



# Proving the method you use to kill bugs works every time

**K****Know**

## What do you need to know?

- If you make or cook any of the following foods, you can prove your method works to kill bugs every time:
  - poultry (e.g. chicken, liver),
  - minced meat (e.g. sausages, meat patties),
  - drying,
  - pickled or brined meat and/or vegetables,
  - hot smoked meat or seafood,
  - sushi (made with acidified rice),
  - Chinese style roast duck,
  - sous vide (meat or poultry).
- Proving your method works means that you don't have to test every single food item, each time you make it.

**D****Do**

## What do you need to do?

- Identify the methods you will prove: (tick as appropriate)
  - ☐ poultry (e.g. chicken, liver)
  - ☐ minced meat (e.g. sausages, meat patties)
  - ☐ drying

## D

## Do

- ☐ pickled or brined meat and/or vegetables
- ☐ hot smoked meat or seafood
- ☐ sushi (made with acidified rice)
- ☐ Chinese style roast duck
- ☐ sous vide (meat or poultry)
- You must use the same equipment and same ingredients (type, weight, size, vinegar solution etc.) every time you make the food.
- Make or cook the food/cooking equipment using the standard procedure from the relevant card.
- Check/test the food to make sure it is meeting the required limits (e.g. poultry and minced meat products are cooked to 75°C for at least 30 seconds, the pH of acidified rice is at 4.6 or below, water bath is at the correct temperature for sous vide).
- If your standard method doesn't meet the required temperature/limit, you must adjust your cooking temperature/ingredients to make your method work.
- Check your method works 3 times with different batches of food so you know it works.
- Record your method and checks.
- Check your method works every week by checking the temperature of 1 batch of food.

## S

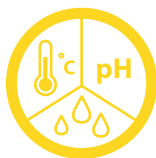
## Show




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### What do you need to show?

- Show your verifier **records** of:
  - your method,
  - your weekly batch checks.



# Using water activity, acid or hot-smoking to control bugs

**K****Know**

## What do you need to know?

- Harmful bugs need moisture to grow. Lowering the moisture content (water activity) of your food will help to stop their growth.
- Many harmful bugs cannot grow or grow very slowly in acidic environments (pH of 4.6 or less).
- To achieve the above conditions (respectively):
  - remove water (dry or brine) to achieve a water activity 0.85 or less,
  - lower the pH (pickle) to 4.6 or less.
- Hot smoking can help to stop bugs growing in your food but it may need further processing or cold storage to make sure it is safe. It can be used to cook your food or to flavour your food.
- This procedure applies to people who concentrate and dry food.
- MPI has developed a guide to help you calculate shelf life <http://www.foodsafety.govt.nz/elibrary/industry/determine-shelf-life-of-food/>
- There are rules in the Australia New Zealand Food Standards Code (the Code) about the types of food additives (e.g. preservatives) you can add to some foods. See the Code or ask your verifier for more information.

**D****Do****What do you need to do?****Reducing water activity****Drying**

- Dried products must have a water activity of 0.85 or less unless they are either: (tick if one applies)
  - ☐ stored chilled at 5°C or below until it is use,
  - ☐ subject to other valid preservation methods (e.g. reducing pH)
- All drying equipment (e.g. heating, fans, humidifiers) must be regularly checked that they are working properly.
- Drying must take place: (tick as appropriate)
  - ☐ in a temperature-controlled space,
  - ☐ at ambient air temperatures.
- If you are making products with a water activity of 0.85 or less, you must test them to make sure they achieve this.
- If you have a proven method for drying your food to a water activity of 0.85 or less, you must send 3 batches of your product to an accredited lab for water activity testing. This must be done at least once initially, and then you can use your own method to calculate water activity (e.g. weight loss). See the '**Proving the method you use to kill bugs works every time**' card.

**Brining**

- During immersion brining, meat must be fully immersed in the brine.
- Empty and clean brining tanks regularly.
- Check injection equipment before and after each use for any broken or missing parts.

**D****Do****Making food acidic**

- Pickled products must have a pH of 4.6 or less.

**Brining and pickling solutions**

- Only use permitted food additives. See the rules in the Code for the list of additives you can use.
- Make and use preparations following the manufacturer's instructions, or with own tried and tested recipes.
- Do not dilute the concentration of food additives (e.g. nitrite) and salt necessary to achieve brining and pickling.
- Stored chilled preparations at 5°C or below. Keep them covered until use.
- Carry out brining and pickling at 5°C or below.
- Throw out any recirculated or re-used preparations, and preparations which may be contaminated such as those used in injecting, at the end of each batch or day's operation.

**Hot smoking**

- If smoking seafood, use only fresh seafood.
- If hot-smoking is part of the cooking process for meat products, it must be cooked to a temperature of 75°C for at least 30 seconds. See the '**Cooking poultry, minced meat and chicken liver**' card.
- All smoke equipment (e.g. heating, air circulation, wood chips) must be safe and working properly.
- Smoking must be carried out: (tick as appropriate)
  - ☐ in a temperature-controlled space,

**D****Do**

- ☐ with the smoking temperature manually controlled.
- The product must be spaced out evenly to help air circulation and even smoking of your product.
- Follow manufacturer's instructions when using liquid smoke.
- After your food has been smoked, food which needs to be kept cold must be stored at or below 5°C and must be: (tick as appropriate)
  - ☐ marked with the date and time it was smoked, and then either used, or sold to be consumed, within 5 days of processing,
  - ☐ given a 'use-by' date.
- Identify the reason that you are hot-smoking.  
Choose which applies:
  - ☐ hot-smoking to cook food,
  - ☐ hot-smoking to impart flavour.
- For each batch of food you hot-smoke as part of the cooking process, you must record the following:
  - the smoke house air temperature,
  - the smoking start time,
  - the smoking finish time,
  - the core temperature of the food at the end of the cooking period,
  - if additional time for cooking was required.
- For each batch of food you hot-smoke to flavour your food, you must record the following:
  - the smoke house air temperature,
  - the length of time of the smoking process.

D

Do

- If you regularly dry, brine, pickle or hot-smoke your products, you can prove your method so that you only need to check batches weekly. See the ‘**Proving the method you use to kill bugs works every time**’ card.

S

Show



## What do you need to show?

### Reducing water activity

Show your verifier

- any laboratory test results or results from your own method (e.g. weight loss) for water activity testing (if applicable),
- how you safely dry and brine your food,
- a written **record** of your method of drying food,
- a written **record** of your recipe for brining solutions.

### Reducing pH

- Show your verifier:
  - how you achieve a pH of less than 4.6,
  - a written **record** your recipe for pickling solutions.

### Hot-smoking

- Show your verifier:
  - how you safely hot smoke your food.
  - if hot-smoking as part of the cooking process, written **record** of:
    - the smoke house air temperature,



Show



- the smoking start time,
- the smoking finish time,
- the core temperature of the food at the end of the cooking period,
- if additional time for cooking was required.
- If hot-smoking to flavour your food, a written **record** of:
  - the smoke house air temperature,
  - the length of time of the smoking process.