown, mouldy, soft or gummy or shows other signs of deterioration or spoilage must be thrown away.

Dairy products

Milk, cream and dairy ingredients must be kept refrigerated at or below 5°C until used.

Eggs and egg-pulp
- Whole eggs must be clean and free from cracks;
- egg-pulp must be pasturised when being used for uncooked or lightly-cooked foods; and
- must be used in accordance with its date mark.

When thawing egg-pulp from frozen you must follow manufacturers' instructions or the process in *Defrosting frozen food*.

Making "allergen-free" or "gluten-free" products

Products that are sold as not containing allergens or gluten or similar must be processed and handled so as not to become contaminated by products that contain allergens or the "free" ingredient, such as by:
- making and handling products known to contain allergens/gluten after other products with thorough cleaning in between;
- ensuring allergen/gluten-free products are always stored/retarded/proved/baked/displayed etc. so as not to come into contact with other products.

Equipment used with allergen/gluten-free products – e.g. scale pans, mixer, divider, moulder, tins, trays, knives etc. – are (identify which applies):

  dedicated for use with allergen/gluten-free foods and stored separately, or

  cleaned thoroughly before using with allergen-free food – see Cleaning.

See also *Preventing cross-contamination* and *Food allergens.*

What if there is a problem?

Ready-to-eat food that has been contaminated by dirty equipment, surfaces or hands must be thrown away.

Ready-to-eat food where there is a chance that it may have become contaminated by harmful microbes or objects must be thrown away.

Find out what went wrong and take action to prevent it happening again. Retrain staff where necessary.

Write it down

You must write down in the Cleaning schedule the surfaces and equipment used for preparing food — including the approaches taken for allergen/gluten-free food — and how/when they are cleaned (and sanitised); and by whom.

You must write down (e.g. in the Diary) what action you have taken if bread, cakes or slices have not been prepared correctly.

Making other bakery products

Goal

To prevent bakery products such as pies and sausage rolls from becoming contaminated from:
- microbes e.g., bacteria and viruses;
- chemicals e.g. cleaning chemicals, pesticides etc;
- Physical contaminants – e.g. stones, pieces of wood, metal, glass etc.

To prevent the growth of harmful microbes.

Act requirements:
- Food must be processed and handled in ways that minimise the contamination or deterioration of food and prevent food containing substances that are unexpected or unreasonable.
- There must be procedures for controlling hazards at each production and processing and handling step where it is essential to eliminate or reduce a hazard to an acceptable level.

Why?

- Harmful microbes that can cause foodborne illnesses will grow rapidly at temperatures between 5ºC and 60ºC (the temperature danger zone).
- Harmful microbes can contaminate food through unclean people, other foods, equipment and utensils.
- Food contaminated by chemicals can cause illness.
- Objects can enter food (e.g. parts left after maintenance, breakages and poor handling practices) and affect its safety.
- Poor storage and cleaning practices can attract pests.

How this is done

Surfaces and equipment must be in sound condition and clean before use. Surfaces in contact with ready-to-eat foods (RTE) must be sanitised before use – see *Cleaning, Equipment, packaging and other items, Maintenance* and *Food Allergens*

Good hand hygiene and personal hygiene practices must be followed when handling food – see *Hand hygiene* and *Personal hygiene*.

Preparation – ingredients, pastry and dough
- Ingredients and finished products must meet requirements in the Code – see *Food Composition, Food Allergens, Food additives in Bread and bakery products, Composition of bakery products*.
- Bread doughs and pastry (e.g. for pie casings) must be made following procedures in *Making bread, cakes and slices*.
- Dough and pastry that is purchased pre-made must be used according to manufacturer's instructions (if any).
- Meat, fish, poultry must be prepared hygienically – see Preparing raw meat, poultry, fish.
- Vegetables and fruit must be prepared and handled hygienically. Raw fruit and vegetables used as ingredients must be rinsed thoroughly in clean water before use unless they are received pre-washed or pre-peeled or purchased as ready-to-use – see *Fruit and vegetables*.
- The same equipment must not be used for cooked or RTE foods and raw foods unless it has been thoroughly cleaned and sanitised first.
- Potentially hazardous food must be kept at or below 5ºC unless it is being prepared.

See also: *Potentially hazardous food, Perishable and shelf-stable food storage, Preparing raw meat, poultry and fish.*

Fillings and toppings

Fillings and toppings for cooked products such as pies must be thoroughly cooked. See *Cooking meat and poultry* and *Cooking other foods*.

How this is done

If casings are not hot-filled/topped, fillings/toppings must be cooled according to the cooling procedure in the Plan and stored chilled until use. See *Cooling hot food and freezing hot food*.

Filling casings and topping products must be carried out hygienically.

When filled, products are (identify processes carried out):

> cooked thoroughly – see *Baking and finishing*;

> cooled – see *Cooling hot food and freezing food*;

> reheated – see *Reheating food*;

> kept hot – see *Hot-holding foods*;

> not cooked – see *Chilled and frozen food storage*.

Making "allergen-free" or "gluten-free" products

Products that are sold as not containing allergens or gluten or similar must be processed and handled so as not to become contaminated by products that contain allergens or the "free" ingredient, such as by:
- making and handling products known to contain allergens/gluten after other products with thorough cleaning in between;
- ensuring allergen/gluten-free products are always stored/retarded/proved/baked/displayed etc. so as not to come into contact with other products.

Equipment used with allergen/gluten-free products – e.g. scale pans, mixer, divider, moulder, tins, trays, knives etc. – are (identify which applies):

> dedicated for use with allergen/gluten-free foods and stored separately; or

> cleaned thoroughly before using with allergen-free food – see *Cleaning*.

See also *Preventing cross-contamination, Food allergens*.

What if there is a problem?

Ready-to-eat food that has been contaminated by dirty equipment or surfaces including hands must be thrown away.

Ready-to-eat food where there is a chance that it may have become contaminated by harmful microbes or objects must be thrown away.

Allergen/gluten-free food that may have come into contact with allergen- or gluten-containing products must not be sold as being allergen/gluten-free.

Find out what went wrong and take action to prevent it happening again. Retrain staff where necessary.

Write it down

You must write down in the Cleaning schedule the surfaces and equipment used for preparing food – including the approaches taken for allergen/gluten-free food – and how/when they are cleaned (and sanitised), and by whom.

You must write down (e.g. in the Diary) what action you have taken if bread, cakes or slices have not been prepared correctly.

Baking and finishing

Goal

To ensure bread and bakery products are properly cooked.

Act requirements:
- Food must be processed and handled in ways that minimise the contamination or deterioration of food and prevent food containing substances that are unexpected or unreasonable.
- There must be procedures for controlling hazards at each production and processing and handling step where it is essential to eliminate or reduce a hazard to an acceptable level.

Why?

- Thorough cooking kills harmful microbes.
- Microbes are invisible to the human eye and cannot be physically removed from food.

How this is done

Surfaces and equipment must be in sound condition and clean before use. Surfaces in contact with ready-to-eat foods must be sanitised before use – see *Cleaning, Equipment, packaging and other items, Maintenance* and *Food Allergens.*

Good hand hygiene and personal hygiene practices must be followed when handling food – see *Hand hygiene* and *Personal hygiene.*

Baking Bread, cakes and slices
- Baking and cooking equipment (such as ovens) must be pre-heated first.
- Doughs, batters and mixes must be baked or cooked-through thoroughly.
- Deep-frying oil:
  – Must be regularly changed and filtered;
  – must not be used for both regular foods and "allergen-free" or "gluten-free" products.

Baking pre-manufactured products (e.g. pre-frozen or pre-chilled or shelf-stable bakery products)
- The manufacturer's instructions must be followed when baking-off, cooking or re-heating manufactured products; or
- A time/temperature setting must be identified that will consistently cook products thoroughly;

Bakery products containing processed meat, poultry or fish

Foods containing processed meat, poultry or fish (minced, diced) must be thoroughly cooked. A check must be made that they are thoroughly cooked and that either the centre of the thickest part:
- has reached a temperature for a length of time specified by the manufacturer; or
- has reached a temperature of more than 75˚C; or
- has reached a temperature for a length of time that the business has proved cooks the product thoroughly. See also *Making other bakery products, Cooking meat and poultry* and *Cooking other foods.*

Baking "allergen-free" or "gluten-free" products

Allergen/gluten-free products must be baked separately from other foods (such as on racks above any "non-free" product). See *Food Allergens.*

How this is done

Bakery products with fresh cream or custard fillings

Foods containing fresh cream or custard fillings must be kept refrigerated at no more than 5ºC. At the end of the trading day, foods containing fresh cream or custard fillings that have been kept refrigerated at or below 5ºC must be (identify what happens):

  stored refrigerated at or below 5ºC and sold first next day;

  thrown away.

Piping bags

Piping bags used must be: (identify which applies)

  disposable single-use;

  reusable and separate/dedicated to a particular purpose;

  reusable and used for a range of purposes and cleaned and sanitised between tasks;

  replaced as appropriate.

Packaging and packaged products
- products must be packaged hygienically and appropriately labelled where necessary – see *Equipment, packaging and other items in contact with food* and *Food Labelling*;
- products that are not packaged for sale must be protected from contamination – see *Potentially hazardous food, Chilled and frozen food storage, Perishable and shelf-stable food storage.*

What if there is a problem?

If food is undercooked, cook it for longer. If this happens frequently, change cooking times and/or temperatures, or divide food into smaller quantities or use different equipment.

Retrain staff as necessary.

Write it down

If food does not cook properly when following set recipes and procedures you must record (e.g. in the Diary) what you did with the food and what action you took to prevent this happening again.

Cooking meat and poultry

Goal

To ensure that meat and poultry, (e.g. a roast joint, a sausage roll, a rotisserie chicken) is thoroughly cooked at the centre of the thickest part.

Act requirements:
- Food must be processed and handled in ways that minimise the contamination or deterioration of food and prevent food containing substances that are unexpected or unreasonable.
- There must be procedures for controlling hazards at each production and processing and handling step where it is essential to eliminate or reduce a hazard to an acceptable level.

Why?

- If meat, and especially poultry, is not cooked thoroughly all the way through to kill harmful microbes customers could be made ill.

How this is done

Meat and poultry must be prepared hygienically – see *Preventing cross-contamination, Preparing raw meat, poultry & fish, Defrosting frozen food*.

Surfaces and equipment must be in sound condition and clean before use. Surfaces in contact with ready-to-eat foods must be sanitised before use – see *Cleaning, Equipment, packaging and other items in contact with food, Maintenance* and *Food Allergens*

Good hand hygiene and personal hygiene practices must be followed when handling food – see *Hand hygiene* and *Personal hygiene*.

Poultry must be always cooked thoroughly and never sold medium or rare.

Meat – unless it is cooked to customer order for immediate consumption – must be cooked thoroughly using this procedure.

When using a thermometer the procedures *Checking temperatures* and *Calibrating thermometers* are followed.

Cooking meat and poultry
- Manufacturer's instructions must be followed to programme cooking equipment.
- Cooking equipment (e.g. oven) must be pre-heated before cooking starts.
- Meat and poultry must be cooked so that the centre of the thickest part either exceeds 75ºC or reaches one of the temperature/time combinations below:

Internal temperature	Time
60ºC	For 92 minutes
63ºC	For 31 minutes
65ºC	For 15 minutes
68ºC	For 4 minutes
70ºC	For 3 minutes
73ºC	For 1 minute
75ºC	For 30 seconds

Checking meat or poultry is cooked

Any cold spot in the cooking chamber must be taken into account when cooking products.

How this is done

Processed meats must be cooked according to the procedure for *Bakery products containing processed meat, poultry or fish* and *Baking and finishing*.

Meat and poultry that is cooked for immediate consumption must be cooked following the Serve Safe Processes procedures *Cooking poultry* and *Cooking*.

A thermometer (probe) must be used to check that the thickest part of the meat (the centre of a meat joint, or breast or innermost part of the thigh of poultry) has reached a temperature of at least 75ºC or one of the time/temperature combinations in the table. This must be done in one of the following ways, either:
- each time a meat or poultry item is cooked the temperature is measured; or
- each time a batch of the same items is cooked, the temperature of one item in the batch is measured (taken from a different place each time); or
- when a proven cooking procedure is followed, one cooked item is checked periodically, to confirm that the necessary temperature has been reached for the required time – see *Validating a cooking process* and *Checking meat and poultry is cooked*.

It is not necessary to temperature probe diced or thinly sliced meat and poultry because smaller pieces are more likely to cook through to the middle easily. It's also hard to take an accurate reading.

What if there is a problem?

If meat or poultry does not reach a high enough temperature, keep cooking until it does.

When meat or poultry being cooked using a standard time/temperature setting is found not to have been cooked properly, find out why. Here are questions to ask:
- Was the procedure followed correctly?
- Was there a cold spot or does the equipment (e.g., oven) need repairing?
- Was a different size of food (e.g. meat joint or bird) used?

Identify what needs to be done to prevent this happening again.

Retrain staff if necessary.

Write it down

You must keep a record of the temperatures that meat and poultry items are cooked to.

Write down in the 'Checking meat and poultry items are cooked' procedure each item cooked and identify which option will be used to check that it is cooked thoroughly.

For meat and poultry cooked using a standard time/temperature setting

- Write down the checks that have been made to prove that the time/temperature combination will either cook the thickest part of the food to at least 75°C or will ensure that the food is kept at the required temperature for the necessary time – see Validating a cooking process.

- Write down (e.g. in the Diary) the temperatures of meat or poultry that is checked regularly (e.g. weekly or every fifth batch) to ensure that the cooking process still works as intended.

For meat and poultry that are cooked not using a standard time/temperature setting

Every time the food is cooked, you must write down the temperature of each item, or the one item from a batch, checked in the Cooking meat and poultry temperature record.

In addition, you must:

- Write down (e.g. in the Diary) the action taken if food didn't reach a safe temperature.

- Write down in the Cleaning schedule the surfaces and equipment used and how/when they are cleaned (and sanitised); and by whom.

Bakery Safe

Validating a cooking process

This is what you can do if you regularly cook a meat or poultry item - such as rotisserie-cooking a chicken, roasting a joint, cooking a meat pie, boiling a ham or hot-smoking sausages - and you don't want to check its temperature each time you cook it.

You must use the same equipment and the same standard ingredients (the same size or weight of the same type of food) each time you cook the product. The following process will enable you to demonstrate (i.e. validate) that a standard cooking procedure will properly cook the food. If you want to validate your cooking process you must follow the steps in this procedure.

1. Cook using a standard cooking method (e.g. a temperature setting for a set time).

2. At the end of the set time, check the temperature of the centre of the thickest part of the food item with a probe thermometer to measure if it has either exceeded 75°C or met one of the time/temperature combinations from the table below.

Internal temperature	Time	Internal temperature	Time
60°C	For 92 minutes	68°C	For 4 minutes
63°C	For 31 minutes	70°C	For 3 minutes
65°C	For 15 minutes	73°C	For 1 minute

3. Write down the result of your time/temperature checks in the table below.

4. Repeat the standard cooking method in steps 1 and 2 on at least three separate occasions until confident a safe temperature will be consistently reached for the time required.

If the food does not reach a safe temperature on three occasions increase the cooking time and/or cooking temperature and repeat steps 1-3 above.

When you are confident that the standard procedure ensures that the food is cooked, regularly check with a probe thermometer (e.g. once-a-week, or every fifth batch) that the cooking method continues to work as planned.

Food item and description (recipe, size/weight, thickness):							
	Select the temperature the poultry item will be cooked to: [tick as appropriate]						
	Cooked to higher than 75°C		Cooked at °C for minutes				
Cooking details							
Date	Method (How was the food cooked?) What equipment was used? What cooker temperature setting was used? Where was	Time started cooking	1st probe*		2nd probe		Initials
			time	temp	time	temp	
1st							
2nd							
3rd							

*if the temperature is higher than 75°C it isn't necessary to probe a second time

Food item and description (recipe, size/weight, thickness):

	Select the temperature the poultry item will be cooked to: [tick as appropriate]						
	Cooked to higher than 75ºC		Cooked at ºC for minutes				

Cooking details							
Date	Method (How was the food cooked?) What equipment was used? What cooker temperature setting was used? Where was the probed sample positioned in the cooker?	Time started cooking	**1st probe***		**2nd probe**		**Initials**
			time	temp	time	temp	
1st							
2nd							
3rd							

*if the temperature is higher than 75ºC it isn't necessary to probe a second time

You can make copies of the above validation tables if you have other items that you cook this way.

Food item and description (recipe, size/weight, thickness):

	Select the temperature the poultry item will be cooked to: [tick as appropriate]						
	Cooked to higher than 75ºC		Cooked at ºC for minutes				

Cooking details							
Date	Method (How was the food cooked?) What equipment was used? What cooker temperature setting was used?	Time started cooking	**1st probe***		**2nd probe**		**Initials**
			time	temp	time	temp	
1st							
2nd							
3rd							

*if the temperature is higher than 75ºC it isn't necessary to probe a second time

You can make copies of the above validation tables if you have other items that you cook this way.

Checking meat and poultry items are cooked

Meat, poultry and foods containing raw meat and poultry that are cooked on-site must be thoroughly cooked. The table below enables you to identify the process followed for each meat or poultry item to ensure that it is properly cooked.

Write it down

Use the table below to identify and record which checks are done to make sure that meat and poultry items are properly cooked.

Step 1 – In column A write down all the meat and poultry items that need checking.

Step 2 – In column E tick the box to show that either the item will be cooked to more than 75ºC, or identify the time/temperature that has been validated as thoroughly cooking the item.

Step 3 – In columns B to D identify how you check that each item is properly cooked.
- If you temperature probe each item every time it's cooked tick the box in column B. Each time you cook this item write the temperature it has been cooked to on the Cooking temperature record.
- If you cook a number of the same items together and temperature probe one item in each batch, tick the box in column C. Each time you cook a batch of this item write the temperature of the probed item on the Cooking temperature record.
- If you have a proven time/temperature setting for the item (you have completed the Validating a cooking process procedure for that item) tick the box in column D. Then regularly – such as once a week, or every fifth time that the item is cooked – measure the temperature when cooking the item to confirm that the time/temperature still cooks it.
- Write this temperature in the Diary..

Internal temperature	Time	Internal temperature	Time
60ºC	For 92 minutes	**68ºC**	For 4 minutes
63ºC	For 31 minutes	**70ºC**	For 3 minutes
65ºC	For 15 minutes	**73ºC**	For 1 minute

A **Meat or poultry item (list each type of food)**	Temperature probe (tick as appropriate)			E **Temperature item must reach in thickest part (tick as appropriate)**
	B **Every dish, every time**	C **One item in every batch**	D **One item regularly, e.g. once a week or every 5th batch**	
				75ºC or ºC for mins
				75ºC or ºC for mins
				75ºC or ºC for mins
				75ºC or ºC for mins
				75ºC or ºC for mins
				75ºC or ºC for mins
				75ºC or ºC for mins
				75ºC or ºC for mins
				75ºC or ºC for mins

Cooking other foods

Goal

To ensure food other than meat and poultry is properly cooked.

Act requirements:
- Food must be processed and handled in ways that minimise the contamination or deterioration of food and prevent food containing substances that are unexpected or unreasonable.
- There must be procedures for controlling hazards at each production and processing and handling step where it is essential to eliminate or reduce a hazard to an acceptable level.

Why?

- Harmful microbes are present in many foods. Cooking (and reheating) can kill harmful microbes.

How this is done

Surfaces and equipment must be in sound condition and clean before use. Surfaces in contact with ready-to-eat foods must be sanitised before use – see *Cleaning, Equipment, packaging and other items in contact with food* and *Maintenance and Allergens.*

Food must be prepared hygienically - see *Preventing cross-contamination, Preparing raw meat, poultry & fish*, and *Defrosting frozen food.*

Cooking equipment must be checked for cold spots – see *Maintenance*

Good hand hygiene and personal hygiene practices must be followed when cooking food - see *Hand Hygiene* and *Personal hygiene*

When using a thermometer the procedures *Checking temperatures* and *Calibrating thermometers* must be followed.

Meat and poultry

Meat and poultry items must be cooked following the *Cooking meat and poultry* procedure.

Bakery products

Bakery items must be cooked following the *Baking and finishing* procedure.

Liquids (e.g. sauces, pie filling)
- Cold spots must be avoided (e.g. by stirring frequently) so that an even temperature is reached.
- Liquids must be brought to a simmer or boil.

Eggs
- Whole eggs must be clean and free from cracks;
- egg-pulp must be pasturised when being used for uncooked or lightly-cooked foods; and used in accordance with its date mark.

Fish and Shellfish

Fish and shellfish must be checked for thorough cooking. Look for a change in colour and texture when cooked – for fish this will depend on the species. Prawns will turn from blue-grey to pink and scallops become milky white and firm when cooked.

Before cooking, any mussel or clam with a damaged shell or an open shell that won't close when tapped must be thrown away as it may not be safe to eat.

How this is done

To check that a mussel or clam is cooked, make sure the shell is open and that the mussel or clam has shrunk inside the shell. If the shell has not opened during cooking, throw it away.

Processed foods

Products must be cooked according to any manufacturers' instructions, if provided.

Frozen products
- Products that need to be thawed before cooking must be thoroughly defrosted – see *Defrosting frozen food*;
- Manufacturer's instructions must be followed when cooking products designed to be cooked from frozen;
- Cooked food must be checked that it has been cooked-through thoroughly.

Making allergen-free foods

See the procedure in *Making other bakery products.*

What if there is a problem?

An ammonia smell in fish is a sign of decomposition and product must not be sold.

If food is undercooked, cook it for longer.

If this happens frequently, check recipes and change cooking times and/or temperatures, or divide food into smaller quantities or use different equipment.

Write it down

If food does not cook properly when following set recipes and procedures you must record (e.g. in the Diary) what you did with the food and what action you took to prevent this happening again.

Filling sandwiches, rolls, wraps

Goal

Hygienically making and displaying sandwiches, rolls and wraps.

Safely handling manufactured delicatessen foods (cooked meats, cheeses etc.) and salads.

The Act requires:
- Food must be produced or processed and handled in ways that minimise the contamination or deterioration of food and prevent food containing substances that are unexpected or unreasonable.
- There must be procedures for controlling hazards at each production and processing and handling step where it is essential to eliminate or reduce a hazard to an acceptable level.

Why?

- Food in the temperature danger zone (5ºC to 60ºC) will allow harmful microbes to grow that can make people ill.
- Harmful microbes can contaminate food through unclean people, other foods, equipment and utensils.
- Food contaminated by chemicals can cause illness
- Objects can fall into uncovered food affecting its suitability and/or safety.

How this is done

Control of *Listeria monocytogenes* is an important part of this process (see also *Listeria* in the management section).

Surfaces and equipment must be in sound condition and clean before use. Surfaces in contact with ready-to-eat foods are sanitised before use – see *Cleaning, Equipment, packaging and other items in contact with food, Maintenance* and *Food Allergens*

Food must be prepared hygienically – see *Preventing cross-contamination, Preparing raw meat, poultry & fish* and *Defrosting frozen food*

Good hand hygiene and personal hygiene practices must be followed when handling food – see *Hand Hygiene* and *Personal hygiene*

Products that are not in packaging must be protected from contamination.

Filling sandwiches/rolls/wraps

Potentially hazardous fillings and ingredients must be:
- stored and used according to manufacturer's instructions if provided; or
- kept out of the temperature danger zone (e.g. in a refrigerated make-table); or
- taken from refrigeration in only the quantity needed to fill the batch (of sandwiches etc.) and kept outside the temperature danger zone whenever they are not being used; and
- kept apart from raw foods.

Salad ingredients such as lettuce, tomatoes and parsley must be either (identify method(s) used):

  purchased pre-washed and ready-to-eat;

  rinsed in clean, running water before use – see *Water*.

Produce must not be used if checks find signs of deterioration or spoilage including:
- discolouration/appearance;
- odour;
- texture;
- mould/slime.

How this is done

Fillings that are prepared in bulk must be:
- labelled with the date prepared;
- thrown away if not used within 48 hours.

An existing batch of filling must not be topped-up from other batches and the remainder of portions removed for use must not be added back to the bulk supply.

Display

Filled sandwiches/rolls/wraps must be given a shelf-life by: [tick method(s) that apply]

  storing chilled and selling to consumers within 48 hours of manufacture

  using information specified by the manufacturer. This information can be found at:
                                    .

  using information identified through technical assessment. Assessments are found at:
                                    .– see also *Establishing shelf life*

What if there is a problem?

If ready-to-eat food has become contaminated, throw it away

If equipment, surfaces etc. are unclean, clean them before use.

Find out what happened and take action to prevent it from happening again. If needed, retrain staff.

Write it down

You must write down in the Cleaning schedule the surfaces and equipment used and how/when they are cleaned (and sanitised).

You must write down (e.g. in the Diary) what happened if fillings were incorrectly used and what was done to stop this from happening again.

Name of business:

Specialist retail – bakery
Records

Place this page in your Plan Contents section

Specialist bakery records

Staff training – specialist bakery

Cooking temperature checks

Once-a-week meat and poultry temperature checks

Transported food temperature checks

Staff training – specialist bakery

Name:	Telephone:
Position:	Start date:
Address:	

Topic	Relevant	Employee signed*	Supervisor signed†	Date
Essential training				
See also Staff member record for the Basics training	✔			
Training as needed				
Food additives in bread and bakery products				
Limits for harmful microbes in bakery products				
Composition of bread and bakery products				
Preparing raw meat, poultry, seafood				
Making bread, cakes, slices				
Making other bakery products				
Baking and finishing				
Cooking meat and poultry				
Validating a cooking process				
Checking meat and poultry items are cooked				
Cooking other foods				
Filling sandwiches, rolls, wraps				
Other				

* I acknowledge that I have received training in the procedure and agree to follow it.

† The employee has been trained and has demonstrated a good understanding of the procedure and has been observed consistently following it.

Other training

Date	Details
Notes:	

Cooking temperature checks

Meat, poultry, fish and bakery products containing meat, poultry, or fish that are **not** cooked using a standard time/temperature setting must be checked each time with a probe thermometer to ensure that they reach at least 75ºC. If the temperature does not reach at least 75ºC, cook the product for longer until it does.

Date	Time	Food	Core Temp			Signed
			1st*	2nd	3rd	

*If temperature is more than 75ºC on first probing, further probing will not be necessary.

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Once-a-week meat and poultry temperature checks

Cooking meat and poultry to at least 75ºC

Select one product that you cook using a standard time/temperature to reach at least 75ºC. Cook it and check it to confirm that it reaches at least 75ºC. This forms part of your regular diary record.

If you cook more than one product this way select a different one each week. Use the following to record your check:

Day	Product	Cooking method and standard time/ Temperature used	Final core temperature	Action taken if Temperature not reached

Cooking below 75ºC

Select a product that you cook using a standard time/temperature to a temperature below 75ºC (for examples see table below). Cook it and check that the centre of the thickest part of the product has stayed at the required temperature for the correct length of time.

Use the following to record your check:

Internal temperature	Time	Internal temperature	Time
60ºC	For 92 minutes	68ºC	For 4 minutes
63ºC	For 31 minutes	70ºC	For 3 minutes
65ºC	For 15 minutes	73ºC	For 1 minute

Enter time and temperature used	Date	Time started cooking	Ist probe*		2nd probe	
			Time	Temp	Time	Temp
cooked at ºC for secs/mins						

*second probe is not needed if core temperature reached at least 75ºC

Reheating meat and poultry

Select one product that is reheated and check it reaches 75ºC. Use the following to record your check:

Day	Product	Reheating method	Final core temperature**	Action taken if Temperature not reached

** The core temperature of the product must be 75ºC or above. If the food has not reached this temperature keep reheating until it does.

Cooling meat and poultry (only required if food has been cooked or heated and then cooled)

Select one hot product and check it cools within the time frame required in the Plan. If you cook and cool more than one meat or poultry product select a different item each week.

Use the following to record your check:

Day	Poultry item	Cooling method	Time started cooling	Temp at 2hrs***	Temp after total 6 hr***	Action taken If temp not reached

*** Products must be cooled from 60ºC to 21ºC in two hours and 21ºC to 4ºC within a further four hours. See *Cooling hot food and freezing food*

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Transported food temperature checks

Food that needs to be kept cold (if it is not going to be eaten within 4 hrs of taking out of temperature control) must be transported at or below 5ºC.

Food that needs to be kept hot (if it is not going to be eaten within 4 hrs) must be transported at 60ºC or more.

Record transported food temperatures here.

Date	Type of food	Temp	Action taken (if food has been held between 5ºC and 60ºC for four or more hours)	Who checks?