Specialist Foods Part 1

Good Hygiene Practice Guide No 25a

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SAFE FOOD
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Specialist Foods

Good Hygiene Practice Guide No: 25a

HACCP Chart Reference

Personal Hygiene / Cross Contamination / Food Labelling & Shelf Life / Food Delivery &Storage / Food Preparation / Cooking / Allergens

Background

This Good Hygiene Practice Guide covered the food safety controls and procedures that need to be followed to produce specialist foods including pickles and preserves and flavoured oils.

The in-unit production of such specialist foods requires careful consideration of the skills and knowledge of the team. The head or executive chef must have a minimum of Level 3 Food Hygiene Training, as well as relevant additional specific training and the right equipment to enable the safe production and storage of these foods.

1. Pickles, Chutneys, Jams, Gels and Syrups

For extended shelf-life beyond 72 hours (or 7 days vac packed) for pickles, chutneys, jams and similar products, conditions that prevent the growth of pathogenic bacteria, including *Clostridium botulinum* and *Listeria* must be achieved. (Quick process pickling, where a boiling hot vinegar solution is poured over raw fruit or vegetables does not allow for extended shelf-life and these products must be treated as fresh, ready-to-eat foods.)

This can be done by reducing the pH to 4.3 or below and/or reducing the water activity to below 0.97. Low pH is achieved by acidification with vinegar and water activity is lowered by significantly increasing the sugar and/or salt content of foods.

- For pickles tested recipes, that ensure reduction of the pH to 4.3 or below, must be followed. The pH must be measured and recorded for each batch.
- For chutneys, jams, gels and syrups recipes that produce a >38% sugar concentration must be used to ensure that the water activity is below 0.97.
- Pickles, chutneys, jams and syrups must be cooked for at least 10 minutes at 90°C or above.
- Record relevant details in the **Pickles, Chutneys, Jams, Gels, Syrups and Flavoured Oil Record.**
- All products must be stored in sealed sterilised jars or be vac packed.
- If using glass jars these must be treated with caution and inspected to ensure they are intact with no damage such as cracks or chips. They should be filled in a designated area of the kitchen and stored on bottom shelves in the kitchen and in chillers.
- For shelf-life guidance see **GHP5: Food Labelling and Shelf Life**.

2. Flavoured Oils

Herbs, spices, and other flavourings can be contaminated with *Clostridium botulinum* spores. When these spores are surrounded by oil, an oxygen free environment is created that allows germination and encourages growth of the spores. Flavoured oil can be made with fresh herbs and vegetables (such as garlic and chillis), dried herbs and dried spices. All methods require that the flavouring or the flavoured oil undergo a cook step.

Depending on the type of flavouring and required finished product the following options are available:

- For oil made with woody herbs, such as thyme and rosemary, with fresh vegetables, these must be washed (or peeled where appropriate) and the flavoured oil must be heated to 75°C or to 70°C for 2 minutes.
- For oil made with fresh herbs, such as basil, parsley and coriander, the herbs must be thoroughly washed, then blanched and any excess moisture removed.
- For oil made with fresh vegetables, such as chillis and garlic, the vegetables must be peeled or washed as appropriate and thoroughly cooked to 75°C. Alternatively, the same method as for woody herbs may be followed.
- For oils made with dried spices the flavoured oil must be heated to 75°C or to 70°C for 2 minutes.

Regardless of the flavouring type and production method:

- The containers used should be sterile and completely dry before filling with the oil.
- Record relevant details in the **Pickles, Chutneys, Jams, Syrups and Flavoured Oil Record.**
- If using glass bottles these must be treated with caution and inspected to ensure they are intact with no damage, such as cracks or chips. They should be filled in a designated area of the kitchen and stored on bottom shelves in the kitchen and in chillers.

For all oils made with fresh flavourings a self-life of 7 days should be applied.

Oils that have been flavoured exclusively with dried herbs and spices should have a maximum shelf-life of 1 month.

3. Yoghurt and Labneh

Whilst yoghurt is essentially fermented milk, the production is different from the fermentation of vegetables, where the process relies on naturally occurring bacteria and salt is added to the ferment to encourage growth of these bacteria.

To produce yoghurt from milk a culture of bacteria is added to heat treated milk, which is then stored at conditions favourable to lactic acid bacteria. If sufficient lactic acid bacteria are added and the milk is stored at the correct temperature, lactic acid bacteria outgrow any other bacteria, creating a low pH, which is not suitable for spoilage or pathogenic organisms. To ensure consistency use either a commercial yoghurt starter or a bought-in yoghurt which has active live bacteria.

- Ensure all equipment is clean and sanitised.
- Heat milk to 85°C; this destroys any bacteria in the milk, but also changes the protein structure, which is necessary for the yoghurt to set, rather than split.
- Rapidly cool milk to 41-43°C. Using milk that is too hot will kill the starter culture.
- Mix commercial starter culture or bought in yoghurt into a some of the milk and gently mix this into the remainder of the milk.
- For commercial starter cultures, follow the manufacturer's instructions, if using fresh yoghurt as a starter add between 3-5% by weight.
- Pour into warm, clean containers and allow to incubate at around 43°C for 6-12 hours.
- To maintain the temperature, you can place the yoghurt container in an incubator, a dehydrator, a hot holding cupboard or a water bath in an insulated container.
- Use a digital pH meter to measure the pH level, which must be below 4.6, and record this on the yoghurt fermentation record.
- Apply a shelf life of 7 days and store yoghurt in a sealed container in the fridge.
- Discard any batches that do not thicken and where the pH is not below 4.6 after 12 hours.

Labneh

Labneh is produced by straining yoghurt to remove the whey. This can be done with a cloth or paper filter.

- Line a funnel or strainer with filter paper or cheesecloth. If using cheesecloth, it must be scalded*.
- Transfer the yoghurt to the filter which has been placed over a bowl.
- Cover with plastic wrap and refrigerate until the desired consistency has been reached, but no longer than 24 hours.
- Transfer to clean and sanitised containers, apply a 72-hour shelf-life and refrigerate.

Adding flavourings, such as fruit, nuts or herbs, to yoghurt or labneh will affect the pH and also potentially introduces spoilage or pathogenic bacteria, so shelf-life must be reduced to 72 hours.

* Place in a suitable container, pour over boiling water, agitate with a wooden or metal spoon for one minute, remove and cool until cool enough to handle, squeeze out excess moisture and use immediately.

Appendix 1: Using a pH Meter

- Ensure that the pH meter is suitable for the type of food being monitored. Discussion with equipment suppliers is advised to ensure you source the most appropriate pH probe type.
- Follow the manufacturer's instructions for storage, use and cleaning. pH probes should be stored in pH probe storage solution, not in water or deionised water and never allow the pH bulb to dry.
- The pH meter must be calibrated before monthly, following a 2-step calibration process where the probe is calibrated with two standard calibrant solutions (buffers): a neutral buffer and an acidic buffer (usually pH4).
- Calibrant solutions should be at a similar temperature as the product being tested.
- Rinse the pH probe with deionised or distilled water and blot dry before putting it in each calibration solution and before testing food samples.
- Never reuse calibrant solutions – always use a fresh calibration solution for each calibration.
- Follow the manufacturer's instructions in regard to acceptable calibration tolerance levels.
- Record calibration details.
- For semi-solid food with a uniform consistency, the pH meter can be measured directly in a sample of the food.
- Where there are distinct solid and liquid phases, for example fermented carrots, remove a sample of the solid and produce a slurry. If the product is too thick, distilled water can be added, up to an equal volume of the weight of the sample.
- Always allow the reading to stabilise and record the pH level to at least 0.05.
- It is best practice to have the pH measuring system calibrated by an external certified testing service periodically (e.g. annually).

Appendix 2: Sterilising Glass Containers

- Sterilise glass jars or bottles by:
  - Placing them in an oven at 160°C for 10 minutes or
  - Running them through the dishwasher or
  - Submerging them in water at 90°C for 10 minutes or
  - Placing them in a steam oven at 100°C on 100% steam for 20 minutes.
- Keep them inverted until ready to be filled.
- Rubber seals (e.g. from Kilner jars) must be submerged in water at 90°C for 10 minutes.
- All jars and bottles, lids and seals must be completely dry before use. Allow them to dry naturally. Do no use a cloth or similar to manually dry items
- Seal jars and bottles immediately after filling.