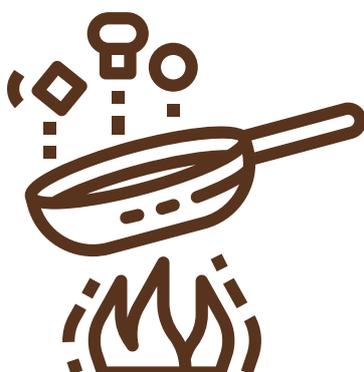


READY HEALTHY EAT



Ready meal toolkit

Ready Healthy Eat Toolkit

Ready Healthy Eat works with partners across the country to pilot, deliver and evaluate ways to provide nutritious ready meals to people at risk of food poverty. This toolkit has been designed for community groups and cooks responding to food emergencies and food issues in their communities. Amazing work is carried out every day by food giving community volunteers, charities and groups across the country and more than ever we are seeing pressure on household budgets that are putting community food providers in much greater demand.

This toolkit has been shaped to support the research process of community groups looking to produce community meals or products with guidance and signposting on topics such as food safety, manufacturing and sourcing ingredients. It also introduces ways to start selling ready meal products in order to start providing an income to the groups and charities producing them.

The Ready Healthy Eat toolkit aims to complement the excellent global resources and essential reading that are available online including: *National Food Service, London, Community Kitchens Manual, Peninsula Health, 2016, 9th Edition, Cooking with the Community in 5 easy steps, Fife Community Food Projects, Collective Kitchen Manual, Alberta Health Services, Winnipeg Cooks Together: A handbook for Community Kitchens, Kitchen Social: Good things to eat & do, Mayor's Fund for London, The gal-dem guide to creating a community kitchen.*

Important to note when using this toolkit is that food legislation in the UK could change as a result of Britain leaving the European Union or changes in government policy. The content of the toolkit has been produced in good faith with information available at the time, but it is a responsibility of a food operator to keep up to date with changes or amendments to food law.

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Ready Healthy Eat is a Real Farming Trust project supported by The National Lottery Community Fund.



Registering as a food business operator

What counts as a food business?

If you are working for a charitable organisation that gives away food without charge, or are a not for profit organisation distributing food you may still be classified by your local authority as a food business and need to register as one. There are few exceptions in the need to register and your local EHO will advise. Whether you make and distribute food from home, a rented space, a commercial kitchen or a mobile unit, you should check whether you should register. It is free of charge to do and you cannot be refused by your local authority.

When do I need to register as a food business with my local council?

You should register a minimum of 28 days in advance of starting, or taking over your food business, or immediately if you have already started. Changes to existing business operations will also often need to be advised to the EHO for the registration to be adjusted. The online registration form is at <https://www.gov.uk/food-business-registration> This is national government form, which is then sent to your local authority for reviewing and to complete your registration.

What will I be asked?

You will be asked for a contact name and address, what your food-based activities involve and who your customers are (or those receiving your food). You will need to provide your operating or opening hours and how your water is supplied.

What happens next?

The information is then assessed by your local Environmental health team who may contact you for further information and may arrange to visit you to do an inspection of your premises and processes. At the earliest opportunity you should start preparing your food safety procedures so they are available for inspection by an environmental health officer at any time.

As a food business operator you should also undertake accredited food safety training - the minimum recommendation is a Level 2 course, but if you supervise or manage others in preparing food, it may be advisable to do a Level 3 course so you can meet industry standards and demonstrate your knowledge to others. Formal food hygiene training is not currently a legal requirement, but it is the food business operators responsibility to ensure that any food handlers receive adequate training and supervision and often completing an accredited course is the best way.

Formal food safety training can help to demonstrate professionalism of your team and your commitment to food safety. For catering and small manufacturing businesses, the EHO will assess the current training in making a decision on awarding the food hygiene rating score. Scores of 4 and 5 are rarely awarded in cases where training cannot be evidenced. Before serving food to others, you should check whether you should have your own insurance for your activities and products. See helpsheet on insurance requirements.

What if something changes?

If there are any significant changes within your business, i.e. new location, operator, significant changes to business activities or closure, you must tell your local authority. Further information: <https://www.food.gov.uk/business-guidance/start-up-checklist-for-new-food-businesses>

Find out more about what you can do to prepare:

Guidance on food hygiene and how to run a safe food business: <https://www.food.gov.uk/business-guidance>

How to achieve a high food hygiene rating (FHRS score) : <https://www.food.gov.uk/business-guidance/food-hygiene-ratings-for-businesses>

Information on the food safety management system safer food, better business:

<https://www.food.gov.uk/business-guidance/safer-food-better-business>

Food labelling and allergens guidance:

<https://www.food.gov.uk/business-guidance/industry-specific-advice/labelling-and-allergens>

Business support & helpline: <https://www.gov.uk/business-support-helpline>

or contact the Business Support Helpline on 0800 998 1098



Health and hygiene in the kitchen – people and premises

Premises

It is important to allow time to be able to locate and choose a suitable premises for food production, especially if you are looking to create a retail ready product. If you are looking for a rentable kitchen, many churches, community halls or food-related colleges may have kitchens to rent at low cost. If you find a suitable premises and are planning a regular day of the week for production, check in with the premises operator to see if any regular days or afternoons are already booked before you plan any further.

There is a requirement for all food businesses to be registered for commercial food production and this also extends to voluntary food supply operations. The local EHO will supply a form for you to complete and this is supposed to be supplied at least 28 days prior to commencement. It is worth asking if the kitchen is registered and whether it has had an EHO inspection before and if you can view the report. This will help you quickly identify if there are any structural issues with the building or anything that was picked up that needs improvement.

The next consideration is, is it a good enough size to be able to produce your product safely? Is there room for your staff or volunteers to manoeuvre safely e.g. with hot pans, if you have social distancing policies, or if there is enough production space or cooling space.

Some facilities may be registered, but if your use is different from the registered use and you are a separate organisation, you will need to register yourself for the organisation using the facilities. In addition, some halls and community centres may have been registered for preparation of refreshments and service of low risk foods, such as biscuits and cakes, but may not be suitable for a full scale catering or production operation and this should be checked with the local authority.

If there has not been an EHO inspection on the premises check if the kitchen space is in clean, good condition.

Look for:

- floors and walls with washable surfaces
- separate hand wash sink
- separate sink(s) for food preparation and cleaning
- provision of extractor fan/canopy (notably where there will be significant cooking)
- washable prep tables or surfaces
- separate toilet facilities
- plentiful water supply with hot and cold water.
- does it have the basic facilities needed? e.g. cooker, refrigeration space, arrangements for waste including food waste.

It is also important to ask the kitchen operator who else uses the kitchen on a regular basis and whether there is a cleaning schedule for each hirer in place. This is important for managing allergens and maintaining a high standard of cleanliness.

People

Ensuring you have a team that is healthy and prepared for food production is a key element of preparing safe food. Managing a team of volunteers or staff comes with responsibilities. Induction training, before handling products, should be delivered and signed off with explanation of the bulleted points within the list below, as well as fire and safety-related instructions. Before you have a new volunteer or staff member starts production, a 'Fitness to work' form should be completed (see link below) Your team should also be aware of their responsibilities as a food handler and yours as the food operator.



Health and hygiene in the kitchen – people and premises

Food Safety Law states that food handlers MUST:

- Keep themselves and your workplace clean and wear suitable, clean protective clothing.
- Store, prepare and display food at safe temperatures.
- Do everything possible to protect food from contamination.
- Inform the employer if you have symptoms of a foodborne illness, contact with anyone who has been unwell, been unwell returning from being abroad, suffering skin infections, or heavy colds/flu.
- Wear designated protective clothing to protect food from risk of contamination.
- Make appropriate use of hand-washing facilities.
- Safeguard food so that it does not cause illness or harm.
- Have appropriate training related to food handling being undertaken.

To enable food handlers i.e. your staff or volunteers to comply with the law you should provide protective clothing suitable for the task and provide training, especially if your team is new to food production. This may take the form of an online or in-person formal food hygiene training, or having a formally qualified member of your team supervising others carrying out food production. Be aware that some training online is of a dubious quality and is often uncertified.

Documented control and monitoring of food safety hazards

Remember, it is a legal requirement to operate a documented system to record and monitor requirements for food safety. These systems are based on the HACCP (Hazard Analysis Critical Control Points) principles and are required for all businesses. The complexity of the system employed will be determined by the nature and size of the business. For simple catering systems the Food Standards Agency has provided a pack that can be tailored to individual operations and is downloadable at <https://www.food.gov.uk/business-guidance/safer-food-better-business-for-caterers>. For manufacturing and larger enterprises, it will be necessary to provide a fuller system and further details are available in the 'Record keeping' document included within this series.

Summary

It is your responsibility as the food operator to:

- Register the premises with the Local Authority
- Design, equip and operate premises to prevent contamination
- Ensure there are adequate hand-washing facilities and arrangements for personal hygiene
- Ensure all staff are trained and supervised to work hygienically and safely
- Assess food hazards and take action to reduce risks (known as hazard analysis)
- Implement and maintain a Food Safety Management System based on HACCP (Hazard Analysis Critical Control Points) principles

Links and references

<https://www.food.gov.uk/sites/default/files/media/document/fitnesstoworkguide.pdf>

https://www.thesaferfoodgroup.com/courses/food-hygiene-level-2_catering/demo/1/

<http://www.iqualifi.co.uk>

<https://www.food.gov.uk/business-guidance/safer-food-better-business-for-caterers>



Health and hygiene in the kitchen – cleaning

Whether you are using a rented kitchen or your own premises, a written cleaning schedule is required. It is important to have procedures and products used for cleaning written down so that all members of staff can follow procedures in the same way and that cleaning products are used correctly.

Choice of cleaning products

Cleaning products that are used in commercial kitchens need to be confirmed as food safe and also conform to British Standard BS En 1276. If a cleaning product achieves this standard it means that a disinfectant effectively kills 99.999% of bacteria, most specifically MRSA, within 5 minutes of use.

Many domestic and supermarket products do not conform to this standard so check on the label or data sheet of the individual cleaning product. When using a BS en 1276 approved product it is important to note the contact time on the surface you are cleaning for it to be effective.

The difference between detergents, disinfectants and sanitisers

Knowing what role your cleaning products do and how they work is important for maintaining a safe production space. The FSA outlines the differences as:

Detergents

Clean and degrease a surface, but do not kill bacteria

Disinfectants

Kill bacteria - they should be used on surfaces that are already visibly clean or used after a detergent.

Sanitisers

Can be used instead of a detergent and disinfectant but used as a two-stage process - to first clean a surface and then re-applied and left for the stated contact time to provide a sanitising effect and to kill bacteria.

Cleaning equipment

Always keeping a good supply of cleaning equipment and products is essential for food production for regular cleaning and for unexpected spills. You will need to ensure that you have enough equipment so you are not for example using the same sweeping brush for exterior areas as your production area, and your cleaning cloths can be used once or can be cleaned effectively after each use. It may be useful to have colour-coded cleaning equipment to clearly identify which equipment should be used where.

Cleaning in rented or multi-user spaces

If using a rented space, it may be useful to find out if there are cleaning schedules in place, what they include and whether owners clean in between each hirer use or have a process you need to follow at the end of your hire time. As part of your checks before starting production, you may want to clean the kitchen yourself to be sure that you are starting with a clean space to your own standards and using your own cleaning equipment.

References and further information

<https://www.food.gov.uk/business-guidance/cleaning-effectively-in-your-business>

<https://www.nisbets.co.uk/ultimatekitchencleaningguide>



Health & Safety

Working with volunteers, running a food business and preparing food for others whether for sale or donating through an organisation or charity can come with legal responsibilities for the food operator. This helpsheet gives a brief overview health & safety and insurance requirements, but as all food operations vary, advice should be sought from your own insurance company, the Health & Safety Executive (HSE) for manufacturing or your local authority (EHO) for hospitality / catering on what health and safety measures you should have in place in your own food operation.

When does Health & Safety law apply?

If your organisation has one or more employee(s) then the Health and Safety at Work etc. Act 1974 applies to you as a food business operator and your organisation. If you have 5 or more employees then a written health and safety policy needs to be in place for the organisation. Similarly, requirements for documented risk assessments relating to significant hazards will also apply in these cases. If you are an organisation or group without employees then health and safety law does not apply, although you should always be sure to assess the risks of your activities and what can be done to minimise risk to keep you and your volunteers safe. HSE states: 'The job of volunteering generally doesn't fall within the scope of health and safety law unless it is done through an organisation that is an employer...Similarly, a volunteer... will not have duties under the Health and Safety at Work etc Act 1974 other than the duty not to misuse or interfere with items provided for health and safety reasons.'

In practice, many businesses that do employ staff in any capacity may choose to provide a health and safety policy and documented risk assessments, even when they do not meet the threshold of 5 employees, as a point of best practice.

Insurance and notices

Where staff are employed, there is a requirement to be insured to cover employers' liabilities and it may also be appropriate to include public and product liability insurance. A copy of the employers' liability insurance certificate and HSE poster 'Health & Safety – What You Should Know' should be displayed in workplaces. As an alternative to the H&S poster, providing leaflets for staff is an accepted alternative.

Premises

Reviewing potential health and safety issues when taking on or hiring a new premises is an important step to ensuring that premises are appropriate for your activities and safe for your team to work in. Some of the things you will need to consider is whether it is big enough for your team to work in, is there adequate ventilation including carbon monoxide and smoke alarms, does it have adequate welfare facilities for your team and is the building in good clean condition and able to maintain reasonable working temperatures for staff and volunteers.

Electrical services, equipment & PAT testing

Fixed electrical services are required to be 'safe and free from danger' and many insurance companies and a linked British Standard (BS EN 7671) indicate inspection of services as best practice. If you are bringing any of your own electric equipment into a hired space, it is a good idea to ensure that any items have had a Portable Appliance Test (PAT) to confirm their safety and this is something that is often required when hiring kitchens. Although PAT testing is not a legal requirement, 'The Electricity at Work Regulations 1989 require that any electrical equipment that has the potential to cause injury is maintained in a safe condition' (HSE) Therefore it may be good practice to have a PAT test carried out on any electrical equipment by a competent person or electrician.



Health & Safety

Fire safety

Check what is covered by the building owner and what you may need to provide yourself. Your local fire and rescue service may be able to offer advice. If renting a space, check that there is fire provision and equipment is regularly checked and fire equipment will be able to both enable an alarm to be raised and for people to escape the building. There are requirements for a fire risk assessment to be prepared which will confirm the adequacy of fire arrangements and precautions applicable to the premises and this is the responsibility of persons in control of buildings. Consider any fire risk equipment you may be using and include on your own risk assessment, together with familiarity of emergency escape arrangements and escape rehearsals.

Manual handling

Food production can involve a lot of lifting and moving of heavy produce and carries a risk of injury from poor lifting technique. Assess the lifting activities that need to be done and ensure that you have enough people to be able to carry large loads, and ensure you 'consider the task, the load, the working environment and individual capability' (HSE) of your team. It is sensible to periodically run through the safe handling methods and also ensure that appropriate lifting equipment is made available to staff.

First Aid

HSE will not tell you what first aid provision you need in your organisation, it is down to you to determine this yourself. Voluntary groups with no employees are not bound to do a first aid assessment, although it is clearly good practice. A first aid assessment will help determine if you need a formally qualified first aider, or an appointed person and then then help decide what first aid equipment you may need. It is also an idea to have a printed sheet with full address and postcode and a 'what three words' location of your production or work space in case of needing to contact emergency services.

Occupational health

There are often health consequences that can occur as a result of different type of work within workplaces and employers are required to apply appropriate controls and training to ensure workers health is not affected. This includes consideration of chemicals and substances hazardous to health, working hours, work-related stress and mental well-being and ergonomics (staff comfort when interacting with work), together with general welfare. The HSE provides some really good support to undertaking assessments and this can be accessed at <https://www.hse.gov.uk/simple-health-safety/risk/index.htm> .

Risk assessments

For safety and occupational health issues where there is a significant hazard to staff, risk assessments will need to be considered and written down where 5 or more staff are employed. The assessments need to be 'suitable and sufficient' in considering significant hazards, who may be affected, existing control measures and whether any additional measures may be needed.

Lone working

Lone workers also come under health and safety provision. If you have lone workers in your organisation, you should include this in your health and safety risk assessment. HSE provide further advice on this online.

Links

<https://www.hse.gov.uk/catering/index.htm>

<https://www.hse.gov.uk/simple-health-safety/index.htm>

<https://www.hse.gov.uk/pubns/cais24.pdf>

<https://www.hse.gov.uk/msd/manual-handling/index.htm>

<https://www.hse.gov.uk/electricity/faq-portable-appliance-testing.htm>

<https://www.hse.gov.uk/pubns/indg73.htm>



Insurance

Generally insurance requirements will fall into 3 different areas - Public Liability, Employers' Liability and Product Liability. This sheet contains information taken from the Association of British Insurers, and will review the different types of insurance to help determine what cover you may need when running a community catering operation or working with volunteers.

Public liability

Public liability insurance covers the cost of claims made by members of the public for incidents that occur in connection with your business activities. Public liability insurance also covers the cost of compensation for: personal injuries, loss of or damage to property and death.

Policies vary from insurer to insurer, but most public liability policies cover you for: incidents that occur on your business premises, incidents that take place off-site, at events or activities organised by your company. If you have visitors to your premises, attend or hold events you may require public liability insurance.

Employers' liability

Employers' liability insurance covers the cost of compensating employees who are injured at or become ill through work.

Do I need it?

If you are an employer you are legally obliged to have employers' liability insurance and you can be fined if you do not have appropriate insurance. Employers' liability insurance usually covers the cost of compensation and any associated legal fees. Even if you have workers who are part-time, students, or temporary contract workers, employers liability insurance is still required. Volunteers can of course bring a claim against your organisations too so take advice on what and who your insurance covers. Up to date employers' liability insurance certificates are required to be displayed in all workplaces.

Product liability

Product liability insurance covers you if someone falls ill from a product you have made and they make a claim against you. This could include but is not limited to someone having an allergic reaction or getting food poisoning from a food you have supplied them. If you are giving away a food product or selling one, then product liability should be considered essential. It should be noted that as a supplier, the insurance companies will expect appropriate diligence in accepting product liability claims and those operating food businesses are expected to follow reasonable controls applied to their business.

Contents insurance

If you are hiring a premises, or are mobile, you may also want to insure your equipment for accidental damage or theft. Insurance companies will want to make sure that you have carried out all due diligence in your operations before paying out on a claim and that you are running a legal and safe organisation. So, ensure that before starting your business, you know what your obligations are and have researched and risk assessed the operations and requirements of your business.

Links

Association of British Insurers: <https://www.abi.org.uk/about-the-abi/about-us/>



Risk assessments in food production

Before you start production a risk assessment of safety and occupational hazards should be carried out to assess any hazardous or potentially dangerous activities (as may affect staff and third parties visiting premises) that could pose a risk to health or cause injury to others. When any hazards are identified, you should work out how to reduce the risks or eliminate them entirely from your production process or workspace.

The health and safety executive give the five steps to risk assessment as:

Step 1: Identify the significant hazards relevant to the business.

Step 2: Decide who might be harmed and how (not just your employees, but others that may be affected by your work activities).

Step 3: Evaluate the risks, consider existing control measures and decide on additional precautions

Step 4: Record your findings and implement them.

Step 5: Review your risk assessment and update if necessary.

Risk assessments are required to be recorded where five or more staff are employed. Risk assessments do not have to be perfect documents as the requirements state that risk assessments must be 'suitable and sufficient'. Further detailed information on each of these points and how to address them can be found in the links below.

Do not confuse these risk assessments relating to health and safety of personnel, with those required in relation to food safety, which will be controlled by Safer Food Better Business (SFBB) or bespoke HACCP Plans.

Be sure to create your own risk assessments and not copy others or use standard risk assessments. Your risk assessment should be a 'living document' and tailored to your own operations and updated at least annually or whenever there is a change, or a new risk is identified. They will always need to be reviewed in response to incidents and review at regular frequencies is deemed to be best practice.

Risk assessments and Covid-19

Covid-19 is still having an impact on workplaces with high numbers of absences due to staff illness and is scoped within health and safety requirements for businesses. As a result, you should consider including Covid-19 precautions such as social distancing, mask use at service time and extra cleaning measure to protect your team. This will also be useful in case of future pandemic events that evolve quickly.

Links

<https://www.hse.gov.uk/simple-health-safety/risk/foodprep.pdf>

<https://www.rospa.com/rospaweb/docs/campaigns-fundraising/hse-five-steps-to-risk-assessment.pdf>

<https://www.hse.gov.uk/simple-health-safety/risk/risk-assessment-template-and-examples.htm>

<https://www.hse.gov.uk/simple-health-safety/risk/foodprep.pdf>



Sourcing ingredients

Where you source ingredients will have an impact on your costings and operational procedures. This sheet looks at the advantages and disadvantages of sourcing from different places and suppliers.

Local and seasonal produce - straight from the grower or farmer

If you can source local produce direct you will potentially be able to make savings by cutting out wholesalers or transport costs and support another local business in your community! You will also benefit from the freshness of produce and promotional benefits of using local produce in meals so it is worth exploring what is available around you.

Wholesaler delivery

Setting up an account with a fruit and veg wholesaler can often be helpful as you may be able to pay at the end of the month (usually subject to a credit check). You will have access to a wide range of produce and be able to place small and regular orders. One disadvantage is that traceability of fruit and veg can sometimes be complicated as wholesalers change growers and producers frequently to meet demand e.g. you may be planning to buy British grown produce and then the wholesaler changes to produce that has come from abroad without you being notified.

Cash and Carry

A good way to access dry ingredients, equipment and packaging at discount prices. You will need to prove that you are a business or charity to set up an account.

Retailers

Even moderate-sized processors can use raw materials from retailers and for multiple retailers, all suppliers are required to be certified and to standard. One disadvantage: it is not easy to obtain product specifications from a multiple retailer.

FareShare or donated foods through charities

Using donated foods is also a possibility but this does come with some issues. If you are manufacturing a ready meal to a set recipe you cannot guarantee a regular supply of the same item. Also check use by dates on donated products in case they will go out of date before your ready meal product will. However if you can make use of donated products, it will save a considerable amount of money.

Gleaned vegetables

Gleaning groups are usually run by volunteers who pick unharvested vegetables left by farmers. This food is then donated to charitable organisations so it is another way of sourcing fresh and seasonal vegetables. There is however the same problem of regular supply if following a dedicated recipe. Usually gleaned vegetables come straight from the fields and will not have been quality controlled, washed, or checked for pests so you will need to include these steps in your manufacturing processes and have a dedicated washing area and cleaning processes to deal with any soil and pests that may contaminate your production area.

Local independent butchers or fishmongers

If you are using meats in your ready meals it is worth investigating local independent butchers, fishmongers, or direct with farmers if you are located close by. Locally supplied raw materials offer a marketing advantage as consumers see the benefit of supporting the local community. Local suppliers will also have a wealth of knowledge and be able to advise on cheaper cuts for your meals or prepare to order as well as supplying little and often. Ultimately, fresh and good quality raw materials will enable longer shelf life for your products and also ensure high levels of consumer satisfaction. Supply chain vulnerabilities and fraud are much more prevalent with a long supply chain and imported products and there are advantages with local suppliers where they may limit supply chain vulnerability.

References and further guidance

<https://fareshare.org.uk/>

<https://www.nisbets.co.uk/importance-of-locally-sourced-ingredients>

<https://gleaning.feedbackglobal.org/>



Considerations for using donated ingredients

Using free, donated or alternative sources of ingredients can keep costs down and reduce the environmental impacts of food waste but can have implications for food safety and manufacturing processes of your products.

Consistency and regular supply

Donated food comes in fluctuations and supply cannot always be predicted, both in terms of what is on offer and what amounts you'll receive. Planning for the supply of products using donated produce can be problematic especially when retailers and customers may expect a certain product or recipe and your packaging is already printed.

Product quality and dates

Donated food may be coming towards the end of its life. If you are selling a fresh ready meal you need to be sure that the produce and ingredients you use will be in edible condition on the day that it reaches its Best before / Best before end date or Use by date. Even if you are freezing meals immediately after production, safety and quality standards still need to be maintained and ingredients should be in good condition if you have used donated produce. The Food Safety Act 1990, and regulations thereunder do not exclude foods that are donated, given away or repurposed as all legislative food safety requirements will continue to apply.

Recipe considerations

Consumers buying products may expect a level of consistency of taste and appearance, so keeping your recipe the same for each batch when using donated foods can be quite complicated. Consider using it as a marketing opportunity to demonstrate and say that your products may vary in taste and texture as a result of using produce diverted from waste.

Allergens

The presence of allergens can vary in mixed dry items such as curry powders. If for example you are using one brand of curry powder you have been donated and then change to another brand, check the ingredients very closely to ensure that you are not adding a new allergen and that your recipe information on the packaging is correct. The requirements for pre-packed foods to include allergen details for the consumer will also continue to be required.

How to get around inconsistency in supply

If you have an abundance of a vegetable that you use, consider freezing in advance to use in production later. Have adaptable packaging! Consider having packaging that can be adapted or updated easily to accommodate recipe changes. This may include using labels on the packaging. For example, Tamar Grow Local came up with a name for their ready meals called *Seasonal Suppers*. The packaging was designed to accommodate small runs of different meals using gluts of seasonal vegetables. Using a sticker system the name of the meal, ingredients, nutritional info and traffic light labelling could all be adaptable and changeable and then stuck to the branded sleeve. Although quite time intensive to create the different labels, it was cost effective and could be easily adapted.

Be aware that many highly perishable foods carrying a 'Use By' date, once frozen, will need to be relabelled with a 'Best Before' date when supplied as a frozen product. Also, where meats and meat products are supplied fresh and have been previously frozen, this must be marked. The date of freezing where this is required by legislation, for example for meat, meat preparations and unprocessed fishery products must also be marked on relevant foods. Remember that in freezing products, bacteria are not killed. Freezing and defrosting of foods will inevitably cause some growth of bacteria.

Hygiene

Donated vegetables fresh from the farm may come in with soil, insects and grasses mixed in. Ensure that you have the space to deal with this and effective cleaning policies in place to avoid any cross-contamination. Segregation of raw and ready-to-eat foods must always be assured for fresh and frozen packaged products and the legal requirements to ensure high risk (ready-to-eat, highly perishable foods) are maintained in storage below 8°C (ideally between 1 and 4°C) and frozen foods below -18°C will continue to apply.

Links and further guidance

<https://www.allotment-garden.org/recipe/freezing-produce/freeze-information-blanching/>



Temperature: Cooking & Storage

As a food producer or business owner, it is essential to know about safe methods and cooking temperatures to ensure that the food you are serving will be free of any bacteria that can cause illness as a result of under-cooking.

Cooking temperatures

The Food Standards Agency states: 'Bacteria usually grows in the 'Danger Zone' between 5°C and 63°C. Below 5°C, growth is stopped or significantly slowed down. Above 63°C the bacteria start to die. Time and temperature are both important because proteins need to be heated up for a long enough time for them all to be broken down.'

Food.gov.uk offers a number of resources around cooking temperatures and safe methods. There may also be special advice around cooking with meats and pates. Food Hygiene courses also cover cooking temperatures.

Food.gov.uk says that: 'Standard advice is to cook food until it has reached a core temperature of 70°C for 2 minutes. The other time and temperature combinations are:

- 60°C for 45 minutes
- 65°C for 10 minutes
- 70°C for 2 minutes
- 75°C for 30 seconds
- 80°C for 6 seconds

These provide equivalence of destruction for defined pathogens to include Salmonella and Listeria and are validated by industry experts. Cooking food at the right temperature and for the correct length of time will ensure that any harmful bacteria are killed. You can check the temperature of a food, using a clean thermometer probe. Insert the probe so that the tip is in the centre of the food or the thickest part.' There may be benefit to cooking foods at lower temperatures, but for a longer time, in terms of flavour and texture and these techniques are commonly employed in sous vide preparation systems used in catering and by some manufacturers.

Thermometers, probes and calibration

A thermometer probe that is able to give an accurate reading is an essential piece of kit in food production. A probe is used by placing the metal probe section into for example the centre of a pan of soup, or the thickest part of a piece of meat to get a reading of the inside temperature of the food item during cooking. Infra-red thermometers are also available for use in kitchens, however they only measure the surface temperature of items and therefore are not suitable for us use to determine if items are cooked through.

Calibration

When your thermometers are not accurate you risk the chance of causing food borne illness through inaccurate readings. You can calibrate your thermometers in-house using iced water and boiling water to do this - see instructions on the links below.

Ensuring your thermometers are working correctly is vital and it is an idea to obtain a calibrated and certificated thermometer to ensure accuracy. There are no definite rules on how often to verify the accuracy of a thermometer but when deciding, take into account how often you use the thermometer and assess how risky the product is to health if there was a false reading. Best practice would be to do a boiling / iced water verification on a regular basis such as weekly. If your thermometer does not read 100 degrees celsius for a boiling water calibration, or zero for an iced water calibration you will need to adjust or recalibrate the thermometer.

If you have a thermometer that cannot be adjusted or calibrated and it is wrong, you should remove the thermometer from the production area and replace immediately. When buying a thermometer probe, check on the label to see if it can be adjusted, or is supplied with a calibration certificate. An annual external calibration of thermometers by a professional company would also be advised to know that your own methods are working and you are working with accurate readings. Larger companies often have a single 'reference thermometer' that is calibrated annually and other units are checked against this.



Temperature: Cooking & Storage

Record your readings

Recording your verification readings will show any external auditors, EHO officers or potential customers that you are taking food safety seriously.

Temperatures and HACCP

In food manufacturing, recording temperature during certain steps of the process would act as a one of your critical limits at control points in your HACCP plan. (Also see HACCP information sheet 1.12)

Links

<https://www.food.gov.uk/business-guidance/cooking-safely-in-your-business#cooking-temperatures>

<https://www.foodsafety.com.au/blog/calibrating-probe-thermometers-in-a-commercial-kitchen>

Thermometer Calibration - Hot Cold method Video: <https://www.youtube.com/watch?v=VpJULQICiGM>

Temperature: Cooling & Freezing

Cooling, refrigerating and freezing cooked food products carries food safety risks as much as a cooking process. As a food producer it is your responsibility to maintain the safety of your food at all stages of preparation. Cooling food product down quickly along with correct storage methods reduces the chance of harmful bacteria forming. This sheet gives a brief overview of the guidelines for chilling and freezing, but should not be a replacement for formal food hygiene and HACCP training.

Whilst cooking will destroy pathogenic bacteria in their vegetative form, even if cooked food is carefully handled, spores that survive the original cooking process may survive and if cooling is insufficient they may be able to germinate and cause food safety problems. Heat tolerant yeasts and moulds and food spoilage bacteria can also survive the standard cooking process. For this reason, fast and effective cooling will be an important control and can also give products a longer shelf life. The most effective method (albeit additional expense) is blast chilling, but other methods can include use of iced water or water baths for containers, running through cold water, stirring and transfer to smaller or shallow containers. In catering, a best practice point is to not cool food at ambient temperatures for longer than 90 minutes before transfer to refrigeration. That said, it is poor practice to put hot food in standard refrigeration, although larger chillers may have suitable refrigeration design capacity.

Temperature Danger Zones

The Food Standards Agency states: 'Bacteria usually grows in the 'Danger Zone' between 8°C and 60°C. Below 8°C, growth is stopped or significantly slowed down. Above 60°C the bacteria start to die. Time and temperature are both important because proteins need to be heated up for a long enough time for them all to be broken down.'

Cooling

It is important to cool food as quickly as possible prior to storage in order to prevent the growth of bacteria. Ideally this should be cooled to less than 8 degrees celcius within 90 minutes. Food can be cooled quickly by a variety of methods:

- Cover pans of hot food and move to a colder area (e.g. store room or larder).
- Stand them in cold water.
- Add ice to the water you stand the food in.
- Stir regularly while it is chilling.
- Divide food into smaller portions.
- With larger food items such as joints of meat, cut them in half or break them down.
- Spread foods such as pasta or rice flat out on a tray.



Temperature: Cooling & Freezing

Never put hot food in the fridge or freezer otherwise it will potentially heat up your appliance and warm up other foods that are stored adjacently. Efficient cooling can provide a product with a longer shelf life than a product that is not effectively controlled during cooling.

Freezing

If you are freezing cooled foods, it is important to ensure that your freezer is working effectively by checking its temperature. Freezers should be operating at temperatures at -18°C or below. Freezing straight after cooling can help ensure freshness and maintain the nutritional content of the foods.

Remember to:

- Suitably package and cover your foods
- Label everything with date of production, date of freezing and use-by date, the product name, ingredients list and allergens to avoid any cross contamination.
- Never guess what a product may be if it is unlabelled in case it contains allergens. Remove it from storage and dispose.

Similar protocols apply to fast freezing. In particular, inefficient freezing through prolonged freezing can give rise to ice crystals in products and is detrimental to product quality, although once below freezing, microbial growth is likely to be insignificant.

Defrosting

The best way to defrost foods is overnight in a fridge. Ensure that defrosting foods are not touching any raw foods to avoid cross-contamination. You can also use a microwave on defrost setting for smaller items. Never leave items out on the side to defrost in case they enter the danger zone temperatures.

Why is it important to chill and defrost your food properly?

The Food Standards Agency states: Some foods need to be kept in the fridge to help slow down bacterial growth and keep them fresh and safe for longer. Generally, the colder the temperature the slower bacteria will grow, but cold temperatures don't stop bacteria growing altogether (for example, *Listeria monocytogenes* can grow at temperatures below freezing).

Re-heating & hot holding

When re-heating food to serve, it is important to remember, that re-heating isn't just warming up a food product, it should be treated as re-cooking and be heated to a high enough temperature so that all of the food is steaming hot through. **The core temperature should be a minimum of 75°C for 30 seconds.** Once food has reached the correct temperature it should be served immediately or put into hot holding e.g. a bain marie to avoid the temperature reducing and falling back into the temperature danger zone. **Temperatures for safe hot holding are required to be above 63°C .**

Links

<https://www.highspeedtraining.co.uk/hub/safe-temperatures-for-food-storage/>

<https://www.food.gov.uk/sites/default/files/media/document/chilling-down-hot-food.pdf>

<https://www.food.gov.uk/sites/default/files/media/document/reheating.pdf>



Allergens

Allergen control is a vital in food production to protect those who may be allergic from potentially life threatening harm. Allergen control should be ingrained in staff and volunteer training and production activities to ensure you are producing and serving a safe product. The following is a brief overview and does not contain all of the information you will need to control allergens in your production. Further reading and guidance can be found through the links below.

Allergens

The Food Information for Consumers and the Food Standards Agency identify 14 allergens that are found in foods and are required to be labelled where present. **The 14 allergens are:**

1. Celery
2. Cereals containing gluten (such as barley, wheat and oats)
3. Crustaceans (such as prawns, crabs and lobsters)
4. Eggs
5. Fish
6. Lupin
7. Milk
8. Molluscs (such as mussels and oysters)
9. Mustard
10. Peanuts
11. Sesame
12. Soybeans
13. Sulphur dioxide and sulphites (if at a concentration of more than ten parts per million)
14. Tree nuts (such as almonds, hazelnuts, walnuts, brazil nuts, cashews, pecans, pistachios and macadamia nuts).

Information to consumers

There have been a number of recent changes in the allergen labelling regulations and you need to ensure you keep up to date with any changes. Allergen information should be readily available to your customers to include any of the 14 allergens that are added as part of the recipe and also possible allergen traces, in the form of 'May contain traces of'.

One of the recent changes relates to 'Natasha's Law' and has meant that pre-packed products for direct sale to the consumer (such as sandwiches and bakery products which are packed on site before a consumer selects or orders them or fast food packed before it is ordered, such as a burger under a hot lamp where the food cannot be altered without opening the packaging) are also required to have a label with the name of the food and the ingredients list with the 14 allergens emphasised within it. For food that is pre-packed, allergens should be easy to find on a label and accompanied by a full ingredients list.

An example of how to list allergens on your product

Ingredients: Water, Carrots, Onions, Red Lentils (4.5%) Potatoes, Cauliflower, Leeks, Peas, Cornflour, **Wheat flour**, Salt, **Cream**, Yeast Extract, Concentrated Tomato Paste, Garlic, Whey (**Milk**), Sugar, **Celery** Seed, Sunflower Oil, Herbs and Spice, White Pepper, Parsley.

Allergen Advice: for allergens, see ingredients in **bold**

On occasions and when bold typing is unclear, highlighting using UPPER CASE text may be used as an alternative to emboldened text. For food that is given away or sold at the point of serving, for instance in a cafe or restaurant you should still provide allergen information, and it is useful to have signage available that requests that customers ask for allergen information at the point of ordering, or list in a menu, or hold a folder with all ingredient and allergen information. A folder available to all staff can also be a point of reference for all ingredient and allergen information to be available and be sure to update and check on this information regularly in case of recipe or ingredient changes that may affect your allergen information.



Allergens

Allergen traces

In deciding what allergen labelling is needed, in addition to those allergens deliberately added, businesses must also risk assess the need to include precautionary warning in the form of 'May contain traces of...'. Normally, traces could arise from those found within raw materials that may be listed in ingredient specifications, or cross-over during preparation. The first priority will be to avoid the need for trace labelling, but if there is a foreseeable risk of cross-over, precautionary labelling may be needed.

'Free-from' products

Where products are labelled as 'free from' or include a named allergen, such as 'gluten-free', careful consideration is needed to ensure that robust controls are in place. There is also an expectation from the authorities that there is a rolling programme of testing to validate such claims. This will involve testing of products to confirm absence of the stated allergen, on an occasional basis.

Training

All staff and as good practice volunteers should complete allergen training.

Free allergen training is available on the food.gov.uk website at www.allergytraining.food.gov.uk

Changes since Brexit

Many regulations around allergens and food law are linked to European legislation. The FSA are currently updating the UK's food legislation as a result of Britain leaving Europe and this may affect allergen and wider food law. Check back regularly on the food.gov and the FSA for updates.

Links & further reading

<https://www.food.gov.uk/business-guidance/allergen-guidance-for-food-businesses#allergens>

<https://www.food.gov.uk/business-guidance/allergy-training-for-food-businesses>

Managing & handling allergens in the production space

Layout of kitchen

When choosing a production space to rent, or designing your own production space, it is important to consider if your production flow around the space will enable you to manage allergens effectively. For example, this may include having a dedicated prep space where you use wheat ingredients, or being able to have a separate storage space for ingredients containing allergens. Many businesses also fully segregate peanuts, tree nuts and sesame.

Cleaning processes

Cleaning processes should be linked to allergen control and their effective management. If renting a premises, this may include doing a full clean before production, as you may not know how the space was used previously and whether it was cleaned effectively to eliminate any allergens or sources of cross-contamination. Your cleaning and sanitation processes should be robust, regular and consistent in how they are carried out to remove any traces of allergen products.

Cleaning cloths can be a source of cross-contamination of allergens - use disposable cloths where possible. Some larger businesses also use specialised allergen swabs that detect traces of a particular allergen to demonstrate effective removal following cleaning.



Managing & handling allergens in the production space

Staff training

Staff should be trained in allergen awareness and in your cleaning processes and especially the order of cleaning process, which cleaning products to use and which cloths or paper towels to use. There are many allergen posters and resources to download for free and these should be available to view for staff and volunteers.

Staff should be trained in effective hand washing between tasks or using allergenic ingredients. Staff and volunteers should also be told the importance of not guessing whether a product contains allergens and know where or how to find definitive information.

Suppliers

Ensure that any ingredients you use have a full ingredients list to determine whether they contain allergens e.g. a powdered soup stock. Request specifications and further information on possible traces for other allergens if you are unsure.

Ingredient storage

If you transfer or store any ingredients out of their original packaging, e.g. flour being transplanted from paper bag into a plastic tub then the container should be labelled clearly as containing that ingredient with a reminder that it is an allergenic ingredient. That container should be dedicated to that ingredient and not changed to hold other ingredients to avoid cross-contamination. You may also want to have a dedicated shelf, storage box, or cupboard to store these ingredients away from others that do not contain allergens. Dedicated, allergen labels (often coloured purple) are used in many businesses to highlight allergen presence to staff.

Production order

If you are preparing multiple products on a production run, for instance, a main course and a pudding for a community lunch, you may want to consider the order of preparation so that you are preparing any foods without allergenic ingredients first, before any allergen containing foods have entered the production space, or have been opened. Ensure a complete clean down is carried out in between preparing different products.

Different equipment & utensils

Where possible use separate pots, pans, chopping boards, knives and spoons and separate preparation areas for allergen and allergen free foods. If not possible, thoroughly clean equipment/ utensils/ surfaces between uses (dishwashers are often more effective than hand-washing) Having dedicated or colour coded utensils and equipment is also a way to control allergens in the kitchen.

Labelling

If you are adding a label to any outside packaging, Check your labels and check again! Many businesses have a number of different people to double-check for errors. Ask yourself if it is the right label for the right product and if the label is still current and up to date to show any allergens, or changes in recipes.

Links

<https://diversey.com/en/blog/effective-allergen-management-and-control-food-manufacturing>
<https://www.lancashire.gov.uk/media/906815/guidance-control-of-allergens-in-the-kitchen.pdf>



Batch Codes

It is a legal requirement for all food to be traceable to batches and this can be undertaken by use of a batch code on food labels, or use of a 'best before' or use by date on products, which will depend on the type of food. Marked codes can help you trace a problem if you have a complaint or need to recall a product from sale and help you to comply with the law.

What the law says

'Food Business Operators (FBOs) are responsible for the safety of the food which they produce, distribute, store or sell. In particular FBOs must 1. *not place unsafe food on the market*, 2. *comply with food law in the production, distribution, storage and sale of food*, 3. *be able to trace the suppliers of their food and the business customers to whom they have supplied the food (i.e. one step back and one step forward)* and 4. *remove unsafe food from the market should a food safety incident arise.*'

FBOs should therefore have adequate traceability and food withdrawal/recall systems in place as part of their Food Safety Management System to fulfil these requirements. FBOs may wish to seek advice from the enforcement authority with whom they are registered or approved, and/or their Primary/Home authority for assurance that any system developed for this purpose is appropriate and compliant.'

Taken from: <https://www.food.gov.uk/sites/default/files/media/document/food-traceability-withdrawals-and-recalls-guidance.pdf>

What is batch code or date mark for traceability?

A batch code is a unique number or combination of numbers and letters that identifies individual pre-packaged products or units that are made in one production run. The batch code may relate to a production date, piece of machinery, or a production team member. It can also be called a lot number.

Where no batch code is included, traceability can be assured by the use of date codes linking to an individual date of production. For highly perishable foods, the code will refer to 'Use By 25th December' and clearly link back to a production batch. Similarly, for other foods with a marked date 'Best Before 25th December, 2023' this will also link back to an individual production date and are applied to foods with a shelf life up to 3 months. For products that have a shelf life of between 3 and 18 months, businesses can use a 'Best Before End December 2023' and will have to also include a lot or batch number to be able to trace to an individual production date. Similarly, with longer life products of over 18 months where 'Best Before End 2023' marking is applied, other codes will also be needed.

Format of batch codes

There are no hard fast rules for the format of a batch code, but date is the most common and the most important thing is that it is understandable and relevant to your organisation.

Example

Tamar Valley Apple Co-op uses a Batch no of o8221. The o8 is the number of the batch (100 bottles per run) in a day of pasteurising runs. The number 2 refers to pasteuriser number 2, that the particular batch was pasteurised in and the 21 refers to the year that the juice was made in 2021.

Many companies mark batch codes using a Julian date calendar based on the day of the year and year date, such as 35923 which denotes 25th December, 2023 production date as 359th day of the year.



Batch Codes

How a batch code can help you if there's a problem

If a complaint or safety issue with your product is raised a batch code can help you refer back to records to be able to trace where products from a particular production day or run has gone, how it can be recalled or withdrawn from sale to prevent harm to health, or to inform customers to limit damage to reputation. This can also link to the actual batch numbers for ingredients that were used on the production date.

Keeping a log of customers who receive each batch codes

When sending out products to retailers, keep a record to record which batches have gone to which customer so in the event of needing to recall the products they can quickly be traced and any issue brought quickly under control.

What information should a batch number refer back to?

Keeping records from your production run that also lists the batch number is important to be able to help trace a problem if an issue arises and is important to demonstrate a robust food management plan.

Date of production

For a manufacturer, batch numbers of ingredient raw materials and packaging will be recorded and are therefore available as linked to each production date. Should there be a defective raw material batch, or production issue when the product is made, these systems will enable tracing the customers who received the defective batch and enabling withdrawal or recall.

By linking to the date of production, linkage is possible to confirm team members and supervisors working on the day, ingredient batches and suppliers, allergens in recipes and any recipe amendments from the production day, and the time of day made. Any taste notes, linkage to equipment, temperature checks during production and any chilling methods and records can be assured. There will also be a record of how many units were made in that particular batch and how many cases.

Where to include a batch number on a product

There is no legislation around where a batch number should be situated on a product, but it should be legible and easy to identify. If there is an outer case that products are delivered to then the batch code should be repeated on the outer case.

Further information

<https://www.highspeedtraining.co.uk/hub/traceability-of-food/>

<https://www.highspeedtraining.co.uk/hub/food-traceability-template/>

<https://www.food.gov.uk/sites/default/files/media/document/food-traceability-withdrawals-and-recalls-guidance.pdf>



Record Keeping, SFBB & HACCP

What records do I need to keep as a food business?

Food Businesses need to be able to demonstrate safe cooking processes and cleaning procedures and these should be written and be available for inspection by an environmental health official. The level of detail for the records is based on the concept of 'due diligence and reasonable precautions' in regard to complexity and therefore will be proportionate in terms of the level of detail as based on the size and nature of the organisation.

To make the process easier, the Food Standards Agency have produced a pack for small retailers and caterers (with some applicability to manufacturers) called Safer Food Better Business (SFBB). SFBB is free to download and print off. In this pack you can write up your own procedures in the Safe Methods section, using your own equipment, cooking and cleaning products. This is a good way to organise day-to-day activity, record any problems and maintain supplier information and a diary record is included for this purpose for start up and closing checks, daily recording of untoward events and also includes a four-weekly review. Food safety and hygiene regulations say you must be able to show what you do to make and sell food that is safe to eat and have this written down. The SFBB pack helps you do this.

Who fills in and maintains the SFBB pack?

SFBB should be treated as a 'living' document and updated on a regular basis by the food business operator or person who is responsible for the day to day running of the premises and production of food. As SFBB contains many elements such as cleaning, suppliers, cooking methods and storage, you may need to include other people from your team to ensure it is filled in accurately and any changes to procedures are updated regularly.

What is HACCP?

HACCP, which stands for Hazard Analysis and Critical Points is a tool for food manufacturers to demonstrate the system and process they use for creating a safe food product. It is a written document which can be used by retailers, manufacturers and caterers that outlines the different stages of their own production processes and the associated control of hazards through monitoring activities within the business. It also establishes limits or points in the process where the product's safety may become compromised and cause a problem. This is called a critical control point in the process. Essentially, the HACCP plan demonstrates that the food producer knows what to do in when a problem arises and how it will be rectified.

A HACCP food safety management system is based on 7 key principles:

1. **Conduct a hazard analysis which will involve identifying hazards at each step and also evaluating control measures to reduce or eliminate hazards. Hazards will normally include a scope for microbes, chemical, physical and allergenic hazards.**
2. **Determine where Critical Control Points (CCP) apply within the process.**
3. **Establish critical limits which are the boundary between what is acceptable and unacceptable.**
4. **Establish a system to monitor control of the CCP**
5. **Establish corrective action, should limits be breached and enable control to be regained.**
6. **Establish procedures for verification to confirm the system is working**
7. **Establish documentation.**

(Continued on page 2)



Record Keeping, SFBB & HACCP

(Continued from page 1)

To establish a HACCP system and ensure food safety, each of these principles must be followed, monitored and reviewed regularly. As an introduction to the HACCP plan, pre-requisites should be established. Pre-requisites include things such as cleaning schedules, waste management, pest control and staff training - all things that are the foundations of operating the business and premises safely. Normally the scope of the plan is defined, together with a product description and statement of the intended use of products. Next, process flow diagrams will be established to illustrate the flow of manufacture from raw materials to final supply and based on generically similar product groups.

HACCP plans should be reviewed and updated regularly or immediately if there is a change in the operations. This can include recipe amendments, cooking procedure or times, or when a piece of manufacturing equipment is updated. It is also useful to test your plan to make sure that it is accurate and reflects what is happening on the production floor.

When do I need to have a HACCP and how to get started?

The UK government states that 'If you run a food business, you must have a plan based on the Hazard Analysis and Critical Control Point (HACCP) principles.' (<https://www.gov.uk/food-safety-hazard-analysis>) It is advisable to do some research and speak to your local EHO to see whether a full HACCP plan is required, or if you can use SFBB. If HACCP is new to you, an online or in-person training course is a good way of finding out more and to ensure that you will be able to cover all the aspects of developing a useable plan for your food operation. However, some online courses are unaccredited and are unlikely to provide the necessary competence and therefore care is needed in obtaining the right level training course.

Keeping records

Whether you use SFBB and or a HACCP plan you will need to complete some records such as production diaries, temperature check sheets for fridges and freezers and completed cleaning schedules. Key processing measurements and values will also need to be recorded, such as cooking and cooling temperatures as part of the overall plan of control.

There is no definite time to keep hold for and it will vary between businesses. Good practice is to keep records for at least the shelf life of the product and then an extra defined period e.g. an extra 12 months is normally specified in certification schemes, such as SALSA.

It is important to understand that if your food safety systems are challenged by a serious complaint or alleged food poisoning problems, the records will help to demonstrate that all reasonable precautions and due diligence have been followed and records will act as a defence in the event of a challenge. As such, those completing records need to take this responsibility seriously and provide diligent and accurate information.

Further information

<https://www.food.gov.uk/business-guidance/hazard-analysis-and-critical-control-point-haccp#.UH1ku-1OE2o>

<https://www.highspeedtraining.co.uk/hub/haccp-faqs/>



Ready Meal Packaging

Packaging for ready meals needs to be food safe, robust enough to withhold knocks during transit, be strong enough to hold liquid based foods and potentially be able to withstand vast temperature ranges from freezing up hot serving temperatures. If you are selling your products in a shop, it needs to be appropriate for display purposes, be tamper proof and also be able to maintain freshness. Following are some of the considerations when deciding on what packaging to use for a retailable ready meal.

Recyclable, Returnable, Compostable?

Environmental considerations are high on consumer agendas now so...

- Is your packaging recyclable in your local area e.g. with kerbside collections?
- Could you offer returnable packaging for re-use - how could this work, is your customer base local enough to return packaging? Would your customers be engaged in this? Would be you able to clean and sterilise packaging effectively with appropriate arrangements in place to do this? Would this be affordable if packaging is not returned?
- Could you offer packaging that could have a secondary use in the home?
- Could your packaging be compostable to break down naturally, or with commercial food waste composting?



Heating methods and packaging

Your packaging also needs to be suitable for whatever heating methods you are using. With microwaves being the most energy effective option for heating ready meals, you may want to trial packaging that withstands microwave heat as well as cooker heat. Suppliers and manufacturers should be able to supply a specification and migration certificate for packaging stating it is safe to use with food and what heat tolerances it can withstand.

Trial packaging

Take time to request samples from suppliers and trial them with your own equipment to see how they withstand freezing, re-heating and moisture retention. For example, some plastics are fine for chilled use, but can become brittle in frozen storage. Remember to keep notes as to which performs best! A lot of packaging is manufactured outside of the UK so check that supplies are plentiful and readily available.

Lids and sealing

If you are creating a meal to be eaten at a later time your packaging will need an airtight lid to maintain freshness and hygienic conditions. Packaging and lid also need to be able to show that they are tamper proof.

Hand packaged or machine

Traditionally ready meals have a heat sealed film lid. These are done with special machines which retail from about £500. These provide an airtight hygienic sealed lid, are suitable for use in a microwave but may only be recommended if you are making high volumes of meals due the investment required.

Outer sleeves

Your outer sleeve, box or label of your ready meal are your key marketing tool and also a consumer's main source of information about the product. There is information that legally needs to be included on your packaging as well as ingredients, nutritional information and your promotional wording and company story. So consider the size needed for all the information you need to include. Design and print of packaging can take considerable time and investment so give yourself time to fully assess costs, design choices and regulatory information to ensure you get it right first time.



Ready Meal Packaging

Cost-effectiveness

A leading aspect of your decision-making for choosing packaging may be cost. Whatever option you go for, make sure that the packaging costs are embedded in your financial planning and final unit costings so you can be resilient to fluctuations in pricing and so that you do not have to change packaging once you have it in place. Whilst stylish and expensive packaging solutions and quality printed sleeves and labels may enhance consumer preference and selection of products, it will need to be covered within the product costing.

Fresh or frozen?

If you are intending on selling your product fresh, this could also have an impact on the packaging you choose. If using a cardboard carton, this may quickly become flimsy from liquid seeping through, but the packaging may retain its strength if you quickly freeze your meal once cooled, and then instruct to cook from frozen. There is often a perception that frozen products are inferior to chilled, this is often not the case, notably with fish and meat-based products. From a production viewpoint, there are huge benefits in producing frozen products in batches and these can be stored and distributed far more easily than chilled products and with far less wastage. Whether your ready meal is fresh or frozen may also impact on the format for date coding as chilled products will be 'use by' and frozen will be 'best before' or 'best before end' codes. Selling a frozen product will also give an extended shelf life and more time for a retailer to sell your product so may be preferable to fresh.

Chemical contamination

There is also a need for the packaging not to pose a risk for chemical contamination of food as being suitable for purpose and meeting the requirements for migration of chemicals to products (given the temperature extremes) which will be confirmed through supplier specification and migration certificates.

Product shelf life

Determining a best before or use by date can be tricky and may take some testing. The rigour for chilled products will be significantly greater than for frozen products. If a product is hygienically prepared and frozen quickly using a fast-freeze method, then the product is unlikely to be unduly affected by microbiological deterioration during the frozen storage. There are quality changes, such as build-up of ice crystals and oxidative rancidity that can affect products and will need to be considered. For validation of frozen products, microbiological end of life testing can be at a minimal level with samples retained at and beyond the defined shelf life to validate date selection.

For chilled products, don't assume your ready meal can have the same dates as a ready meal sold in a supermarket as mass produced ready meals often have 'Modified Atmospheric Packaging' (MAP) where the oxygen is removed from inside the packaging and replaced with a mix of gases at the time that the lids or film lids are sealed to improve the appearance of the product and extend the shelf life. Similarly, vacuum-packing is a well proven method to obtain longer shelf life, but both MAP and vacuum packing will need to employ robust checks to confirm gas composition/effective sealing of packs. MAP is not really considered an option for small-scale production (although the technology is becoming more affordable), but important to note when determining a best before date.

Links and further information

<https://www.food.gov.uk/safety-hygiene/best-before-and-use-by-dates>

<https://www.modifiedatmospherepackaging.com/>

<https://www.storaenso.com/en/inspiration-centre/renewable-future-blog/2021/7/the-alternative-to-ready-meal-plastic-packaging>



Labelling requirements for retail food products

What are the legal requirements for product labelling for retail and what needs to be included on your packaging? Food labelling is a complex area and you may wish to seek further advice when designing packaging artwork and labels - what follows is a general guide. Trading Standards departments are able to provide more detailed information and will often support label compliance, although more recently, they are increasingly likely to make charges for this service.

The name of the product

If there is a customary or well known name use it e.g. Lasagne or if not, use a name that will not be confusing or misleading. Where a product title indicates a named ingredient, the ingredient will need to be listed with a percentage within the product. Misleading names or photos that do not make clear what is in the pack (such as references to serving suggestion where other products are photographed) must be included, where applicable.

In addition, there are some products that are required to have a prescribed compositional content by law, such as butterfat in whole, semi-skimmed and skimmed milks or minimum % meat content of pies, sausages and burgers. Some product names, such as Cornish Clotted Cream, Stilton, Parma Ham are subject to requirements to meet Protected Designation of Origin (PDO) and may only be produced to prescribe regions or methods of production and are reserved from general use by others.

Ingredients list

A full ingredients list must be worded in order of weight, with the main ingredient first according to the amounts that were used to make the food. Where products contain a compound ingredient, such as wheat flour, there will also need to be a bracketed breakdown of constituent ingredients included within the declaration list and following the compound ingredient. Declarations may also need to include specific reference to additives such as preservatives, colours with reference to names or e numbers for the additive. Point of sale signs for open food may also need to include these details.

Allergens

These should be highlighted in bold within the ingredients list. Or they can be underlined, or appear in a different colour to emphasise them. (See information sheet 1.10 for managing allergens). There is normally a statement following the ingredient list to highlight that allergens are marked in bold.

Font size

All packaging labelling and information should be written in a minimum of 1.2mm sized font. The one exception is if your packaging is below 80cm² in size in which case minimum font size is 0.9mm. It should be displayed in a clear font.

Weight or volume of product

All outer packaging of wrapped foods should provide an indication of the weight or for liquids, the volume of the final product and should be in accordance with indicated weights or volumes on the packaging. Where the indicated weight is present in the form of 55g (or 55ml) the packer must meet minimum weight packing requirements where no product is below the marked weight or volume. Where an indicated weight is given as 55g e (or 55ml e) this denotes that the product has been packed to average weight or volume requirements. Some weights or volumes from the batch are allowed to be below the nominal weight indicated as 55g e (or 55ml e), providing that the 'packers rules' relating to the batch have been met.

Lot or batch number

There needs to be an identifying code or number relating to the original production batch to trace to the original manufacture and packing date. Where a 'use by' or best before' date refers to an individual production date, this can also be used in place of or as well as an identified batch number.



Labelling requirements for retail food products

Best Before and Use By dates

A product can display either a Best Before/Best Before End or a Use By date, or include both and this will be dependent on the nature of product and shelf life. For highly perishable foods, the code will refer to 'Use By 25th December'. Other wrapped foods that are not highly perishable and having a shelf life of 3 months or less must be marked with a date 'Best Before 25th December, 2023'. For wrapped foods that are not highly perishable and having a shelf life of between 3 and 18 months, products may either be labelled with 'Best Before 25th December, 2023' or 'Best Before End December, 2023'. Similarly, with longer life, wrapped products of over 18 months, this must be in the form 'Best Before End 2023'.

Storage, preparation and serving instructions

Include clear and simple instructions on how to store to maintain product quality and safety, such as chilled, ambient or frozen, out of direct sunlight, cool, dry environments etc. If temperatures are required, these should be stated. In addition, serving instructions must define whether product is required to be heated and linked instructions to a validated method (such as 25 minutes in a pre-heated oven at 180C, or microwaving instructions with times and microwave power). Suitability for home-freezing may also be included, or 'previously frozen, do not re-freeze' on relevant products such as meat and fish products.

Business name and address

Food businesses must include a business name and address on the packaging or food label. Either:

- the name of the business whose name the food is marketed under; or
- the address of the business that has imported the food

Food products sold in NI must include a NI or EU address for the food business. If the food business is not in NI or EU, they must include the address of the importer, based in NI or the EU.

Nutritional Information

Packed products must include nutritional information table in a prescribed format. This must be shown in a table format and give values for energy (as kJ and kcal) and six nutrients as fat, of which saturated, carbohydrates, of which sugars, protein, and salt). This must be given in the units (including both kJ and kcal for energy) per 100g or 100ml, per serving as specified and the nutrition declaration must meet the minimum font size requirements as outlined above.

Identification Number (as required for animal origin, manufactured products)

This is a number that is given by the FSA or local authority for manufacturers of animal origin products and is included as an oval ID mark onto final packaging. Often this will be based on GB or EC export numbers comprising letters and/or numbers issued by the enforcing authority.

Free-from or other claims

This may include freedom from allergens, suitability for dietary preferences, religious or cultural compliance or methods of processing such as kosher, organic or halal and denoted by certification logos or printed symbols or text. In all cases, such claims are required to be substantiated by traceability and any relevant documentation.

What not to include!

Any un-proven information or product claims that cannot be scientifically be backed-up and can be mis-leading

Further explanation and free labelling and allergen training can be found here:

<https://labellingtraining.food.gov.uk/>

Food Labelling law is subject to change. Keep up to date at www.food.gov.uk



Nutritional Information Tables

Nutritional information tables inform consumers about the amount of fats, saturated fats, sugars, carbohydrates, proteins and salt in different pre-packaged foods and to a prescribed format of presentation. This information can help the consumer to choose food appropriate to different dietary needs or to find out how nutritious a food is. If you are producing wrapped food products, you will need to include a nutrition information table on labels for your products.

What is a nutrition table and what does it look like?

Most pre-packed foods have a nutrition label on the back or side of the packaging, situated close to the list of ingredients. These labels include information on energy in kilojoules (kJ) and kilocalories (kcal), usually referred to as calories. They also include information on fat, of which saturates (saturated fat), carbohydrate, of which sugars, protein and salt. All nutrition information is provided per 100 grams and sometimes per portion or serving (of defined size) of the food.

<https://www.nhs.uk/live-well/eat-well/how-to-read-food-labels/>

When is a nutritional information table compulsory?

Some information triggers the need to include a nutritional information table. As well as the required information for food products, you will need to include a nutritional information declaration table if you make any claims on the packaging about being gluten-free, low fat or healthy.

Exemptions

Nutritional information can be mandatory for pre-packaged foods in some cases, but there are some exemptions too. Pre-packed food from manufacturers meeting the Food Standards Agency's definition of a micro business, supplied direct to the consumer from their own premises (including distance sales, e.g. internet sales), do not need to have nutrition labelling under this exemption. Pre-packed food from those micro businesses supplied to the consumer via a third party, if this third party is a local retailer supplying direct to the consumer, need not have nutrition labelling under this exemption. Descriptions of micro businesses and third parties can be found here: <https://www.businesscompanion.info/en/quick-guides/food-and-drink/labelling-of-prepacked-foods-nutrition-declaration#Exemptionforsmallmanufacturers>

This Q&A document can help answer any queries you may have and details more about the exemptions.

<https://www.food.gov.uk/sites/default/files/media/document/qanda-nutritionalrequirements11692011.pdf>

Even if you are exempt from supplying a nutritional information table on your products, many consumers now expect to see one in a retail environment, or use them as a basis to make a choice whether to buy a product so it may be in your interest to include one.

Front of Pack or Traffic Light nutritional information

Another type of nutrition labelling can be found on the front of a lot of packaging, commonly known as traffic light labelling. Traffic light labelling can show at a quick glance whether products contain higher rates of fats, saturated fat, salt and sugars of recommended daily amounts. **Red = High amount Amber = Medium Green - Low**

The NHS states 'In short, the more green on the label, the healthier the choice. If you buy a food that has all or mostly green on the label, you know straight away that it's a healthier choice. Amber means neither high nor low, so you can eat foods with all or mostly amber on the label most of the time. But any red on the label means the food is high in fat, saturated fat, salt or sugars, and these are the foods we should cut down on.'

Chicken & Vegetable Broth				
A soup made with vegetables, cooked chicken and pearl barley. 600g e				
Ingredients				
Water, Carrot (10%), Onion, Chicken (6%), Potato (5%), Spinach (2%), Peas (2%), Cabbage (2%), Celery (2%), Chicken stock (chicken skin, water, chicken extract, chicken, sugar, salt, cornflour, chicken fat, onion concentrate), Potato starch, Pearl barley, Rapeseed oil, Garlic purée, Salt, Black pepper.				
! ALLERGY ADVICE				
For allergens, including cereals containing gluten, see ingredients in bold.				
! Warning				
Although every care has been taken to remove bones, some may remain.				
Nutrition				
Typical values (as consumed)	per 100g	per 1/2 pot (300g)	%RI	your RI*
Energy	167kJ 40kcal	501kJ 119kcal	6%	8400kJ 2000kcal
Fat	1.2g	3.6g	5%	70g
of which saturates	0.2g	0.6g	3%	20g
Carbohydrate	4.2g	12.6g		
of which sugars	1.2g	3.6g	4%	90g
Fibre	1.1g	3.3g		
Protein	2.5g	7.5g		
Salt	0.5g	1.5g	25%	6g

*Reference intake of an average adult (8400kJ/2000kcal) (RI). Contains 2 portions.

Each serving (150g) contains

Energy	Fat	Saturates	Sugars	Salt
1046kJ 250kcal	3.0g	1.3g	34g	0.9g
	LOW	LOW	HIGH	MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal



Nutritional Information Tables

How to create a nutritional table

If you are planning to include a nutritional information table on your packaging, you can find out the values in a number of different ways. Before you start, you need to ensure you have an accurate recipe for your product including exact amounts of each ingredient and a finalised method that you use for every production run. This will ensure that your information remains accurate for the consumer. You will also need to know the percentage of individual products in compound ingredients for inclusion for these calculations.

Trading Standards are realistic that many smaller companies have limited resource to undertake nutritional analysis of products and will accept nutritional tables based on calculations. For larger companies, there is often a combination of calculation and testing of products to show correlation between theoretical values from calculation and actual analysis. Large companies will always base their tables on analysis rather than theoretical calculations.

There are resources to assist with calculations:

Online: there are numerous commercial sites that offer free trials and/or additions such as costings per portion e.g. Nutricalc & A la Calc

Local food college: sometimes nutritional information tables are completed as part of student projects or courses and it may be worth exploring whether your meals could form part of a student study.

For analysis Commercial Food Testing Labs can be costly, but a good source of advice and can guarantee that your values are correct as they will usually be calculated using recipe, method, accepted industry standard information and conducted with a sample of your own products.

McCance and Widdowson's publication 'The Compositions of Foods Integrated Dataset continues as a reliable source of nutritional data.

References and further reading

<https://www.nhs.uk/live-well/eat-well/how-to-read-food-labels/> [accessed 13.10.2021]

<https://www.food.gov.uk/business-guidance/nutrition-labelling#presentation-of-nutrition-information>

<https://youtu.be/tL8SeX-euko> [accessed 13.10.21]

<https://www.bda.uk.com/resource/food-labelling-nutrition-information.html> [Accessed 13.10.21]

<https://www.food.gov.uk/business-guidance/nutrition-labelling> [Accessed 13.10.21]

<https://www.businesscompanion.info/en/quick-guides/food-and-drink/labelling-of-prepacked-foods-nutrition-declaration>

<https://www.alacalc.co.uk/>

<https://www.foodstandards.gov.scot/business-and-industry/safety-and-regulation/labelling/nutrition-labelling-requirements>

<https://www.gov.uk/government/publications/composition-of-foods-integrated-dataset-cofid> provides further information.

<https://www.food.gov.uk/sites/default/files/media/document/nutritionlabellinginformationleaflet.pdf>

https://www.food.gov.uk/sites/default/files/media/document/fop-guidance_o.pdf

<https://www.food.gov.uk/business-guidance/nutrition-labelling>

<https://www.gov.uk/government/publications/composition-of-foods-integrated-dataset-cofid> provides further information.

Important to know!

Although the UK has left the European Union, certain pieces of legislation (formally known as 'retained EU law') will still apply until such time as they are replaced by new UK legislation. This means that you will still see references to EU regulations in many guidance sources around food packaging requirements and should check back regularly to keep up to date with any changes. There may also be variations to this information in Scotland, Ireland and Northern Ireland.



Costing / Pricing

Costing your products accurately from the start of your business will ensure that you are not losing money to retailers and wholesalers and that you can start to build a deficit (or profit) to further develop your enterprise or create new products. Cash flows, budgets and financial forecasts should be treated as live documents and updated on a regular basis to ensure that your costs are up to date and business finances remain stable. Even if you are a not-for-profit organisation, or charity, cash flow forecasting is still important.

In recent times, food prices have risen sharply and raw material prices continue to be volatile and future forecasts are ever more important. In addition, some retailers and wholesalers will offer good volumes of sale, but margins may be small, or in some cases non-existent and pushing through price rises due to raw material increased costs may not be well received. Better to make a good profit on smaller volumes than a tiny profit on large volumes. Also, remember that quality always sells and a race for the 'pile it high, sell it cheap' options for food and produce sales volume, but are difficult to sustain when competing with larger organisations that have production efficiencies through automation and the power for bulk purchasing of raw materials.

Know your finances

You will need to record any income streams, or money coming into your organisation such as sales or grant monies and then also your expenditure. Expenditure can be broken down into fixed costs such as rent, monthly water payment, waste removal and then variable costs such as fuel and marketing. You also need to include any staff costs including national insurance payments and pension contributions. Some more detailed information about forecasting and cash flow creations can be found here: <https://selnet-uk.com/wp-content/uploads/2014/03/Workbook-4-Finance-Start-Up-Costings-and-Budget-Setting.pdf>

An accurate cash flow can then inform where you should set your prices for your products. A business plan can also be a good discipline to crystallise thinking and adds credibility when working with financial institutions and customers.

Basic Unit Costing

Variable Costs + Fixed Costs ÷ number of units created = absolute minimum price if product is not for profit. It is also advisable to benchmark against similar products on the market to see where your pricing should be set and also try and forecast how different numbers of units will impact on your costings.

Different markets may have an impact on your selling price.

Selling direct to consumers

This is where you will see the most income coming back to you, but do consider if you can sell enough product through your own routes to cover your costs. It will also potentially be a more time consuming way to sell. Linking with other complementary organisations for deliveries or wholesalers can reduce costs for distribution, although margins may be reduced.

Selling to retailers

Selling direct to retailers is also a good option - but they will expect to be able to make a good mark-up on your product. In return though it could make it easier and more convenient for consumers to access your products and offer a showcase to a wider audience than you may reach alone.

'If you are unable to sell your product into the retailer at the price they require and cover all the costs of your raw materials, labour, distribution etc and make a profit then you should walk away from the business opportunity. If not, you will lose money.'

(<http://www.thefoodclub.org.uk/Guide%20on%20pricing%20a%20of%20food%20product.pdf>)



Costing / Pricing

Wholesale

If you are able to create enough product to sell to a wholesaler then you will reach a much wider range of retailers, however wholesalers will expect to pay a low price in order that they can take a margin as well as the retailer being able to take a margin.

'Know your margins. Broadly speaking, you are going to want a margin of 40-60%. A wholesaler will want 20-30%. A retailer will want 30-60% (depending on the type of retailer they are). The wholesale price will be the absolute minimum that you can charge. Whilst that seems like a lot of money when you're small, as your volume grows it should bring the manufacturing costs down, which in turn will make using a wholesaler worthwhile.'

Foodstarsuk.com

Links and further guidance

<http://www.thefoodclub.org.uk/Guide%20on%20pricing%20a%20of%20food%20product.pdf>

<https://www.startupdonut.co.uk/start-up-business-ideas/types-of-business/how-to-start-up-a-food-manufacturing-business>

<https://www.campdenbri.co.uk/blogs/cost-optimisation.php>

https://www.youtube.com/watch?v=F5TQ8ID_s-c (US based video)

<https://www.startuploans.co.uk/business-advice/what-is-a-wholesaler/>

<https://selnet-uk.com/wp-content/uploads/2014/03/Workbook-4-Finance-Start-Up-Costings-and-Budget-Setting.pdf>

[https://www.foodstarsuk.com/central-production-units/5-tips-sell-food-products-wholesale/#:~:text=Know%20your%20margins.,type%20of%20retailer%20they%20are\).](https://www.foodstarsuk.com/central-production-units/5-tips-sell-food-products-wholesale/#:~:text=Know%20your%20margins.,type%20of%20retailer%20they%20are).)



Shelf Life Testing

'The length of time for which any particular food can be kept will depend on the nature of the food itself, and the preservation treatments to which it has been subjected. The type of packaging used to contain the food will also have an inherent effect. It is up to the manufacturer of the food to determine and assign the shelf life of the food they produce, keeping in mind the requirements of relevant legislation, such as the Food Safety Act 1990 and Regulation (EC) No 178/2002 (the 'General Food Law Regulation').'

What affects a product's shelf life?

A product's shelf life is determined by a number of things including whether it is fresh or frozen, the packaging that is used and the quality of the ingredients when you manufactured the product. Storage conditions after manufacture can also impact whilst storing the product and the consumers' handling and storage at home. Product formulation and additions (such as acidification, drying, smoking, preservatives such as sugars, salts or chemicals) also affect shelf life.

Determining a method to work out shelf life

Shelf life cannot be determined just by copying a similar product's shelf life. You can start to gather some data in-house about shelf life performance of your products, but this shouldn't replace professional advice or laboratory testing. Your local EHOs may be able to assist in providing general support.

Shelf life validation of products

Determining a 'best before' or 'use by' date can be tricky and may take some testing. The rigour for chilled products will be significantly greater than for frozen products. If a product is hygienically prepared and frozen quickly using a fast-freeze method, then the product is unlikely to be unduly affected by microbiological deterioration during the frozen storage. There are quality changes, such as build-up of ice crystals and oxidative rancidity that can affect products and will need to be considered. For validation of frozen products, microbiological end of life testing can be at a minimal level with samples retained at and beyond the defined shelf life to validate date selection.

For chilled products, don't assume your ready meal can have the same dates as a ready meal sold in a supermarket as mass produced ready meals often have 'Modified Atmospheric Packaging' where the oxygen is removed from inside the packaging and replaced with a mix of gases to extend the shelf life of the product. This is not really an option for small-scale production (although the technology is becoming more affordable), but important to note when determining a best before date. Shelf life for chilled products will be based on a programme of microbiological validation combined with end of life sensory evaluation through organoleptic assessment.

For completing a formal validation, you should contact an accredited laboratory that can support the testing process. Qualified microbiologists working in accredited laboratories are often able to provide advice on testing protocols. The normal methodology is to establish an approximate idea of the shelf life required and this can be informed by review of 'like' products, but be cautious as different manufacturers can have vastly differing controls. A decision will be needed as to whether testing will be needed for the whole product range or representative products (normally based on 'worst case' whereby formulations are most prone to microbiological growth may be selected to reduce the cost of testing the entire range.

Products are made using standard methods and processing criteria and samples are taken hygienically (can be in unopened original packaging for submission). Testing by the laboratory will normally be undertaken on the date of receipt (P+o) and at defined intervals, with a separate sample to be submitted for each test. As an example, if for a chilled product, a date of 7 days' shelf life was being tested, products would be tested on day 6, 7, 8 and 9. Normal testing will go beyond the desired shelf life date as a precautionary principle. Products will normally be kept in accordance with the instructions (notably in regard to temperatures). More detailed studies may also include some temperature abuse to better reflect consumer controls that may not follow best practice temperature control. Testing will normally be reported and laboratories should advise on the acceptability of results against published guidelines or legal requirements.



Shelf Life Testing

In addition to shelf life microbiological testing, sensory evaluation of products (organolepsis) is advised as a parallel study to the test programme. Ambient and low risk products such as pickles, cakes and biscuits may be assessed purely by sensory evaluation in setting a sensible shelf life and this is related to product quality rather than safety.

Sensory testing in the kitchen - sight, taste, smell and texture

Building an evidence base of in-house shelf life testing can help improve product quality and development and help ensure you are meeting your expected best before / use-by dates that the consumer expects and meeting your original specification and ambition for your food products, or to help you respond to a food safety issue.

1. Put by a number of units from each batch in their consumer facing packaging and ensure they are clearly labelled with which batch they were from. How many depends on whether your product is fresh or frozen and how often you intend to test. For example, you may want to test a frozen product every month for 4 months, or if fresh, every day for 7 days. These will make up your shelf life test samples. You may want to do an extra test beyond the best before date or use by date (if you feel safe to do so) to enable to see if you are able to extend the shelf life.
2. Keep those samples as per your storage instructions for the consumer.
3. When ready to take your shelf life test, prepare one sample as per the consumer cooking instructions, On your shelf life record, note down the date of test and the batch number.
4. Once prepared taste the sample - ensure you have not recently eaten anything with strong tastes, or have a glass of water before you test. You should have at least two people to taste the sample to ensure your results are objective.
5. You will need to assess the following:
 - a. Odour / Aroma
 - b. Texture
 - c. Taste
 - d. Colour
 - e. Appearance

Document you comments and results and keep with your product records. What this method does not tell you is all of the the microbiological changes that are happening in your product as it ages so it is advisable to determine a lab testing regime to determine if your products are holding up to environmental and microbiological pressures. Use your laboratory tests alongside your own tests to determine your shelf life more accurately,

Please note this guidance in this sheet does not replace the need for technical advice on shelf life. Expertise should be sought if it is not available within your food business.

References, links and further guidance

<https://www.leatherheadfood.com/files/2016/11/White-paper-Using-sensory-shelf-life-testing-to-drive-consumer-satisfaction-FINAL.pdf>

<https://www.sensorysociety.org/knowledge/sspwiki/Pages/Sensory%20Shelf-Life%20Test.aspx>

<https://www.campdenbri.co.uk/white-papers/determine-product-shelf-life.php>

<https://www.fdf.org.uk/globalassets/resources/publications/guidance/shelf-life-guidance.pdf>

<https://www.highspeedtraining.co.uk/hub/understanding-factors-affecting-shelf-life/#calculating>



Where to retail your products

Selling your products will help raise funds for your organisation especially if you can convey your aims and values as a charity or organisation to your potential audience. Planning where to retail can take longer than you may hope and there are a lot of considerations to take into account.

Markets and events

Attending a market or event is a good way to launch a product and chat to people directly about your organisation, especially if you are a community business and anticipate a local customer base. If attending a market, you may need equipment and need to have public liability insurance and you will need to be registered with the local EHO where you store your stall materials. Consider also how you will present your products and what the food safety considerations there are if you are at an event all day. Also take into account the time it takes to attend an event in terms of travel and stand cost at an event and how you will accept payments.

Online with your own web shop - home delivery or collection

Creating your own webshop, or paying for an off the shelf selling platform will enable you to add products little and often or adjust your production to meet demand. Web shop platforms like Shopify have fees to pay which are around £19 per month but will give you a professional looking platform to sell your products. Being able to link your online shop direct from your social media, websites or newsletter will also help with marketing your products. There are obviously expenses associated with online ordering such as percentage fee for the website, card payment providers as well as packaging and delivery costs.

Open Food Network or local food hub

Contacting your local food hub or local online farmer's market managed by Open Food Network is also a good option. Open Food Network has minimum fees to pay, has the ability for you to set up your own online shop and link in with other local Open Food Network markets to sell your produce. Open Food Network is generally used by smaller, values led organisations so may be a good fit with charitable organisations or businesses. It is also a good place to cross trade to source fresh ingredients too and has a supportive UK team to help with IT issues or marketing and selling local produce.

Pay it forward and donations

Another way of raising income and selling more produce is by taking donations and offering a pay-it-forward scheme where your customers can buy a meal for someone else. Having this offer will potentially be able to boost your production level and increase your community engagement.

Local independent retailers

Visiting your independent shops and retailers is worthwhile and could be mutually beneficial. You will be able to speak to the business owner or decision maker more easily and you may have an easier way in if you are from the same community. Have a look at the retail offering and see if you feel your meals would be a good fit and if the shop has the infrastructure and space to accommodate stocking them e.g. fridge / freezer.

Veg box and micro dairy delivery schemes

Many veg box schemes and micro dairies are extending their offers to include other things than just veg boxes and milk. Contact your local distributors especially if they are smaller businesses to see what their offer is and if they could accommodate your products within their rounds.

Where to retail your products

Grocery chains and supermarkets

Grocery chains and supermarkets often have a local offering but are very difficult to access for small local producers, can take a long time to pay and often expect a higher level of food safety accreditation such as Safe & Local Supplier Approval (SALSA) or Brand Reputation through Compliance (BRC) certification. Time and efforts may be better spent early on smaller markets and slower growth when starting your retailing.

Public sector

Public sector organisations such as councils or hospitals may also be worth investigating - your local food partnership may be able to support you with information on how you may be able to supply public sector organisations near you once you are more established.

Things to consider when starting to sell

Build up slowly if you can so you can meet production requirements and build trust and confidence with your retailers and customers.

Is your insurance in date and are you covered for everything you need?

Can you manage distribution in terms of transport and time?

Know your logistics - can customers place an order every day, can you deliver every day or is delivery on a set day?

Is your production paperwork e.g. HACCP up to date and ready for inspection at any time in case a retailer would like to view it?

If selling online, is your packaging robust enough to cope with transportation and to keep the product within food safety parameters?

How long will a retailer take to pay you and does that fit with your own cashflow forecasting?

Will you still be paid by retailer if your products don't sell? Be wary of sale or return offers, the retailer does not have such a vested interest in selling your goods if they don't have to pay for them

If selling to a retailer of any kind, how will they handle your food to keep it in prime condition?

Know your unit pricing and don't undersell your products.

Do you have a financial system in place to invoice out, receive in payments, send reminders and maintain accurate records?

Delivery

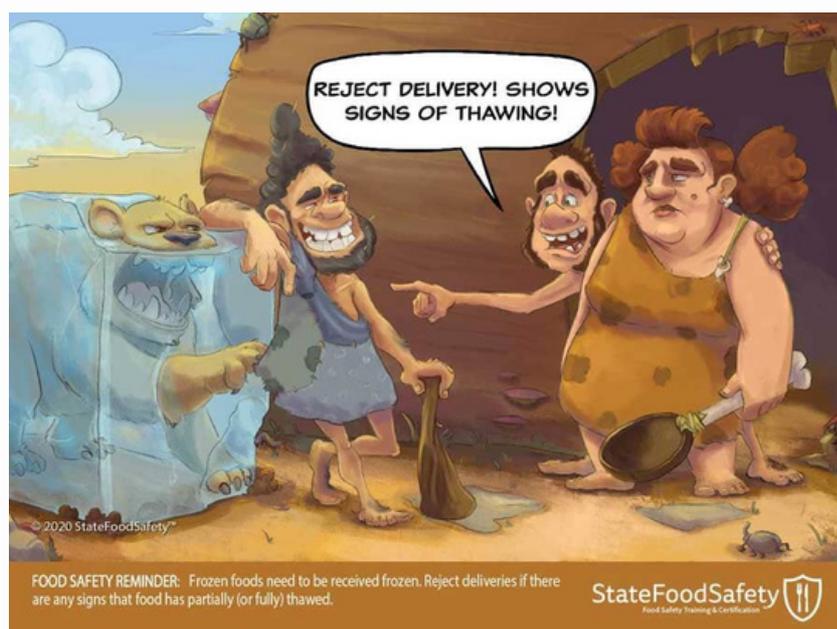
Delivering your products to a retailer or consumer can feel like the last stage of your activities, but food safety doesn't stop at the kitchen door. As a food business operator you need to ensure that your products remain safe for the consumer and are in prime condition during transit and at the point of delivery when they leave your care.

Boxes or packaging

Following production, your finished products may be looking their best in their packaging, but consider how they will fair when they are transported. If you are delivering locally yourself, you will be directly overseeing your products during transit so can ensure their quality on arrival. If you start to use a mail order system or third-party courier to deliver your products you will need specialist packaging to keep your products within safe temperature limits during transit and to ensure the food contact packaging will not be compromised if the products are moving about in a courier van and being handled multiple times. So, as well the actual product packaging, consider any requirements for an outer box and whether it is strong enough to enable products to be kept in the best possible condition throughout their journey to retailer or consumer.

Temperature

You may consider using insulated polystyrene/wool inserts/cool boxes packed with ice blocks pre-frozen gel packs if your products are chilled. Supply of frozen products via a timed courier (normally next day guaranteed delivery for chilled products) tends not to be attempted without use of a frozen courier, although some specialist packaging options do exist. If using an ambient courier, it is possible to undertake transit trials (normally undertaken in warm, summer weather), where packed products are sent to your home address and on receipt checked to confirm that temperature on delivery has been achieved. Alternatively, trial packed products can be held at warm, ambient temperature at and beyond the guaranteed delivery period and temperatures checked to validate the method of packaging. Data loggers can also be used in this respect (a thermometer capable of recording temperatures on delivery and downloadable onto a PC).



Remember!

Frozen foods should be delivered at -18°C or below
Chilled foods should be delivered at 8°C or below
with a target of below 5°C



Delivery

Vehicle

A refrigerated vehicle would be the best way of delivering chilled or frozen products, but can be very costly. If you are delivering yourself, you may want to check the temperature of your products before handing over to ensure they are still within safe temperature limits depending on whether they are fresh or frozen. You can do this by using an infrared thermometer to record the outside temperature on frozen products. Obtaining documents to confirm service level agreements for hauliers and couriers would also be deemed to be good practice for selecting suitable contractors.

Ensure your vehicle is clean, dry and debris free when delivering your products to customers. The safety of your products can be compromised if they are transported in a messy or unclean vehicle and the packaging can be damaged more easily. This will also have an impact on your reputation if your products do not look in prime condition on arrival and even may be rejected by a customer if not in good condition.

Also consider the outside of your vehicle. As a food manufacturer, yourself and your vehicle presents a certain image of how your products can be perceived by others and impact the reputation of your organisation so ensure both you and your vehicle are clean and tidy when interacting with customers or delivering to retailers.

Mixed deliveries with non-food items are undesirable and if unavoidable, should be undertaken with clear segregation in transit. Also avoid transporting of food alongside other items that can result in food tainting (such as chemicals, resins and oils).

Delivery note and record keeping

Create a delivery note to accompany your products especially when delivering to retail. This should be in duplicate and include the date and time of delivery, batch number of good delivered and a temperature check taken at the time of delivery. The delivery note should be signed by the person receiving the delivery that they are happy with the condition of the goods as they are being handed over.

Noting the batch number on the picking list or delivery note and keeping records of where each batch has gone will enable you to trace your products to different retailers in the event of complaints or the need to do a recall on your products. Larger companies are expected to have these systems in place and it is a requirement for certification standards such as SALSA, where tests for product traceability and recall will be required to be evidenced on an annual basis.



Community engagement to support product take up

Knowing your customer base and potential audience for your products is important to encourage take up once you have launched your product.

Research: What, why, who, where and when?

Carrying out research in the early stages of planning a new food product can be really helpful to guide your thinking on why your product will be needed in such a busy marketplace. Finding this out will help shape who your audience is and why they may need or want to buy your product. Your main aims for your products, needs to be clear such as creating nutritious meals for people leaving hospital, meeting a low or specific price point or creating a dish suitable for a specific dietary requirement, or avoidance of allergen content which could restrict suitability. Once you know the overall aim for your product, this can help shape who your audience is and how you can engage them to buy your products.

Engaging your market

Your research phase is a good time to start engaging your audience and future buyers of your product. Consider trialling products through sampling events for your potential customer groups through social meetings, local retailers, focus groups or a shared dinner. Ask for honest feedback and consider asking what people may think of price points, how they cook at home or what is important to them when cooking or choosing food.

Cultural and religious requirements for foods

If you live in a culturally and religiously diverse community you may also need to think about creating a product that is appropriate to specific faiths, especially if your products contain animal products. Carry out research, ask questions and have recipes that can be adapted. Consideration may include such issues as suitability for vegetarians, vegans, or 'free from' claims, Kosher, Halal, approval for coeliacs, organic, to name but a few.

Matching values and sharing your story

Many people want to buy products that match their values or support their local community. Document your journey of creating your product, share stories of your staff and volunteers and share your values e.g. using food that would otherwise go to waste or ways that you are supporting your local community. Use social media, your local paper or radio, networks and schools to shout about your project and new products. Other considerations will include sourcing of local ingredients and possible provenance of products to support sales.

How can meals be made available community wide?

Once you have products that are suitable for retail or wholesale and have identified your potential customers, how are you going to get them out to your community? Use your research phase to start identifying potential outlets or retailers. Speak to community organisations or leaders to see if they can support, e.g. with contacts at hospitals discharging patients, small independent shops, farm shops, veg box delivery schemes, markets or events or through a local wholesaler. Ensuring that your meals are available at convenient locations is important for take-up.

Keeping up engagement once you've launched

Don't stop shouting about your products once you've launched. Once your meals are launched keep up the promotion to continue the engagement. Can you have a new product launch lunch every few months, or a shared dinner? Write a customer or stakeholder newsletter about your organisation, share new link ups with groups and retailers or share your news and products with your networks.

Links and further guidance

<https://www.publichealth.hscni.net/sites/default/files/FaithsPosterA2.pdf>
<https://thrivemeetings.com/2018/01/religious-dietary-restrictions-guide/>



Nutritional considerations for different age groups

The amount of energy and nutrients we need vary depending on our age. Here are some general guidelines to consider when cooking for different age groups.

Children

- Young children need energy dense diets to support their growth and development. Children have smaller stomachs than adults and need to eat smaller amounts and include energy dense foods more often.
- Whole milk and yogurt are recommended over semi skimmed or skimmed milk.
- Too many high fibre foods may mean they get full more quickly and will be unable to meet their energy demands by eating enough food. A mixture of wholegrain and refined carbohydrates should be offered.
- Young children need less salt than adults so avoid adding salt to food.

Teenagers

- Teenagers are going through rapid growth and development and often have energy and nutrient needs that are greater than an adult.
- Consider offering larger portions of well-balanced meals.
- Protein and iron are needed for growth and repair. Include meat, fish, eggs, nuts and pulses.
- Teenagers' rapid growth also means they need more calcium to help build healthy bones. Including a source of dairy will help teenagers meet their daily calcium recommendations. Milk, fortified plant milk, yogurt and cheese are all good sources.

Adults

- Following the "build a balanced meal" guide will help adults eat a well-balanced diet.
- Use herbs & spices in cooking instead of salt.
- Offer less fried food and processed meats.
- Offer more plant-based sources of protein.

Pregnant/lactating women

- Following the "build a balanced meal" guide will help adults eat a well-balanced diet.
- Energy needs increase throughout pregnancy, but pregnant women don't need to "eat for two". In the second trimester energy needs increase by 260kcal (the size of a large snack) and 500kcal in the third trimester (the size of a medium sized meal).

Older adults

- Food and drink that make up a healthy older adult's diet may need to be slightly different from a younger adult.
- Older adults can be at risk of undernutrition, especially those over 65 who are living alone. Undernutrition means not having or eating enough to be healthy, and 1 in 10 older adults in the UK living alone are at risk of undernutrition.
- Nutrition recommendations for this group are a little different. Check out www.malnutritiontaskforce.org.uk for more information.



Retaining Nutrients

Ideas to help retain and get the maximum nutrients from your ready meal.

Cooking

Some vitamins dissolve in water (B Vitamins & Vitamin C). Steaming, microwaving, roasting or grilling fruit and vegetables is preferable to boiling them. Retain the vitamins in vegetables by keeping them in the water they are cooked in e.g., soups, stews or sauces. You can also use excess water for making vegetable stock.

Cut cooking times. Generally, the longer foods are exposed to heat the more nutrients are lost. Using lids on pans, placing veg in already boiling water and eating them a little bit crunchier helps to preserve nutrients.

Some nutrients are increased by cooking them. Certain antioxidants found in tomatoes and red, yellow and orange vegetables (e.g., carrots, butternut squash and peppers) are better absorbed when cooked. Steaming, microwave, roasting or grilling these vegetables will help to retain the water-soluble vitamins too.

Fat soluble vitamins (A, D, E & K) are better absorbed when cooked or prepared with a source of healthy fats. For example, using vegetable or olive oil to sauté veg or as a salad dressing will increase absorption of these vitamins.

Storing

Nutrient loss in many fruits and vegetables can be decreased with cooler temperatures and less air contact. Store produce in airtight containers in the fridge. Keep vegetables in the crisper section of the refrigerator.

Preparing

When preparing fresh vegetables, wash gently but don't soak. Soaking decreases some of the water-soluble vitamins. Keep the skins on fruit and veg where possible to increase the fibre and nutrient content.

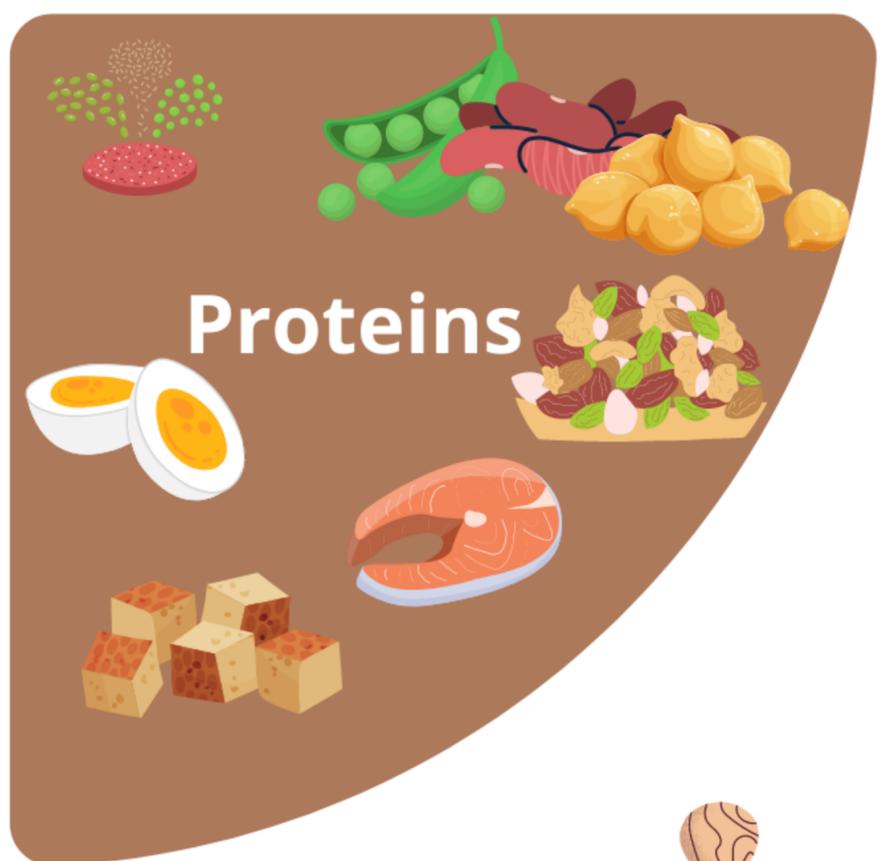
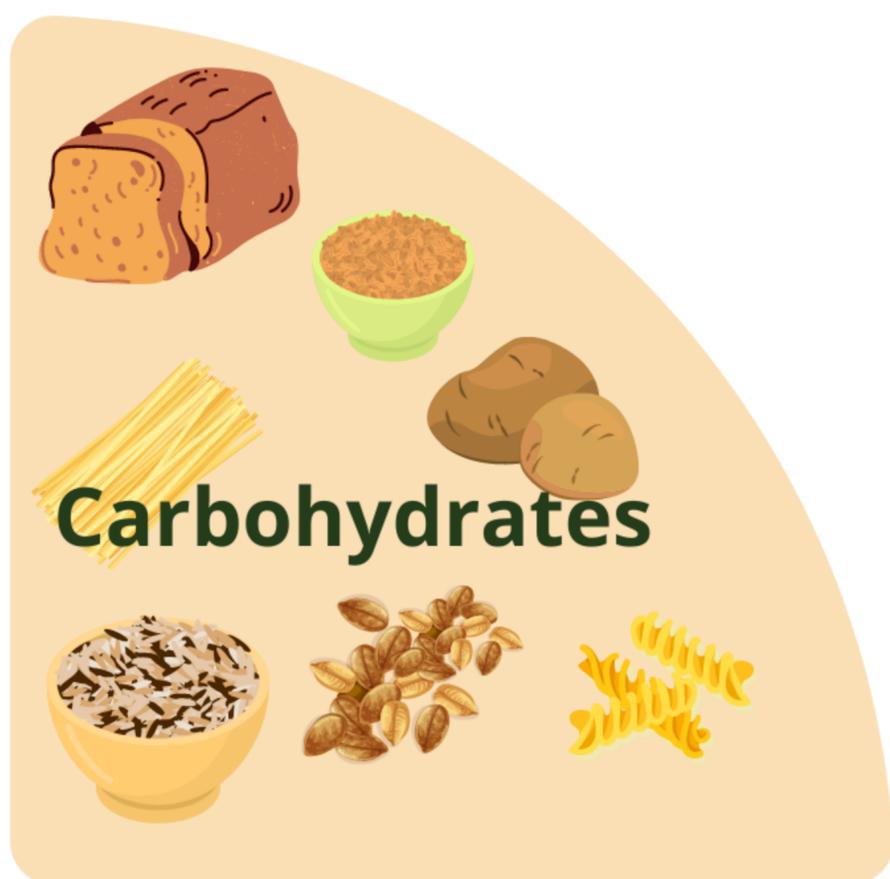
Where possible prepare fruit and vegetables just prior to cooking to decrease exposure to oxygen and light which can decrease nutrients.

Pairing

Serve iron rich foods with foods high in vitamin C, this helps our bodies better absorb the iron in food (especially plant-based iron). Iron rich foods include meat, beans, pulses, fortified cereal, dark green leafy veg and nuts. Vitamin C rich foods include citrus fruit, peppers, kiwi, berries, broccoli and potatoes. Try adding red peppers into a bean chilli or some green leafy veg with lentil dhal or nut roast.



Build a balanced plate

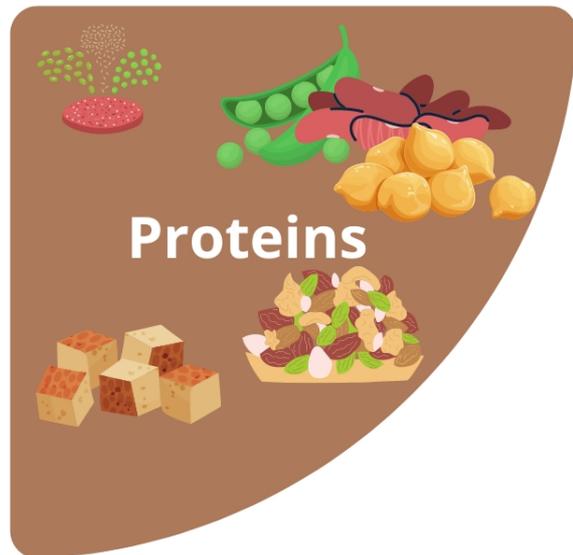
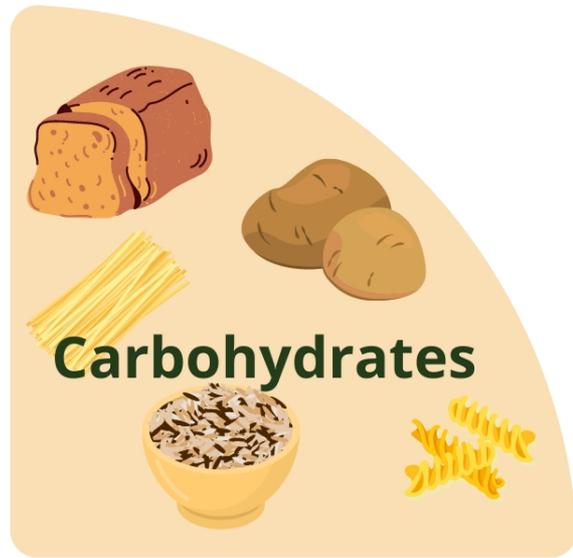


Add unsweetened dairy

Add healthy fats.
Nuts, seeds, olives,
avocado and oils.



Build a balanced vegan plate

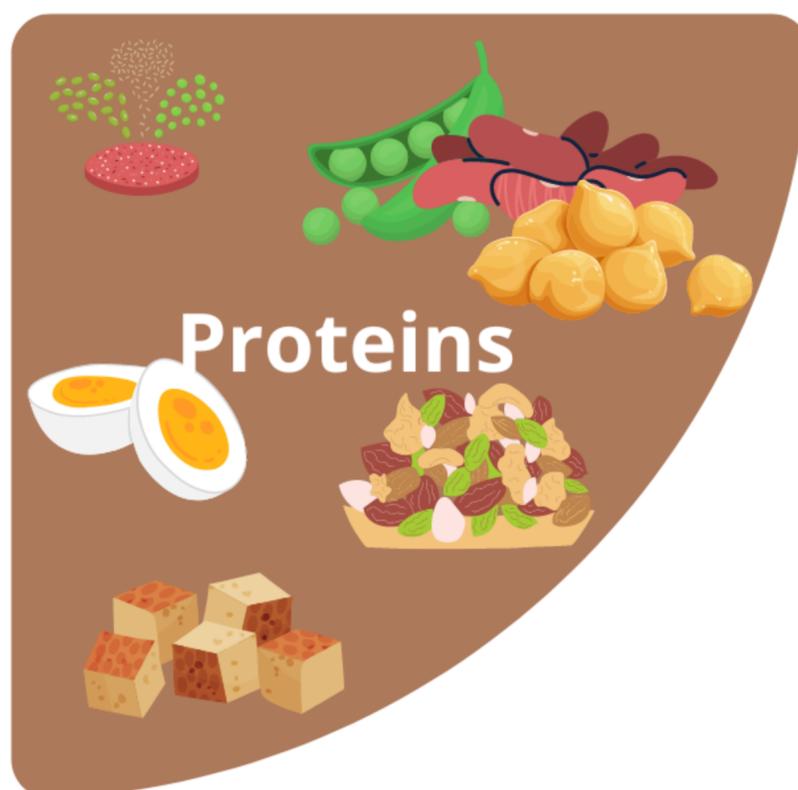
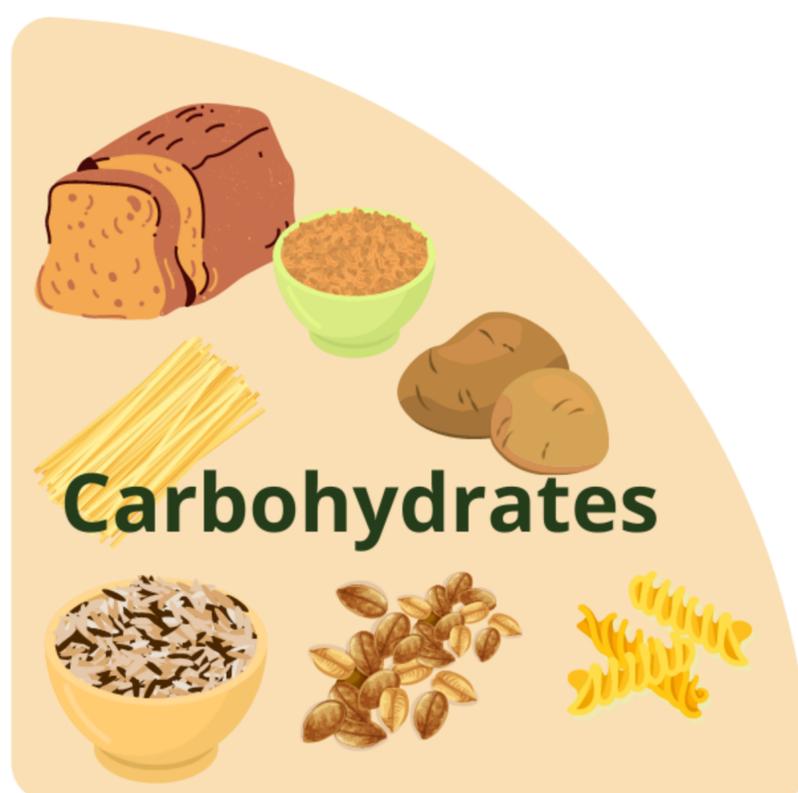


Add fortified dairy alternatives. Pea or soy have the most protein

Add healthy fats. Nuts, seeds, olives, avocado and oils.



Build a balanced vegetarian plate



Add unsweetened dairy

Add healthy fats.
Nuts, seeds, olives,
avocado and oils.

