PART 1 - GENERAL

SECTION A

Culinary Terms

Accompaniments
Acidulate
Agar-agar
Al dente
Anglaise
Aromates
Aspic
Au four
Au gratin
Au vin blanc
Baine marie
Bard
Barquette
Basting
Back fat
Beard
Bed of roots
Beef marrow
Beurre manie
Bind
Blanc
Blanch
Blanquette
Bombe
Bouchess
Bouquet garni
Brunoise
Canape
Cartouche
Chantilly
Chemise
Chiffonade
Chine
Clarify
Cocotte
Compote
Concasse
Condiments
Cordon
Coupe
Court Bouillon
Creaming
Croquettes
Croute
Darne
Deglacer
Devilled
Dress
Duxelles
Escalope
Fillet
Flambe
Flan
Fleuron
Game
Garnish
Glaze
Lard
Liaison
Macerate
Mask
Medallion
Mousse
Navarin
Pane
Pass
Pate
Pipe
Piquant
Poultry
Profiteroles
Prove
Puree
Quenelle
Quorn
Ramekins
Reconstitute
Reduce
Refresh
Render
Roux
Sabayon
Saute
Score
Seal
Season
Shred
Simmer
Singe
Skim
Souffle
Troncon
Truss
Turn
Zest

SECTION A

Accompaniments
Items offered separately with a dish of food.

Acidulate
To make a liquid acidic by the addition of lemon juice or vinegar.

Agar-agar
A substitute for gelatine derived from seaweed. Mostly used in vegetarian dishes.

Al dente
An Italian term which describes the consistency of pasta when cooked correctly. Literally, it means "to the tooth" i.e. the pasta should be slightly firm to the bite.

Anglaise
Usually means plain style. When applied to fish it means flour, egg washed, breadcrumbed and deep fried. In the case of vegetables it generally means boiled.

Aromates
Herbs and spices used for flavouring.

Aspic
A savoury jelly mainly used for decorative larder work.

Au four
Baked in the oven.

Au gratin
Sprinkled with cheese or breadcrumbs and browned.

Au vin blanc
With white wine.

Bain marie
A utensil which is partly filled with water and kept below boiling point. It is used either to keep foods warm or for cooking egg custards.

Bard
To cover the breast of a bird with thin slices of back fat prior to roasting.

Barquette
A boat shaped pastry case.

Basting
Spooning the melted fat over foods being roasted or grilled during the cooking process to prevent the surface becoming dry.

Back Fat
Slices of fat usually cut from the loin. Used as an aid when roasting the drier meats and game to impart additional moisture and flavour.

Beard
The action of removing the beard from shell fish (mussels, oysters).

Bed of Roots
Slices of onion and carrot, browned and used as a bed for a braising joint.

Beef Marrow
Nutritious fatty substances in beef bones.

Beurre Marie
Equal quantities of flour and butter used for thickening sauces.

Bind
To add sauces or egg to a mixture of fish or chicken or meat or other ingredients to hold them together.

Blanc
A cooking liquor of water, salt and lemon juice, slightly thickened with flour, used for cooking offal and certain vegetables.

Blanch
a. To put meat or root vegetables in cold water or green vegetables into boiling hot water, bring to the boil then drain off and plunge into cold water.
b. To cook potatoes in fat or oil without taking colour.
c. To plunge into boiling hot water in order to remove the skin, eg tomatoes, citrus fruits.

Blanquette
A white stew cooked in a stock from which the sauce is made.

Bombe
An iced cream made in a dome shaped mould.

Bouchees
Small puff pastry cases.

Bouquet Garni
A bunch of herbs; parsley, thyme and bay leaf usually tied inside pieces of leek or celery to facilitate their removal after use. Known also as a faggot.

Brunoise
Small neat dice.

Canape
A small cushion of brad toasted or fried on which are served various savoury foods.

Cartouche
A round greaseproof paper cut to the size of a pan which helps to prevent a skin forming on the surface of the contents. A small hole is cut into the middle to allow heat to escape. This is particularly important when the sauce needs to be rapidly cooled.

Chantilly
Sweetened whipped vanilla flavoured cream.

Chemise
To line a mould usually with a savoury jelly or fruit ice cream.

Chiffonade
Term denoting coarsely shredded lettuce, spinach or other salad vegetables.

Chine
To remove the spine bone from the meat around it; normally associated with the best end of lamb.

Clarify
To clear stocks, soups, cooking fat etc.

Cocotte
A small earthenware dish for cooking and serving one portion.

Compote
A term usually applied to fresh or dry fruit cooked in light syrup.

Concasse
A term used to describe food that is roughly chopped. Usually applied to tomatoes which have been skinned, the seeds have been removed and the flesh cut into dice.

Condiments
Items such as salt, pepper, mustard, vinegar and all spices.

Cordon
A thread or thin line of sauce.

Coupe
A combination of ice cream or different ices, fruit, liqueur, cream, whipped cream or other ingredients served in a glass or silver cup or goblet to which the term coupe also applies.

Court Bouillon
A well flavoured cooking liquor containing carrots, onions, vinegar or wine, bouquet garni and peppercorns. Used mainly for cooking fish.

Creaming
To beat butter, margarine or other fats with sugar to the consistency of whipped cream.

Croquettes
Cooked foods moulded into a cylinder shape, coated in egg and breadcrumbs and deep fried.

Croute
A cushion of fried or toasted bread on which are served various hot foods eg savouries, game stuffing etc. Also a pastry crust.

Darne
A cut of round fish across the bone.

Deglacer
To swill out the pan (in which food has been fried) with wine, stock or water in order to use the sediment in a sauce or gravy.

Devilled
The addition to a dish usually fish or meat of very hot condiments and sometimes a highly seasoned spiced sauce.

Dress
To pare, scale, clean and trim. To present a dish attractively.

Duxelles
Finely chopped mushrooms cooked with chopped shallots.

Escalope
A thin slice of meat or fish.

Fillet
The undercut from a joint of beef, lamb, veal or pork. Boned breast of poultry or game birds and a slice of boned fat.

Flambe
Food covered with a spirit and set alight.

Flan
An open tart.

Fleuron
A small crescent of puff pastry used as a garnish for fish and vegetable dishes.

Game
Wild birds and animals which are hunted for food. Game eats food not available to domesticated animals which gives it a distinctive flavour.

Garnish
To decorate a dish for the table.

Glaze
a. To colour a sauce or sugar coated dish under a grill or in an oven.
b. To coat with jelly or mask with melted butter.

Lard
To insert small strips of fat or bacon with the aid of a larding needle through or in a piece of lean meat, game or poultry.

Liaison
A combination of yolks of egg and cream used as a thickening agent.

Macerate
To sprinkle fruits with wine or liqueur and leave for a period of time in order to impart a flavour.

Mask
To cover or coat an item with sauce.

Medallion
Foodstuffs prepared in round flat medallion shapes.

Mousse
A dish of light consistency which may be sweet or savoury, served hot or cold.

Navarin
Brown lamb stew.

Pane
Pass through seasoned flour, beaten egg and white breadcrumbs.

Pass
To push through a sieve or strainer.

Pates
Savoury mixtures made principally from chicken, calves or pigs liver with the addition of other meat, poultry or game. They can be smooth or coarse in texture.

Pipe
To use a piping bag or paper cornet for ornamental decoration of food.

Piquant
A sharp spicy flavour.

SECTION A

Poultry
Domestic fowls reared for the table. It includes chickens, ducks, geese, pigeons and turkeys. Guinea fowl which used to be classed as game is now raised on farms and is classed as poultry.

Profiteroles
Small balls of choux pastry for garnishing soups or as a sweet course with cream and chocolate.

Prove
To put a yeast dough to rest in a warm place allowing it to rise and expand.

Puree
A smooth mixture obtained by passing food through a sieve.

Quenelle
Poultry, fish, game or meat pounded, sieved and shaped then usually poached.

Quorn
A vegetarian meat substitute developed from fungus.

Ramekins
Small porcelain or earthenware moulds.

Reconstitute
The replacing of the moisture content in dehydrated foods.

Reduce
To concentrate a liquid by boiling.

Refresh
To plunge hot food into cold water to prevent further cooking and retain flavour.

Render
Heating raw fats to extract the dripping.

Roux
A thickening of cooked flour and fat.

Sabayon
Yolks of eggs and a little water cooked till creamy. Can also be used as a sweet sauce.

Saute
To cook quickly in a shallow pan with a little fat. Literally the action of tossing the food in hot fat.

Score
Incisions made through meat or fish and some vegetables to assist the cooking process.

Seal
To close the pores of meat or vegetables by the application of intense heat.

Season
To add condiments to food to enhance its flavour.

Shred
To cut into thin strips eg lettuce, sorrel, onion.

Simmer
To keep a liquid just at boiling point. Simmering is a method used for dishes which need long slow cooking.

Singe
To burn off the down of a plucked bird by passing over a flame.

Skim
To remove the scum or fat from the surface of a liquid.

Souffle
A very light dish either sweet or savoury, hot or cold.

Troncon
A cut of flat fish across the bone.

Truss
To tie poultry or game with string to retain its shape while cooking.

Turn
To cut potatoes or vegetables into barrel or olive shapes. To groove or channel mushrooms.

Zest
The outer part of lemon and orange rind which contains the essential oils.

PART 1 - GENERAL

SECTION B

French Culinary Terms

a la carte
anglaise
au bleu
au gratin
le bain-marie
bien cuit
la blanquette
la bouchee
le bouchee
le bouillon
le bouquet-garni
brunoise
le canape
chantilly
le chateaubriand
le chaud-froid
Cloute
la cocotte
la compote
concasse
le consomme
le contrefilet
le court-bouillon
crapandine
la dariole
degorger
demi-glace
emincer
l'entrecote
en branche
l'escalope(f)
espagnole
etuver
farce
farci
le foie gras
le fricassee
fume
fumet
glace
hors d'oeuvre
jardiniere
julienne
le jus lie
le jus roti
la liaison
macedoine
la marinade
les mille-feuilles
mignonette
la mirepoix
mis-en-place
navarin
la noisette
noix
l'oeuf sur le plate
papillote
la pate
la paupiette
paysanne
printaniere
rechauffer
le roux
le sabyon
saute
le souffle
le supreme
table d'hote
le troncon
le veloute
le vol-au-vent

a la carte
Dishes on a menu prepared to order and individually priced.

anglaise
Beaten egg with oil and seasoning.

au bleu
"Blue". When applied to meat it means very underdone. When applied to trout it is a specific dish - truite au bleu.

au gratin
Sprinkled with breadcrumbs and/or cheese and browned.

le bain-marie
a. A container for keeping foods hot without burning.
b. A shallow pan of water for cooking foods in the oven without them burning or boiling.
c. A deep narrow container for storing hot soup, sauces and gravies.

Bien Cuit. Well cooked.

la blanquette
A white stew cooked in stock from which the sauce is made eg Blanquette de veau.

la bouchee
Small puff pastry case.

le bouillon
Unclarified stock.

le bouquet-garni
A faggot or bundle of herbs, usually parsley stalks, thyme and bay leaf, tied inside pieces of celery and leek.

brunoise
Small neat dice.

le canape
A cushion of toasted or fried bread on which food is served. It is used as a base for savouries. When served cold as canape Muscovite the base may be toast, biscuits, short paste or puff paste pieces with savoury food on top and glazed with aspic.

Chantilly
Sweetened whipped vanilla flavoured cream.

le chateaubriand
The head of the fillet of beef.

le chaud-froid
A creamed veloute or demi-glace with gelatine or aspic added, used for masking cold dishes.

Cloute
Studded, as with a clove inserted in an onion.

la cocotte
Porcelain fireproof dish.

la compote
Stewed fruit eg compote de poires.

concasse
Coarsley chopped, eg parsley and tomates.

le consomme
Basic clear soup.

le contrefilet
Boned sirloin of beef

le court-bouillon
A cooking liquor for certain foods eg oily fish, calf's brain, etc. It is water containing vinegar, sliced onion, carrots, herbs and seasoning.

Crapandine
Birds split down the back and laid out flat for cooking.

la dariole
Mould shaped like a small flower pot.

degorger
Using salt to draw out the moisture from food. Also to draw out bitter juices as in the case of aubergines.

demi-glace
Half glazed - reduced espagnole. Equal quantities of brown stock and brown sauce reduced by half.

emincer
To slice thinly or to cut into small pieces.

l'entrecote(f)
A steak from a boned sirloin.

en branche
Vegetables cooked and served as whole leaves.

l'escalope (f)
Thin slices of meat

espagnole
Spanish sauce; brown sauce.

etuver
To stew, braise or steam in its own juice.

farce
Stuffing.

farci
Stuffed.

le foie gras
Fat goose liver.

le fricassee
A white stew in which the poultry or meat is cooked in the sauce.

fume
To smoke eg salmon, ham, etc.

fumet
Concentrated stock from fish, game or meat.

glace
Iced.

hors d'oeuvre
Preliminary dishes of an appetising nature, some kinds are served hot.

jardiniere
Cut into batons.

julienne
Cut into fine strips.

le jus lie
Gravy thickened with arrowroot or cornflour or fecule.

le jus roti
Roast gravy.

la liaison
Name given to yolks of egg and cream when used as a thickening.

macedoine
A mixture of vegetables cut into 5mm dice, or a mixture of fruit.

le marinade
A richly spiced pickling liquid for enriching the flavour and tenderness of meats before braising.

les mille-feuilles
"Thousand leaves", a puff pastry cream slice.

migonette
Coarse ground pepper.

la mirepoix
Roughly cut onions, carrots, celery and a sprig of thyme and bay leaf used for flavouring soups and sauces.

mis-en-place
Basic preparations prior to serving.

navarin
Brown lamb or mutton stew.

la noisette
a. A small round cut of meat, usually lamb or mutton.
b. Shaped or coloured like a nut, eg noisette potatoes, noisette butter.

noix
Nut, also the cushion piece of leg of veal.

l'oeuf sur le plat
Egg cooked in an egg dish.

papillote
Cooked in a paper bag or buttered paper to preserve moisture and flavour.

la pate
A dough, paste or butter.

le pate
A pie or pastry; also a savoury meat or fish paste cooked in a piece dish.

la paupiette
A strip of fish, meat or poultry rolled round a stuffing and usually poached in a stock.

paysanne
"Country style". Usually vegetables cut into thin 15mm round or square shapes.

printaniere
"Springtime". Generally a garnish of spring vegetables.

rechauffer
To reheat leftover cooked foods.

le roux
Flour and fat cooked together for thickening.

le sabayon
Yolks of egg and a little water cooked until creamy.

saute
To cook quickly in a shallow pan with the minimum of fat.

le souffle
A light aerated dish, sweet or savoury hot or cold. Whites of egg are added to the hot basic preparation and whipped cream to the cold.

le supreme
Most delicate fillet cut, especially of chicken and fish.

table d'hote
A meal of several courses, which may have a limited choice served at a fixed price.

le troncon
A steak of large flat fish cut with the bone, after the fish has been cut in half lengthways.

le veloute
a. Basic sauce.
b. The basis of a soup of creamy consistency.

le vol-au-vent
A puff pastry case.

PART 1 - GENERAL

SECTION C

Metric Equivalents

SECTION C

Oven Temperature			
	^{0}F	^{0}C	Gas
Slow (Cool)	225	110	¼
	250	130	½
	275	140	1
	300	150	2
	325	160	3
Moderate	350	180	4
	375	190	5
	400	200	6
Hot	425	220	7
	450	230	8
Very Hot	500	250	9

Weight	
1000 milligrams (mg)	1 gram (g)
1000 grams	1 kilogram
28.35 grams	1 ounce (oz)
1 kilogram	2.2045 pounds 9lb

Note: For normal calculations the following are used:

30 grams = 1 ounce
1 kilogram = 2.2 lbs

Ounces	*Grammes*
1	30
2	60
3	90
4 or ¼lb	120
5	150
6	180
7	210
8 or ½ lb	240
9	270
10	300
11	330
12 or ¾ lb	360
13	390
14	420
15	450
16 or 1 lb	480

Inches	Millimetres Centimetres
ℳ	3mm
¼	6mm
½	13mm
1	25mm
1¼	30mm
1½	40mm
2	5cm or 50mm
4	10cm or 100mm

Energy value of food is measured in joules or kilocalories (usually written as Calorie). Terms used are:

Kilocalorie	Kcal
Joule	J
Kilojoule	kj
Megajoule	Mj

1000 j	=	1 kg
1000 kj	=	1 Mj
1 kcal (calorie)	=	4.19 kj
1 Mj	=	239 kcal (calories)

For normal calculations:

1 g protein yields 4 calories
1 g carbohydrate yields 4 calories
1 g fat yields 9 calories

Volume	
1000 ml	1 litre
28.4 millilitres	1 fluid ounce (fl oz)
568 millilitres	1 pint (pt)
1 litre	1.76 pints

For normal calculations the following are used:

30 millilitres = 1 fluid ounce
1 litre = 1¾ pints

Fluid ozs	*Millilitres*
1	30
2	60
3	90
4	120
5 or ¼ pint	150
6	180
7	210
8	240
9	270
10 or ½ pint	300
16	330
17	360
18	390
19	420
20 or 1 pint	450
1¾ pints	480
1 gallon	510
	540
	570
	600
	1 litre
	4½ litres

PART 1 - GENERAL

SECTION D

Herbs and Spices

Angelica
Allspice
Aniseed
Balm
Basil
Bay leaves
Borage
Capers
Caraway seed
Cardamom
Cassia
Cayenne pepper
Celery seed
Chervil
Capsicums
Chives
Cinnamon
Cloves
Coriander
Cumin
Dill
Fennel
Fines herbs
Fenugreek
Garlic
Ginger
Mace
Marjoram
Mint
Mustard
Nutmeg
Oregano
Paprika
Parsley
Pelargonium
Pepper
Poppy seed
Rosemary
Saffron
Sage
Sesame seed
Tarragon
Thyme
Turmeric
Vanilla

SECTION D

INTRODUCTION

1. Aromatic herbs and spices have been used in cooking from the earliest times and they were used extensively during medieval times when spiced food was popular. The upsurge in vegetarianism in recent years has increased awareness of the benefits herbs and spices can bring to what might otherwise be plain dishes. Although there is little nutritive value in herbs with the exception of parsley, they form an important ingredient in most every menu.

2. Herbs and spices are usually at their best when picked fresh and used immediately but it is nearly always more practical and convenient to use them in the dried state and excellent results can still be achieved. The best time to gather them for drying and storing is just before they begin to flower. They should be picked in dry weather whilst they are still fresh and crisp and before they have been exposed to excessive sunlight. After removal of all discoloured leaves they should be hung up to dry in bunches or in paper bags. The most satisfactory and hygienic method and also the cleanest, is to dry them in a cool oven or in a microwave. With the exception of sage, which is best dried and stored whole, large leaves should be picked from the stalk before drying.

3. Herbs should find a place in every kitchen. They help to bring out the natural taste of food, at the same time contributing their own subtle flavour and stimulating the appetite. Herbs should be added at the start of the cooking process to ensure the flavour blends into the dish.

4. Herbs and spices constitute additional seasoning and flavouring agents and, as such, it is necessary to guard against excessive use. In this connection it is emphasised that herbs and spices are used in cooking to improve the dishes natural flavours, not to hide them.
If particular herbs and spices need to be removed from the finished product they should be tied up in a small muslin bag before use and are then easily removed before service.

5. Fresh herbs can also make an attractive garnish. Parsley in particular, both chopped and whole, is well suited for this purpose. This particular herb is rich in Vitamin C and should be used frequently.

6. Dried herbs and spices obtained commercially should only be purchased in small quantities as their flavour and aroma deteriorate with lengthy storage. They should only be kept in airtight containers. Flavour from dried herbs is stronger therefore use only a third of the amount if substituting dried for fresh.

Angelica
Known for its green candied stalk which is invaluable with glace cherries as a sweet decoration. A piece of the stalk added with fruit to be stewed reduces the tartness a little.

Allspice
This is so called because of its flavour, a blend of cloves, cinnamon and nutmeg. It is the unripe fruit of the pimento tree. Allspice is ground and used in sauces, pickles, sausages, fruit pies, cakes and milk puddings.

Aniseed
The fruit and seed of the aniseed plant used for pickles and confectionery: sweet, spicy in flavour.

Balm
A sweet smelling herb, formerly used as a medicine for those suffering nervous complaints and depression. It is now used in soups, stews and casseroles.

Basil
An important culinary herb, which has a nutmeg flavour and has a special affinity for tomatoes and all dishes that feature tomatoes, also rich stews, sausages and soups; also used to make basil vinegar.

Bay leaves
The leaves of the bay laurel or sweet bay tree. They may be fresh or dried (when the flavour is more pronounced) and are used in many soups, stews, fish and vegetable dishes, in which case they can be used in a bouquet garni.

Borage
This grows in swampy soil. The young leaves can be used in salad. The herb is mainly used in drinks such as claret cup and Pimms.

Capers
Flower buds of the caper bush dried and stored in vinegar or brine. Used in pickles and sauces they are graded according to size, smallest being the best.

Caraway Seed
Grown mainly in Holland the seeds are about 5mm long, shaped like a moon, brown in colour. They are used in seed cake and certain breads, sauerkraut, cheese and also some liqueurs such as Kummel.

Cardamom
Aromatic seeds from the cardamom plant used to flavour soups, curries, meats and baked goods.

Cassia
Resembles cinnamon in flavour colour and aroma but is coarser and less expensive. May be used instead of cinnamon but is less suitable for puddings.

Cayenne Pepper
Cayenne is a red pepper which is obtained by grinding chillies. It is used on savoury dishes and cheese straws. It is pungent and very hot and should be used sparingly.

Celery Seed
The seed of the celery plant. Used when celery is out of season for flavouring soups, stews, fish sauces and cheese dishes. If used in soup or sauce it should be tied in a piece of muslin. Celery seeds and salt are ground together to make celery salt.

Chervil
Chervil has small neatly shaped leaves with a delicate aromatic flavour. It is used fresh or dry. Because of its attractive shape it is frequently used in decorating cold buffets dishes.

Capsicums
The family name for a number of varieties of pepper. There are two main types: Hot such as chillies and sweet such as those used as a vegetable.

Chives
Chives are cultivated principally for their leaves which grown in thick tufts resembling a coarse grass. They may be cut freely as new leaves quickly replace those taken. In flavour it is milder than onion and is invaluable in flavouring hors d'oeuvre, fish, poultry and meat dishes.

Cinnamon
The dried bark of the cinnamon tree. It may be used whole or finely ground and is used mainly as a spice for flavouring sweets, puddings, cakes and buns.

Cloves
The dried flower buds of the clove tree. Used in flavouring fruit, pickles and many other foods.

Coriander
A plant grown for both the leaves and its seeds. Its leaves are used in oriental cookery and to flavour cold soups and salads. The seeds which are hot and spicy are an essential ingredient in curries.

Cumin
Seeds similar to caraway though with a different flavour which are used in curry powder, seasoning sausages, rice dishes, soups, cheese and canapés.

Dill
The feathery leaves of this European plant are used as a herb and the dried seeds as a spice. Dill leaves have a mild caraway like flavour and need to be used in fairly large quantities. Used in salads and as a garnish for scrambled eggs and white meat dishes. Classically used with salmon in the Scandinavian dish Gravad Lax. The dried seeds are more pungent and are used to flavour vinegar and dill pickles.

Fennel
Traditionally associated with fish this herb has a strong aniseed flavour, it can be used in court bouillon when poaching fish. The tuberous root of Florence Fennel is used as a delicate vegetable.

Fines Herbs
This is a mixture of fresh herbs usually chervil, tarragon and parsley and is referred to in many classical recipes.

Fenugreek
This plant belongs to the pea family. The pods contain brown seeds which are roasted and dried, then ground for use as a spice. Fenugreek is an ingredient in curry powder.

Garlic

A bulbous vegetable similar to a small onion or shallot. It has a very pungent flavour and should be sparingly used for flavouring salads, stews, sauces etc.

Ginger
The root of a plant widely grown in the Far East. It should be boiled in water and sugar syrup until soft. Ground ginger is used for baked goods and the whole root is used in curries, pickles and sauces.

Mace
This is the dried outer of the nutmeg seed. Ground or in blade form it is used to flavour soups, sausages, cakes and puddings.

Marjoram
A sweet herb which may be used fresh in salads, pork, fish, poultry, cheese, egg and vegetable dishes and when dried, can be used for flavouring soups, sauces, stews and certain stuffings.

Mint
Various mints are grown for culinary use but mostly garden or spearmint is used. An aromatic green leaved herb, the leaves of which when chopped and mixed with sugar and vinegar make mint sauce. Used also for flavouring new potatoes, peas, lamb and cold dishes.

Mustard
The seed of the mustard plant, ground to a fine powder after most of the oil has been extracted. It is used in mayonnaise, devilled dishes and welsh rarebit.

Nutmeg
The nutmeg tree which grows in tropical countries bears a large fruit similar to an apricot which when ripe splits. Inside the nut is the seed which is the nutmeg. Its main uses are in baking and pastry work. It can also be used in pastas, egg and cheese dishes. It is grated and used sparingly.

Oregano
Is similar in flavour to marjoram but stronger. Used in Italian and Greek style cooking such as salads, soups, stuffing, pasta sauces, vegetables and egg dishes.

Paprika
A red powder prepared from a variety of sweet red capsicum. An essential ingredient of goulash and also used in pizzas and in pasta and chicken dishes.

Parsley
Probably the most commonly used herb. Used in fresh and dried form as a garnish. It can be added to almost every salad or deep fried in sprigs as a garnish. Fresh parsley combined with lemon juice makes an interesting sorbet. Other uses are dressings, soups, casseroles, fish, cheese, potatoes etc.

Pelargonium
A plant with snowy flavours and fragrant leaves which adds an unusual sweet flavour to milk puddings.

Pepper
Dried berries from the shrub of the pepper plant which grows in tropical climates. The black peppercorn being unripe and the white fully ripe. They are used whole as a flavouring agent or when ground for seasoning.

Poppy Seed
Small seeds of the poppy plant. Blue-black in colour. Mainly used for garnishing bread and rolls but can be used in pastries, dips, salad dressings and curries.

Rosemary
Rosemary is a strongly flavoured herb and should be used in moderation. It may be used fresh or dried in sauces, roast, stews and fish dishes.

Saffron
Grown mainly in Spain they are the dried strands from the saffron crocus. This is a flavouring and colouring spice used in rice dishes and giving a yellow colour. It is very expensive.

Sage
Common sage has pale green leaves. It has a strong slightly bitter taste. It aids the digestion when eaten with fatty foods. Mainly used as a stuffing for pork, duck and goose.

Sesame Seed
Rich, sweet nut-like flavour. Closely resembles the flavour of toasted almonds, mainly used to decorate yeast products.

Tarragon
A bright green attractive leaf used fresh to flavour béarnaise sauce and vinegar. Coloured for decorative purposes in cold fish and chicken dishes.

Thyme
The root of a plant of the ginger family similar in appearance to fresh ginger but bright orange when peeled.

Vanilla
Long black pods derived from the climbing orchids. Infuse a pod in milk or cream when making custard or sweet sauces. Vanilla essence is extracted from the vanilla pod and is used for flavouring sweet dishes.

PART 1 - GENERAL

SECTION E

Basic Methods of Cooking

1. Boiling
2. Stewing and Simmering
3. Braising
4. Steaming
5. Grilling
6. Roasting
7. Baking
8. Frying

INTRODUCTION

1. Cookery is the science of preparing food to ensure that it will appeal to the eye, be palatable, and be easily digested and that it will retain a maximum of its nutritive benefit.

2. Cooking is the application of heat in order to:

a. Destroy bacteria or other micro-organisms and any parasites that may be present in raw food.

b. Soften the muscular fibres in meat.

c. Break down the starch grains in vegetables.

d. Generally make food easier to digest.

METHODS OF COOKING

3. Foods are cooked by two basic methods:

a. MOIST HEAT**.** Moist heat is the application of heat with the addition of water, milk, stock, etc. This method is generally used for the less tender cuts of meat, fruits and vegetables, and specifically for those items that require a softening process. There are four types of cooking with moist heat.

i. Boiling is cooking in water or another liquid at a temperature of 100^{o}C.

ii. Simmering or stewing is cooking in water or another liquid at a temperature within a few degrees of boiling point.

iii. Braising is similar to simmering, and is a combination of roasting and stewing, it is used mainly for cooking inferior joints, poultry, offal and certain vegetables. Meat or poultry should be sealed quickly in a hot oven on a bed of roots. It should then be half covered with brown stock, covered with a lid and put back into the oven at a lower temperature about 180^{o}C to raise. Meat cooked in this way retains its own juices and also absorbs the flavour of the vegetables with which it is cooked.

iv. Steaming is cooking by passing steam from a closed boiler to a closed chamber or wet steaming oven; or by placing a steamer over an open boiler containing boiling water. Although in many respects steaming has the same effects as boiling, it is a more gradual process and allows the natural juices to be retained more completely. It is a satisfactory and economical means of cooking puddings and potatoes.

b. DRY HEAT. Dry heat is a direct application of heat without the addition of a liquid. There are four basic methods of cooking with dry heat.

i. Grilling is cooking by direct heat over coal, coke or charcoal, or under a gas flame or electric element.

ii. Roasting is cooking by dry heat in an oven. Meat or poultry to be roasted should be put into a baking tray basted with dripping and placed in a very hot oven for just sufficient time to seal the pores of the flesh and prevent the loss of nutritious juices during the subsequent cooking process. Cooking should then proceed at a lower temperature about 180^{o}C.

iii. Baking is cooking by dry heat in an oven without the addition of fat or basting.

iv. Frying is cooking with the aid of oils or fats, which should be sweet, clean and free from salt. There are two methods - deep frying and shallow frying.

v. Deep frying is cooking by immersion in hot fat or oil. The fat must be of sufficient depth to cover the food. When it is at the correct temperature, the fat will be still, not bubbling, and should give off a light blue haze. If the fat is not hot enough, anything put into it will become sodden, greasy and unpalatable.

iv. Shallow frying is cooking in a small quantity of fat, just sufficient to cover the bottom of the pan. Allow the fat to get thoroughly hot, without burning. During cooking, the food must be turned over to cook evenly throughout.

PART 1 - GENERAL

SECTION F

NUTRITIONAL GUIDELINES

This section should now be read in conjunction with
JSP 456 Defence Catering Manual Volume 1 Chapter 4
May 2008

INTRODUCTION

1. It is the responsibility of service caterers to provide a healthy and nutritionally balanced diet for their customers. This is particularly important in a service environment as there are different requirements for different situations. For example, recruits under basic training expend considerable energy, are building muscle and require more calories than those employed in less physically demanding roles. There are nationally recognised dietary goals and these are included as a target towards which caterers and their staffs should aim.

AIM

2. The purpose of this section is to provide Service caterers with sufficient knowledge, to enable them to provide a healthy and nutritionally balanced diet, conforming to Ministry of Defence Nutritional Policy.

MOD NUTRITIONAL POLICY

3. An extract from the NATO Final Report Into The Nutritional Aspects of Military Feeding is as follows:

> "The ultimate objective in military feeding is to provide the serviceman with a healthy balanced diet, to stated nutritional criteria, which is of maximum acceptability and within the constraints of cost and available logistics".

4. Translated into the operational scenario, Operational Ration Packs (ORP), supplemented by fresh food, meet these goals for active servicemen. This is reflected in the high calorific value of ORP. It is not intended to dwell on ORP, but to concentrate on the peacetime feeding commitment.

MAINTAINING THE BALANCE

5. Food provides the energy which enables us to perform our daily tasks; this energy is measured in kilocalories or kilojoules:

1 Calorie = 1 kcal = 4.2 kJ

To maintain optimum body weight, the amount of energy consumed must be balanced by the energy expended. It follows that excess eating leads to fatness unless the Calories are burnt off. In terms of long-term health it is not good to be either over or under weight. Over weight people can suffer from increased risk of heart disease, high blood pressure and diabetes in later life. As a nation, the British consume too much of the following items and caterers can help in cutting them down:

Animal Fat - Sugar - Salt

We tend to take too much energy from animal fat and too little from carbohydrates and starch items. The serviceman's diet should contain no more than about 75 grams of protein daily. Around 50% of energy should come from carbohydrates, 15% from protein and 35% from fat.

CUT DOWN ON FAT

6. The UK has one of the highest incidence rates of heart disease in the world. This is due to several factors, including smoking, lack of exercise and eating a fat-rich diet. Servicemen eat higher than the national average consumption of fat. UK recommendations are that energy derived from fat should be limited to 35% of the total energy requirement and only 11% of that should be saturated. The following table indicates the amount of fat in some foods:

* Individual meat pies 30g
* 120 g (4 oz) burger 20 g
* 1 sausage 10 g
* 1 sausage (low fat) 5 g
* Pork chop (fried, untrimmed) 25 g
* Pork chop (grilled untrimmed) 20 g
* Pork chop (grilled, trimmed) 8 g
* 85 g minced beef (undrained) 14 g
* 85 g roast chicken (skin on) 12 g
* 85 g roast chicken (skin off) 4 g
* 3 fish fingers (fried) 11 g
* 3 fish fingers (grilled) 6 g
* Cod in batter (fried) 9 g
* Cod (steamed) 1 g
* Thin cut chips 17 g
* Thick cut chips 8 g
* Oven chips 7 g
* 60 g Cheddar cheese 22 g
* 60 g Edam cheese 13 g
* 10 g butter or margarine 8 g
* 10 g low fat spread 4 g
* 1 small bag crisps 9 g
* 1 small bag crisps (low fat) 7 g

WHAT CAN WE DO ABOUT IT

7. Firstly we can understand the difference between the types of fat and those that should be avoided.

SATURATED FATTY ACIDS

8. These fatty acids are found mainly in dairy products, meat, cake, chocolate, biscuits and butter. Hard fats such as hard margarine, lard and cooking fat are all very high in SFA, as are some soft margarines unless made from polyunsaturated oils.

Advice

* Cut excess fat from all meat and skim fat from stews.
* Remove skin from poultry after cooking.
* Grill and bake rather than fry and roast.
* Fry in vegetable oil not fat.
* Cut down on pies and pastries.
* Limit intake of biscuits, cakes and potato crisps.
* Use skimmed or semi-skimmed milk.
* Use low fat products such as spreads, cheeses, mayonnaise.
* Eat more fish, poultry and lean red meat.

SUGAR

9. Consumption of sugar in the Armed Services is above average and contributes to tooth decay as well as obesity. A maximum of 11% of energy should be taken in the form of sugar, this represents about 60 g per day, from all sources. Three level teaspoons of granulated sugar weighs about 10g. Many foods and drinks contain sugar and some examples of high content are as follows:

* A 440ml can of soft drink ♂ teaspoons.
* Tinned peaches in syrup (120 g) 6
* Slice plain cake (50 g) 3
* Mars bar 5
* 3 tsps drinking chocolate 2.5

* 2 tblsps muesli (30 g) 2.5
* 2 tsps jam 2

10. Anyone who is overweight should avoid consuming sugar as there are no other dietary benefits from consuming it. Many recipes will tolerate a reduction in sugar.

NON-STARCH POLYSACCHARIDES (FIBRE) AND STARCH

11. The average daily intake of NSP should be around 18 g. Starch and fibre are found in plants of food made from plants and energy gained from foods such as bread, potatoes, rice, pasta is preferable to eating excesses of fat.
Fibre from cerals helps regularity, and fibre in fruit, pulses and vegetables can help reduce cholesterol in the blood. Examples of fibre in food are as follows:

* 150 g slice of wholemeal bread 2.6 g
* 150 g slice of white bread 0.8 g
* Wholemeal pastry portion 1.7 g
* White flour pastry portion 0.5 g
* 30/50 g portion of All Bran 7.5 g
* 30/50 g portion of Cornflakes 1.9 g
* 2 Weetabix 4.4 g
* 60 g brown rice (2 oz) 2.5 g
* 60 g white rice 1.4 g
* 60 g spaghetti 0.8 g
* 80 g baked beans 8.7 g
* 60 g frozen peas 10.8 g
* 60 g cabbage 2.5 g
* Banana 3.4 g
* Apple 1.5 g
* 30 g dried apricots 7.2 g

SALT

12. Generally, no more than the equivalent of half a teaspoon (4 g) of salt is required daily. Most of this will come from the salt used in the preparation of raw food and the salt contained in pre-prepared products such as pies. It follows therefore that added salt is generally not required at the table. We should aim to reduce the level of added salt by at least 50%. This can be done by using low-salt products or by only making salt available at a central point in the dining room. Salt can be reduced in cooking whilst still maintaining flavour enhancement. Examples of sodium content in foods are as follows:

Food per 100 g (3.5 oz) Sodium in g
* Salted butter 0.870
* Margarine 0.800
* Low-fat spread 0.690
* Unsalted butter 0.7
* Bread, Mother's pride 0.820
* Hovis 0.580
* Bread, wholemeal 0.540
* Potato crisps 0.550
* Instant potato 0.260
* All Bran 1.530
* Cornflakes 1.160
* Ready Brek 0.23
* Tinned garden peas (drained) 0.230
* Peas frozen (uncooked) 0.3
* Bacon, back (fried) 1.910
* Ham (tinned) 1.250
* Pork (lean) 0.76
* Kippers 0.990
* Mackerel (fresh) 0.130
* Fish cakes (frozen) 0.480
* Cod (fresh) 0.77
* Beefburgers (frozen) 0.880
* Salted peanuts 0.440
* Salt 38.850
* Low salt substitute 19.415
* Soy sauce 7.340

SUMMARY OF DIETARY RECOMMENDATION

13. The information in this section has been compiled from several sources and reflects the MOD policy for healthy seating and nutritional targets. Those managers responsible for providing food to Servicemen and women have a duty to adhere to this policy within single service instructions.

14. Healthy eating is very much a matter of education and ultimately, individuals are responsible for their own food intake.
However, caterers have a responsibility to ensure that a range of healthy alternatives is available, from which the informed diner may make a choice. Additionally, there are many ways in which responsible managers can cut down on less healthy aspect of the diet, by putting into practice the measures detailed in this section.

15. Energy intake should be related to the rate of activity; for example, recruits under basic training would fall into the "very active category". Daily net energy intakes guidelines for different levels of activity are as follows:

Most females - 2400 Kcal (10.9 MJ)
Most males - 2900 Kcal (11.5 MJ)
Male office workers - 2800 Kcal (11.7 MJ)
Fairly active - 3200 Kcal (13.4 MJ)
Very active - 3600 Kcal (15.5 MJ)

* Eat the right amount and type of food to maintain a healthy weight.
* Eat less fat, particularly animal fat and fat rich dairy products.
* Eat less sugar (simple carbohydrate).
* Eat less salt (sodium).
* Eat more fibre (complex carbohydrate).
* Limit consumption of alcoholic drinks to:

Men - not more than twenty one units a week.
Women - not more than fourteen units a week.

1 unit = ½ pint of bear, 1 glass of wine, 1 measure of spirits.

OILS AND FATS

16. This chart indicates which cooking oils, margarines and fats are healthiest, ie the ones with the smallest percentage of saturated fats. The higher the percentage of unsaturated fats the better.

Oil/Fat	*Saturated*	*Mononsaturated*	*Polyunsaturated*
Coconut butter	85%	7%	2%
Butter	60%	32%	3%
Palm oil	45%	42%	8%
Lard	43%	42%	9%
Beef dripping	40%	49%	4%
Margarine, hard (vegetable oil only)	37%	47%	12%
Margarine, hard (mixed oils)	37%	43%	17%
Margarine, soft	32%	42%	22%
Margarine, soft (mixed oils)	30%	45%	19%
Low fat spread	27%	38%	30%
Margarine, polyunsaturated	24%	22%	54%
Ground nut oil	19%	48%	28%
Maize oil	16%	29%	49%
Wheat germ oil	14%	11%	45%
Soya bean oil	14%	24%	57%
Olive oil	14%	70%	11%
Sunflower seed oil	13%	32%	50%
Safflower seed oil	10%	13%	72%
Rape seed oil	7%	61%	32%

DIETARY GOALS

17.

Dietary Constituent	*Recommendation*	*Foods to reduce*	*Foods to increase*
All Fat	85 grams a day to supply 35% of total energy requirement.	Animal fats and dairy produce. Also coconut and palm oil.	Vegetable oils especially olive oil, corn oil, sunflower oil. Poly-unsaturated spreads.
Saturated Fat	40 grams a day to provide 15% of total energy. Eventually 11% (30 g)	As above, lard, margarine, crisps, biscuits, cakes.	Low fat products Skimmed and semi-skimmed milk.
Polyunsaturated fatty acids	23 grams a day to provide 11% of energy requirement	Reduce solid fat	Increase liquid oils.
Sugar	60 grams a day	Sugar and all foods with high sugar content	
Salt and Sodium	Reduce by half to about 4 g per day	Most tinned and processed foods including cereals, biscuits, cakes and puddings	Potassium rich foods such as fresh fruit and vegetables, ie bananas and potatoes.
Fibre and Carbohydrate	30 grams a day. Increase carbohydrate except sugar. = to 18 g NSP	Substitute for energy from fat	Cereals, pasta, wholemeal bread, pulses, root vegetables, green leaf vegetables, fresh fruit.
Protein	75 grams per day, equal to about 15% of total daily energy intake	Reduce animal protein because of animal fat	Pulses, all vegetables, white fish

18. NUTRITIONAL INFORMATION TABLES

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat g/100g*	*Carbohydrate g/100g*
1	Butter	3.16	0.4	85.1	0.0
2	Butter Parsley	3.16	0.9	85.0	0.0
3	Cheese and Bacon Pie	1.86	12.6	34.9	22.0
4	Cheese and Buck Rarebit	1.17	13.6	18.0	17.0
5	Cheese Cakes	2.02	6.8	25.4	60.1
6	Cheese Cheddar	1.71	25.4	34.5	0.0
7	Cheese Cheshire	1.57	25.8	30.6	0.0
8	Cheese Dairylea	1.53	23.4	30.6	0.0
9	Cheese Danish	1.40	23.9	26.8	0.0
10	Cheese Danish Blue	1.58	25.4	31.1	0.0
11	Cheese Edam	1.26	24.4	22.9	0.0
12	Cheese and Egg Flan	1.69	17.7	28.6	20.7
13	Cheese Pizza Pie	1.44	11.4	23.9	22.9
14	Cheese and Potato Pastie	0.90	5.4	14.4	17.3
15	Cheese Quiche Lorraine	1.04	12.0	14.0	20.0
16	Cheese Savoury Flan	1.50	17.7	23.6	20.1
17	Cheese Shrimp Spread	0.83	20.1	12.7	0.9
18	Cheese and Tomato Pastie	1.05	6.6	18.5	16.0
19	Cheese Welsh Rarebit	1.08	8.8	15.0	23.2
20	Ice Cream	0.76	4.2	9.2	21.5
21	Ice Cream, Baked Alaska	1.18	4.7	9.7	46.5
22	Ice Cream, Orange Sorbet	0.50	0.1	0.4	30.5
23	Milk or Substitute	0.27	3.4	3.7	4.8
24	Egg and Bacon Flan	1.53	9.3	30.8	14.7
25	Egg and Bacon Pie	1.10	7.3	21.4	11.2
26	Egg Boiled	0.66	11.9	12.3	0.0
27	Egg Curry	0.41	6.2	7.1	2.6
28	Egg Custard	0.58	7.4	7.1	11.8
29	Egg Fried	0.96	14.1	19.5	0.0
30	Egg Mayonnaise	1.05	8.1	22.7	4.6
31	Egg Omelette	0.80	10.2	17.0	0.0
32	Egg Omelette, Cheese Tomato	1.42	17.8	29.9	1.0
33	Egg Omelette Ham	0.92	17.2	17.0	0.0
34	Egg Omelette Mushroom	0.81	8.9	17.9	0.0
35	Egg Omelette Savoury	0.95	17.5	17.5	0.0
36	Egg Poached	0.64	12.4	11.7	0.0
37	Egg Scotch	1.07	11.1	19.3	10.3
38	Egg Scrambled	1.11	10.1	25.2	0.6
39	Lard	3.66	0.0	99.0	0.0
40	Margarine	3.16	0.2	85.3	0.0
41	Oil ‘Prep’	3.70	0.0	99.9	0.0
42	Bread	1.03	7.8	1.4	52.7
43	Bread and Butter Pudding	0.55	4.9	5.3	16.8
44	Bread French	1.08	8.3	1.8	54.4
45	Bread French Fried	1.43	9.2	18.0	38.2
46	Bread Fried	2.33	7.6	37.2	51.2
47	Bread and Jam Fritters	1.61	4.6	24.0	40.4
48	Bread Rolls	1.02	8.0	1.4	51.7
49	Bread Spiced Pudding	1.33	4.3	9.2	57.3
50	Bread Spiced Slice	1.10	3.5	9.1	44.1
51	Buitoni Tagliatelli	0.79	10.4	5.0	26.5
52	Cornflakes	1.55	6.6	0.8	88.2
53	Corn sweet of the cob	0.42	1.8	0.2	24.0
54	Corn sweet fritters	0.93	3.8	9.9	31.1
55	Frosties	1.58	5.3	0.6	91.6
56	Golden syrup	1.27	0.3	0.0	79.0
57	Macaroni cheese	0.85	7.6	12.8	15.2
58	Macaroni creamed	0.93	6.5	5.1	39.3
59	Oatmeal block	2.21	6.5	28.5	65.5
60	Oatmeal porridge	0.19	1.4	0.9	8.2
61	Poppadoms	0.85	5.6	2.8	40.5
62	Puffed wheat	1.52	13.9	2.0	75.3
63	Ravioli on toast	0.39	4.0	1.2	17.1
64	Rice baked pudding	0.47	2.3	1.8	23.0
65	Rice boiled	0.52	2.1	0.3	29.6

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
66	Rice conde	0.75	4.3	4.9	31.2
67	Rice custard	0.72	4.6	4.3	30.0
68	Rice french pudding	0.59	3.6	7.6	15.7
69	Rice fried	0.85	3.6	7.3	32.5
70	Rice krispies	1.50	5.7	1.1	85.1
71	Rice savoury	0.74	4.4	6.5	26.5
72	Ricicles	1.48	7.1	1.5	81.7
73	Sago creamed	0.52	3.1	3.7	20.9
74	Semolina creamed	0.54	4.3	3.9	20.2
75	Shredded wheat	1.53	9.7	2.8	79.0
76	Spaghetti	0.28	1.9	0.5	14.0
77	Spaghetti bolognaise	1.52	12.5	9.9	58.5
78	Stuffing	1.19	6.2	13.0	37.6
79	Sugar	1.68	0.0	0.0	105.0
80	Sugar puffs	1.55	11.1	1.6	81.2
81	Weetabix	1.49	10.9	1.9	77.0
82	Yorkshire pudding	0.90	7.1	9.4	27.0
83	Bakewell tart	1.55	5.3	14.1	58.4
84	Banbury cake	1.70	7.0	15.5	62.3
85	Battenburg slice	1.58	4.6	15.8	58.3
86	Bavarois	1.06	17.9	6.6	31.8
87	Biscuits	1.75	10.9	3.9	88.9
88	Biscuits cheese	1.94	5.8	18.8	71.7
89	Biscuits chocolate	2.06	5.6	25.0	64.8
90	Biscuits cream cracker	1.99	8.1	16.2	78.0
91	Biscuits digestive	1.98	9.6	20.5	66.0
92	Blancmange	0.49	3.2	3.7	18.8
93	Bath buns	1.31	6.6	5.0	63.4
94	Buns Chelsea	1.48	6.6	12.3	57.2
95	Buns cream	1.71	5.3	28.5	35.2
96	Buns currant	1.28	7.4	7.6	54.5
97	Buns Danish	1.18	5.7	7.5	50.2
98	Buns fondant	1.58	8.2	7.9	71.6
99	Buns iced	1.42	4.4	4.5	73.4
100	Buns raspberry	1.50	8.8	7.8	66.6
101	Butterfly cakes	1.64	5.2	26.6	35.5
102	Caramel cream	0.32	3.1	3.0	10.0
103	Coconut Slice	1.93	4.3	28.9	49.5
104	Cream Horns	2.13	4.3	45.1	24.0
105	Cup Cakes	1.58	3.5	8.0	76.5
106	Danish Whirls	1.52	6.7	17.2	48.3
107	Devonshire Splits	1.13	7.7	4.5	51.8
108	Dough Cake	1.47	6.0	15.8	48.8
109	Doughnut	1.91	5.8	26.0	53.2
110	Éclairs Chocolate	1.83	4.1	34.6	30.2
111	Egg Custard Tart	1.79	7.3	26.2	43.7
112	Fairy Cakes	1.83	6.0	19.0	64.0
113	Fruit Tart	1.32	4.2	16.5	40.0
114	Fruit Tartlets	1.51	5.4	22.0	37.5
115	Gateaux Various	1.90	3.1	24.3	59.4
116	Iced Fancies	1.55	3.5	6.5	78.0
117	Jam Baked Roll	1.41	4.8	12.0	55.2
118	Jam Puffs	2.11	6.8	31.5	51.8
119	Jam Tarts	1.64	3.8	15.4	62.7
120	Jam Turnovers	2.11	6.8	31.5	51.8
121	Jelly	0.34	1.9	0.0	19.1
122	Jelly and Blancmange	0.52	4.3	0.3	27.5
123	Jelly Fruit	0.91	6.4	5.5	37.5
124	Jelly Milk	0.46	3.5	1.9	20.9
125	Lemon Curd Tart	1.55	4.2	18.0	50.8
126	Lemon Meringue Pie	1.72	5.4	21.4	52.5
127	Macaroon	1.59	5.4	22.2	42.5
128	Manchester Tart	1.58	6.2	19.7	46.9
129	Marshmallow	1.77	4.6	18.0	64.4
130	Meringues	1.17	3.0	0.0	70.0
131	Milk Pudding	0.42	2.2	1.7	20.0
132	Mince Meat Tart	1.62	5.0	22.3	44.1
133	Mousse Chocolate	0.79	4.5	13.2	13.8
134	Nelson Slice	2.04	6.7	29.3	52.4

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
135	Pancakes	0.72	5.0	15.1	5.0
136	Pastry Flaky	2.40	6.7	42.0	45.6
137	Pineapple Cake	1.13	3.2	16.5	29.0
138	Queen's Pudding	0.89	4.5	8.1	31.8
139	Rock Cake	1.60	6.0	16.0	65.6
140	Scones Fruit	1.56	5.5	13.0	61.5
141	Scones Milk	1.54	7.7	13.2	57.3
142	Shortbread	2.15	6.1	27.2	64.9
143	Shortcake Currant	2.10	5.2	24.0	70.1
144	Slabcake Cherry	1.62	3.8	15.0	62.3
145	Slabcake Fruit	1.72	5.6	13.5	70.1
146	Slabcake Iced	1.70	4.0	13.0	71.8
147	Slabcake Madeira	1.73	6.1	18.0	60.2
148	Slabcake Plain	1.57	4.9	16.0	56.1
149	Sponge Apple	1.35	4.9	16.7	40.5
150	Sponge Chocolate	1.29	8.9	7.0	55.1
151	Sponge Decorated	1.95	5.5	25.3	57.3
152	Sponge Plain	1.63	6.1	20.9	47.1
153	Sponge Steamed Almond	1.32	6.4	16.9	36.5
154	Sponge Steamed Blackcap	1.53	4.4	15.4	55.1
155	Sponge Steamed Cherry	1.02	3.1	9.3	38.9
156	Sponge Steamed Chocolate	1.67	5.4	25.0	40.6
157	Sponge Steamed Date	0.99	3.2	7.6	40.6
158	Sponge Steamed Fruit	1.08	3.2	7.6	46.6
159	Sponge Steamed Ginger	0.98	3.4	9.3	35.9
160	Sponge Steamed Golden	0.91	4.5	6.4	37.1
161	Sponge Steamed Marmalade	1.14	3.4	9.3	45.9
162	Sponge Steamed Pineapple	1.02	3.1	9.3	38.9
163	Sponge Steamed Strawberry	1.26	4.9	11.0	48.1
164	Swiss Roll	1.58	7.2	7.0	75.0
165	Syrup Flan	1.75	4.2	16.5	67.0
166	Treacle Tart	1.56	3.5	13.5	62.6
167	Trifle	0.62	3.3	5.6	22.4
168	Yorkshire Puddings	2.12	7.8	31.6	51.2
169	Asparagus Boiled	0.04	1.7	0.0	0.6
170	Baked Beans	0.39	6.0	0.4	17.3
171	Baked Beans on Bread	0.57	6.2	0.7	27.7
172	Baked Beans with Egg	0.62	8.6	4.8	18.5
173	Beans Broad Boiled	0.18	4.1	0.0	7.1
174	Beans Butter	0.39	7.1	0.0	17.1
175	Green Beans Sliced	0.07	0.6	0.0	3.9
176	Beans Runner	0.06	1.1	0.0	2.9
177	Beetroot Boiled	0.19	1.8	0.0	9.9
178	Brussels Sprouts Boiled	0.07	2.4	0.0	1.7
179	Cabbage Boiled	0.03	1.1	0.0	0.8
180	Cabbage Buttered	0.21	1.0	5.0	0.8
181	Cabbage Red	0.14	2.0	0.2	5.9
182	Carrots Boiled	0.08	0.6	0.0	4.3
183	Carrots Glazed	0.26	0.6	5.0	4.0
184	Carrots 'Vichy'	0.20	0.9	3.0	4.5
185	Cauliflower au Gratin	0.22	2.2	1.0	9.1
186	Cauliflower Boiled	0.04	1.5	0.0	1.2
187	Celery Raw	0.04	0.9	0.0	1.3
188	Cucumber	0.05	0.6	0.0	2.4
189	Garni	0.85	1.7	20.5	4.5
190	Leeks Boiled	0.10	1.8	0.0	4.6
191	Lettuce Raw	0.05	1.1	0.0	1.8
192	Marrow Boiled	0.03	0.4	0.0	1.4
193	Melon	0.13	0.7	0.1	7.2
194	Mushrooms Boiled	0.03	1.8	0.0	0.0
195	Mushrooms Fried	0.86	2.2	22.3	0.0
196	Mustard Cress	0.04	1.6	0.0	0.9
197	Onions Fried	1.43	1.8	33.3	10.6
198	Onions Pickled	0.10	0.2	0.0	6.3
199	Onions Raw	0.10	0.9	0.0	5.2
200	Onions Spring	0.18	0.9	0.0	10.6
201	Parsley	0.09	5.2	0.0	0.0
202	Parsnips Boiled	0.24	1.3	0.0	13.5
203	Peas Boiled	0.21	5.0	0.0	7.7

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
204	Peas Dried	0.42	6.9	0.0	19.1
205	Peas Processed	0.30	5.1	0.1	13.3
206	Peas Tinned	0.36	5.9	0.0	16.5
207	Peppers Green	0.06	0.9	0.0	2.8
208	Potatoes Baked in Jackets	0.36	2.0	0.0	20.3
209	Potatoes Boiled	0.34	1.4	0.0	19.7
210	Potatoes Boulangere	1.16	1.1	24.9	13.8
211	Potatoes Byron	1.03	5.2	19.7	13.1
212	Potatoes Chateau	0.59	1.3	7.7	17.9
213	Potatoes Chipped	0.99	3.8	9.0	37.3
214	Potatoes Creamed	0.50	1.3	5.0	18.5
215	Potatoes Creamed Baked	0.59	1.5	5.8	21.6
216	Potatoes Crisps	2.28	5.9	37.6	49.3
217	Potatoes Croquette	0.57	2.4	6.2	18.8
218	Potatoes Dauphine	0.67	3.0	8.3	19.20
219	Potatoes Duchesse	0.55	2.1	6.4	17.5
220	Potatoes Fondant	0.46	1.5	4.3	16.9
221	Potatoes Lyonaise	1.07	3.5	13.1	32.8
222	Potatoes Macaire	0.55	1.9	5.3	20.2
223	Potatoes Marquise	0.46	2.1	6.0	12.4
224	Potatoes Mash	0.50	1.5	5.0	18.0
225	Potatoes Parmentier	0.94	3.5	9.1	33.9
226	Potatoes Parsley	0.40	1.9	2.8	16.4
227	Potatoes Rissole	1.06	3.8	10.9	37.3
228	Potatoes Roast	0.23	2.9	4.2	30.0
229	Potatoes Saute	1.05	3.8	10.0	38.3
230	Potatoes Savoury	0.66	3.2	10.3	13.8
231	Potatoes Scaloped	0.88	3.2	9.4	29.8
232	Radishes	0.08	1.0	0.0	3.8
233	Salad American	0.17	1.1	1.5	5.8
234	Salad Coleslaw	0.14	0.9	2.0	2.9
235	Salad French	0.08	1.1	0.6	2.2
236	Salad Green	0.05	1.1	0.0	1.9
237	Salad Harlequin	0.22	2.4	1.8	7.2
238	Salad Mixed Vegetables	0.32	3.6	1.3	13.0
239	Salad Potato	0.35	1.3	1.3	17.6
240	Salad Prawn	0.43	18.7	2.9	0.4
241	Salad Rice	0.46	2.4	1.9	21.5
242	Salad Spanish	0.18	1.8	1.8	5.0
243	Salad Sweetcorn	0.42	1.2	1.5	21.4
244	Spinach Boiled	0.11	5.1	0.0	1.4
245	Swedes Boiled	0.08	0.9	0.0	3.8
246	Tomatoes Fresh	0.06	0.9	0.0	2.8
247	Tomatoes Juice	0.08	0.9	0.1	4.1
248	Tomatoes Tinned	0.08	0.8	0.0	3.9
249	Turnips Boiled	0.05	0.7	0.0	2.3
250	Vegetables green Savoury	0.46	2.6	10.3	2.2
251	Vegetables Mixed Frozen	0.30	4.0	0.0	14.4
252	Watercress	0.06	2.9	0.0	0.7
253	Apples	0.23	0.3	0.0	13.9
254	Apples Baked	0.13	0.2	0.0	8.0
255	Apple and Blackberry Pie	0.79	1.9	7.5	30.0
256	Apple and Blackcurrant Pie	0.84	2.2	7.8	32.3
257	Apple and Bilberry Pie	0.90	2.7	8.0	34.6
258	Apple Crumble	1.04	2.7	6.6	46.7
259	Apple Dutch Pie	1.07	3.6	9.0	42.2
260	Apple Fritters	0.82	3.3	6.6	32.6
261	Apple Pie	0.92	2.9	8.5	34.6
262	Apple and Raspberry Pie	0.95	2.8	6.7	40.9
263	Apple and Raspberry Stew	0.22	0.2	0.0	13.4
264	Apple Stewed Rings	0.49	1.0	0.0	29.5
265	Apple Turnovers	1.34	3.5	21.0	31.5
266	Apricot Flan	1.14	3.0	10.0	44.9
267	Apricot Tinned	0.45	0.5	0.0	27.7
268	Bananas	0.19	0.7	0.0	11.3
269	Banana Custard	0.43	2.5	2.6	18.2
270	Banana Fried	0.67	2.1	5.6	26.6
271	Banana Fritters	0.79	4.3	5.4	32.6
272	Coconut Desiccated	2.51	6.6	62.0	6.4

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
273	Currants Black	0.29	0.9	0.0	17.0
274	Grapefruit	0.14	0.6	0.0	8.2
275	Grapefruit Juice	0.22	0.4	0.1	13.4
276	Gooseberry	0.35	0.7	0.0	21.1
277	Gooseberry Crumble	1.13	2.6	8.4	48.5
278	Gooseberry Pie	1.01	3.1	10.0	36.9
279	Fruit Cocktail	0.41	0.3	0.0	25.0
280	Fruit Crumble	0.87	2.8	7.8	33.4
281	Fruit Flan	1.01	3.1	10.0	37.0
282	Fruit Pie	1.35	4.8	14.4	45.7
283	Fruit Salad Tinned	0.35	0.3	0.0	21.5
284	Fruit Slice	1.56	3.5	13.8	62.0
285	Fruit Turnovers	1.22	3.4	21.0	24.3
286	Olives Stuffed	0.42	0.9	11.0	0.0
287	Oranges	0.21	0.8	0.0	12.0
288	Peaches	0.20	0.6	0.0	11.8
289	Peaches Tinned	0.23	0.1	0.0	17.9
290	Pears	0.24	0.2	0.0	14.6
291	Pears Conde	0.46	2.0	3.9	17.9
292	Pear Crumble	0.95	2.7	7.2	40.1
293	Pear Flan	1.29	4.4	16.5	37.5
294	Pear and Pineapple Flan	1.29	4.3	16.5	37.6
295	Pears Tinned	0.33	0.4	0.0	20.0
296	Pineapple Flan	1.29	43	16.5	37.6
297	Pineapple Fritters	0.75	1.9	7.4	27.7
298	Pineapple Juice	0.22	0.4	0.1	13.4
299	Pineapple Tinned	0.33	0.3	0.0	20.2
300	Plum Pie	0.83	2.9	5.3	36.8
301	Plums Tinned	0.34	0.4	0.0	21.0
302	Prunes	0.34	1.2	0.0	20.2
303	Raisins	1.21	1.1	0.0	74.7
304	Raspberry Pie	0.87	2.5	7.5	34.2
305	Rhubarb Pie	0.78	2.1	7.5	29.2
306	Rhubarb Stewed	0.08	0.4	0.0	4.8
307	Rhubarb Tart	1.29	4.1	16.7	37.4
308	Strawberry Fresh	0.11	0.6	0.0	6.2
309	Strawberry Crumble	0.91	2.6	8.4	34.5
310	Strawberry Flan	0.88	3.0	9.4	29.9
311	Sultanas	0.15	1.7	0.0	7.6
312	Tangerines	0.20	0.9	0.0	11.5
313	Bacon and Egg Pie	1.88	13.7	32.6	27.5
314	Bacon Gammon Baked	1.29	39.0	16.9	0.0
315	Bacon Gammon Boiled	1.96	41.0	34.0	0.0
316	Bacon Gammon Steak Grilled	1.26	37.3	16.9	0.0
317	Bacon Streaky fried	2.11	24.0	46.0	0.0
318	Bacon Streaky grilled	1.33	28.0	23.0	0.0
319	Beef Braised	1.10	24.0	17.0	4.0
320	Beef Carbonnade	0.57	10.7	8.8	3.9
321	Beef Corned	0.97	27.9	13.3	0.0
322	Beef Corned Hot Pot	0.56	9.4	6.0	11.0
323	Beef Corned Hash	0.93	22.3	15.0	0.0
324	Beef Cottage Pie	0.52	3.9	5.0	17.1
325	Beef Cottage Pie Individual	0.52	3.5	5.0	17.3
326	Beef Curry	0.75	13.4	9.9	9.5
327	Beef Durham Cutlets	1.57	16.0	22.1	30.1
328	Beef Goulash	1.11	18.0	19.0	6.0
329	Beef Hot Pot	0.70	12.4	8.0	11.8
330	Beef Olives	1.72	21.7	36.5	0.0
331	Beef and Onion Rissole	0.79	23.9	8.9	3.4
332	Beef Patties	1.24	6.7	20.0	24.3
333	Beef Pie	1.16	19.0	15.8	15.8
334	Beef Pie Individual	0.97	9.3	12.0	22.7
335	Beef Pressed	0.95	25.1	14.2	0.0
336	Beef Sirloin Steak	1.55	21.3	32.1	0.0
337	Beef Steak Braised	0.98	30.0	11.0	4.0
338	Beef Steak Chasseur	1.11	19.5	20.5	1.5
339	Beef Steak Entrecote	0.85	19.2	11.8	5.3
340	Beef Steak Fried	1.10	20.4	20.4	0.0

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
341	Beef Steak Grilled	1.22	24.5	21.6	0.0
342	Beef Steak and Kidney Pie	1.08	13.0	12.8	24.1
343	Beef Steak and Kidney Pudding	0.67	11.5	6.2	15.6
344	Beef Steak and Kidney Pudding individual	0.72	12.9	8.4	11.6
345	Beef Steak and Kidney Stew	0.55	8.6	7.4	8.1
346	Beef Steak Mini	0.87	17.0	11.0	11.0
347	Beef Steak and Mushroom Pie	0.68	13.0	7.6	11.4
348	Beef Steak and Onion Casserole	0.47	14.2	5.3	2.0
349	Beef Steak Pie	0.98	19.0	10.8	15.8
350	Beef Steak Pudding	1.07	11.1	15.8	18.4
351	Beef Steak and Vegetable Pie	0.70	8.7	5.7	21.6
352	Beef Stew Brown with Dumplings	0.86	10.8	10.3	18.4
353	Beefburgers	1.19	1.0	12.0	28.3
354	Chicken a la King	0.93	17.5	17.0	0.0
355	Chicken Balantine	0.86	22.1	13.0	0.0
356	Chicken Braised	0.72	30.0	4.0	4.0
357	Chicken Chasseur	0.69	11.0	10.8	6.6
358	Chicken Croquets	0.77	17.5	9.0	8.6
359	Chicken Curry	1.34	21.0	9.1	40.6
360	Chicken Fricassee	0.68	13.1	9.9	5.4
361	Chicken fried	0.46	16.0	5.0	0.0
362	Chicken Grilled	0.93	17.5	17.0	0.0
363	Chicken and Ham Pie	1.12	18.4	17.9	9.2
364	Chicken Maryland	0.95	22.3	11.6	8.9
365	Chicken Pie	1.14	22.4	16.6	9.2
366	Chicken Roast	0.42	16.0	3.9	0.0
367	Chicken Southern Fried	0.95	22.3	11.6	8.9
368	Chicken Supreme	0.48	13.1	9.9	5.4
369	Chicken Sweet and Sour	0.63	8.2	10.4	6.8
370	Chicken Vol-au-Vent	1.06	7.3	17.7	17.3
371	Cornish Pasties	1.48	7.9	17.4	43.8
372	Duck Roast	1.26	22.8	23.6	0.0
373	Duck Savoury	1.37	27.8	20.3	8.9
374	Faggots	1.05	11.0	13.1	23.8
375	Haggis	1.20	13.6	15.5	24.7
376	Ham Boiled	1.74	16.3	39.6	0.0
377	Ham and Egg Pie	1.50	12.8	22.8	27.5
378	Hazlett	1.31	16.2	17.0	25.5
379	Heart Beef Braised	0.84	29.0	7.7	4.0
380	Kidney Ox Portuguese	0.72	19.0	8.0	6.1
381	Kidney Ox Saute	0.83	26.0	10.4	0.0
382	Kidney Ox Stewed	0.65	21.7	5.8	4.0
383	Kidney Ox Turbigo	1.08	25.5	10.3	16.8
384	Lamb Raised	0.89	26.0	10.4	4.0
385	Lamb Chops Braised	1.03	22.0	16.0	4.0
386	Lamb Chops Grilled	1.42	18.0	30.0	0.0
387	Lamb Cutlets Grilled	1.96	15.6	45.0	2.1
388	Lamb Leg Boiled	0.94	25.8	13.6	0.0
389	Lamb Printaniere	1.65	18.2	32.6	8.2
390	Lamb Leg Roast	1.07	25.0	17.4	0.0
391	Lamb Stewed	0.95	16.2	14.4	8.9
392	Lancashire Hot Pot	0.52	9.7	4.6	11.3
393	Liver Ox Braised	0.93	29.5	8.0	8.0
394	Liver Ox Fried	1.15	29.5	15.9	4.0
395	Luncheon Meat	1.26	14.7	25.0	5.4
396	Luncheon Meat Fritters	1.77	16.3	34.4	13.9
397	Meat Balls	1.11	14.8	16.4	15.7
398	Meat Balls and Noodles	0.93	9.6	9.4	25.9
399	Meat Loaf	1.03	13.7	20.2	2.9
400	Meat Minced Savoury	0.52	13.0	5.2	6.8
401	Meat Pasties	2.05	6.4	32.0	47.6
402	Meat Pie	1.41	12.0	19.8	29.7
403	Meat Pie Individual	1.38	11.0	16.8	35.4
404	Mutton Chop Grilled	1.51	15.0	34.0	0.0

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
405	Mutton Curry	1.01	16.0	14.0	14.0
406	Mutton Leg Roast	0.79	16.6	13.6	0.0
407	Mutton Scotch Pie	0.64	16.9	24.8	27.5
408	Nasi Goreng	0.63	3.7	1.5	31.8
409	Pork Belly	1.83	19.5	40.4	0.0
410	Pork Belly Stuffed	1.54	14.9	26.7	18.8
411	Pork Braised	1.02	30.0	12.0	4.0
412	Pork and Egg Pie	1.57	12.9	24.6	27.6
413	Pork Escalope	1.37	24.3	24.7	2.9
414	Pork Fried in Batter	1.63	24.6	29.5	7.5
415	Pork Leg Roast	1.28	24.6	23.2	0.0
416	Pork Loin Chop Grilled	1.81	15.4	41.9	0.0
417	Pork Mock Escalope	1.32	11.5	24.8	12.7
418	Pork Pie	1.69	15.8	26.6	27.5
419	Pork Schnitzel	0.60	9.4	10.7	2.9
420	Pork Sweet and Sour	1.43	20.1	23.6	13.3
421	Pork and Vegetable Pasties	1.31	9.8	20.0	25.2
422	Rabbit Braised	0.44	13.6	3.9	4.0
423	Rabbit Pie	1.39	10.3	23.0	23.0
424	Rabbit Stew	0.41	9.6	2.0	11.0
425	Sausage Black Pudding	1.36	10.5	20.5	26.7
426	Sausage Braised Beef	0.02	20.8	9.4	19.7
427	Sausage Bratwurst	1.15	9.4	26.6	0.6
428	Sausage Cake	1.37	8.7	24.8	18.8
429	Sausage Fried Beef	1.17	13.8	18.4	15.7
430	Sausage Fried Pork	1.32	11.5	24.8	12.7
431	Sausage Grilled Beef	1.31	16.8	19.6	18.7
432	Sausage Grilled Pork	1.48	13.5	27.2	15.3
433	Sausage Liver	1.26	16.2	25.7	1.8
434	Sausage Lyonnaise	1.33	14.7	21.6	17.5
435	Sausage Roll (Flaky Pastry)	1.63	7.1	23.0	40.9
436	Sausage Sweet	1.17	8.7	20.4	16.8
437	Sausage Toad in the Hole	1.18	7.7	20.3	18.6
438	Tail Ox Braised	0.98	23.0	9.8	14.2
439	Tongue Ox Pickled/Boiled	1.25	19.1	23.9	2.3
440	Tongue Ox Stewed	1.19	18.0	24.0	0.0
441	Turkey a la King	1.01	19.1	18.6	0.0
442	Turkey Roast	0.48	18.1	4.6	0.0
443	Turkey Roll	0.65	20.1	5.9	5.4
444	Veal Cutlet	0.89	30.4	8.1	4.4
445	Veal Escalope	0.90	27.5	10.5	2.9
446	Veal and Ham Pie	1.58	17.4	22.7	27.5
447	Cod Fried in Batter	0.83	19.6	10.3	7.5
448	Cod Fried in breadcrumbs	0.57	20.7	4.7	2.9
449	Cod fried Meuniere	0.77	22.9	8.5	4.0
450	Cod grilled	0.56	22.9	4.5	0.0
451	Cod en Goujon	2.15	18.3	47.5	5.3
452	Cod Poached	0.27	12.4	1.3	1.0
453	Cod Steamed	0.27	14.6	0.7	0.0
454	Fish Cakes	0.83	9.2	10.0	18.8
455	Fish Paste	0.71	14.8	9.5	6.4
456	Haddock Grilled	0.81	27.4	9.3	0.0
457	Haddock Poached	0.40	15.5	3.3	1.0
458	Haddock Smoked	0.27	14.5	0.6	0.0
459	Herring Poached	0.29	13.4	1.2	1.0
460	Kippers Grilled	0.44	12.5	6.2	0.0
461	Plaice Fried in Batter	0.86	19.2	11.3	7.5
462	Plaice Fried in Breadcrumbs	0.58	11.0	8.8	4.3
463	Prawn Crackers	2.18	42.2	39.4	0.0
464	Salmon Fish Cakes	1.10	13.0	16.0	18.0
465	Salmon Tinned	0.56	19.7	6.0	0.0
466	Sardines	1.18	20.4	22.4	0.0
467	Apple Sauce	0.35	0.3	0.0	21.5
468	Brown Sauce	0.43	1.1	0.0	25.4
469	Caper Sauce	0.09	0.7	1.3	1.8
470	Celery Soup	0.07	1.5	0.5	1.4
471	Chasseur Sauce	0.13	0.6	0.3	7.1
472	Cheese Sauce	0.74	6.6	13.0	9.0
473	Chicken Noodle Soup	1.40	13.3	6.3	58.9

SECTION F

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
474	Chicken Soup	0.04	0.3	0.2	2.0
475	Chocolate Sauce	0.66	3.8	10.0	14.3
476	Cranberry Sauce	0.30	1.2	3.9	8.4
477	Curry Sauce	0.21	0.3	0.0	12.5
478	Custard	0.48	3.4	3.9	17.5
479	Dejour Soup0.01	0.01	0.5	0.0	0.3
480	Gravy	0.04	0.5	0.2	1.8
481	Household Soup	0.16	0.9	2.0	4.3
482	Kidney Soup	0.06	0.9	0.5	1.6
483	Leek Soup	0.09	0.5	1.1	2.8
484	Lentil Soup	0.41	5.3	4.8	9.1
485	Melba Sauce	0.89	0.5	0.0	55.3
486	Minestrone Soup	0.12	0.5	2.4	1.5
487	Mint sauce	0.06	1.0	0.0	2.9
488	Mulligatawny Soup	0.15	2.0	1.3	4.3
489	Mushroom Soup	0.29	1.4	3.0	9.6
490	Onion Sauce	0.36	2.4	5.6	7.1
491	Oxtail Soup	0.06	0.5	0.6	1.7
492	Potato Soup	0.09	0.5	1.1	2.8
493	Salad Cream	1.55	3.3	36.0	10.3
494	Scotch Broth	0.25	3.7	4.6	1.1
495	Solferino Soup	0.33	1.5	3.8	10.3
496	Sweet and Sour sauce	0.63	2.3	0.1	36.4
497	Tartar Sauce	0.45	2.0	0.4	24.9
498	Tomato Soup Creamed	0.39	1.9	4.0	13.1
499	Tomato Soup Tinned	0.28	0.9	3.1	9.4
500	Vegetable Soup	0.12	1.7	0.9	3.7
501	After Eights	1.94	4.1	18.8	73.3
502	Boiled Sweets	1.40	0.0	0.0	87.3
503	Bounty Bar	1.98	4.8	26.1	58.3
504	Chocolate Milk	2.41	8.7	37.6	54.5
505	Chocolate Fruit and Nut	2.10	4.0	27.4	63.7
506	Chutney Apple	0.85	0.8	0.1	52.3
507	Crunch Bar	1.97	5.0	17.9	76.5
508	Chocci	1.05	5.8	23.4	5.2
509	Jam	1.11	0.6	0.0	69.0
510	Kit Kat	2.09	7.0	27.2	60.0
511	Lemonade	0.09	0.0	0.0	5.6
512	Marmalade	1.11	0.1	0.0	69.5
513	Mars Bar	1.85	5.3	18.9	66.5
514	Milky Way Bar	1.98	4.8	26.1	58.3
515	Peanuts	2.43	28.1	59.0	8.6
516	Penguin Bar	1.85	5.3	18.9	66.5
517	Piccalilli	0.25	1.2	1.0	12.1
518	Pickles Mixed	0,10	0.4	0.0	6.0
519	Picnic Bar	2.09	7.0	27.2	60.0
520	Sugar Nuts	2.28	17.1	44.6	21.1
521	Toffee Nuts	2.11	11.3	35.4	37.7
522	Milk Powder	2.18	27.0	29.7	38.8
523	Milk Tinned		Multiply by 1.025 and count as Milk		
524	Egg Raw	0.66	11.9	12.3	0.0
525	Barley	1.53	7.7	1.7	83.6
526	White Flour	1.48	7.9	1.0	81.9
527	Baking Powder	0.69	5.2	0.0	37.8
528	Cornflour	1.51	0.5	0.7	92.0
529	Macaroni Raw	1.52	10.7	2.0	79.0
530	Oats Rolled	1.69	12.1	8.7	72.8
531	Rice Polished	1.53	6.2	1.0	86.8
532	Sago Raw	1.51	0.2	0.2	94.0
533	Semolina	1.49	10.7	1.8	77.5
534	Spaghetti Raw	1.55	9.9	1.0	84.0
535	Asparagus	0.08	3.4	0.0	1.1
536	Beans Dried	1.26	23.8	0.0	53.2
537	Beans Tinned	0.07	0.6	0.0	3.9
538	Beans Broad Raw	0.34	7.2	0.5	12.6
539	Beans Green Raw	0.11	1.1	0.0	5.5
540	Beans Runner Raw	0.07	1.1	0.0	2.9
541	Brussels Sprouts Raw	0.13	3.6	0.0	4.6
542	Cabbage Raw	0.10	2.2	0.0	3.8

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
543	Carrots Raw	0.10	0.7	0.0	5.4
544	Cauliflower Raw	0.10	3.4	0.0	2.8
545	Leeks Raw	0.13	1.9	0.0	6.0
546	Marrow Raw	0.12	0.5	0.0	7.0
547	Mushrooms Raw	0.05	1.8	0.0	1.4
548	Peas Fresh	0.27	5.8	0.0	10.6
549	Peas Dried	1.17	21.5	0.0	50.0
550	Potatoes Peeled	0.30	2.5	0.0	15.9
551	Potatoes Raw	0.37	2.1	0.0	20.8
552	Potatoes Ready Chipped	0.46	2.5	0.0	25.9
553	Potatoes Tinned	0.18	0.6	0.0	10.3
554	Swedes Raw	0.09	1.1	0.0	4.3
555	Turnips Raw	0.07	0.8	0.0	3.8
556	Apple Rings	0.98	2.0	0.0	59.0
557	Apple and Bilberry Dried	0.98	2.0	0.0	59.0
558	Apple Tinned	0.33	0.7	0.0	19.7
559	Apple and Raspberry Dried	0.98	2.0	0.0	59.0
560	Glazed Cherries	0.49	0.4	0.0	29.0
561	Fruit Dried (dates)	1.06	2.0	0.0	63.9
562	Lemons	0.06	0.8	0.0	3.2
563	Rhubarb Raw	0.03	0.6	0.0	1.0
564	Plums Raw	0.11	0.6	0.0	6.2
565	Strawberries	0.11	0.6	0.0	6.2
566	Aspic Powder	0.62	20.3	7.3	0.0
567	Bacon Gammon with Bone	0.98	11.5	21.2	0.0
568	Bacon Gammon Steak	1.26	37.3	16.9	0.0
569	Bacon Streaky Raw	2.19	9.0	55.0	0.0
570	Beef Minced Raw	0.88	17.0	16.0	0.0
571	Curry Paste	0.98	9.5	10.8	26.1
572	Beef Tinned	0.47	16.0	5.4	0.0
573	Beef Diced	1.10	20.1	20.6	0.0
574	Beef Prep	0.88	17.0	16.0	0.0
575	Beef Topside	0.80	20.2	12.3	0.0
576	Beef Silverside	0.67	20.9	8.5	0.0
577	M and B Pie	1.25	24.0	15.8	15.8
578	Beef Striploin	1.32	16.6	28.0	0.0
579	Beef Rump	1.10	18.3	21.4	0.0
580	Beef with Bone	0.99	12.4	21.0	0.0
581	Beef Bones	0.11	1.9	2.0	0.0
582	Beef Steak and Kidney Pudding Ind	0.75	12.8	9.6	11.0
583	Beef Mini Steak Raw	0.94	18.1	12.5	1.5
584	Beef Steak Stew Tinned	0.48	16.0	5.4	0.6
585	Beef Heart Raw	0.44	17.1	3.6	0.8
586	Chicken Whole	0.51	15.0	7.0	0.0
587	Duck Balantine	0.39	14.0	4.2	0.0
588	Ham with Bone	2.07	15.0	49.0	0.0
589	Ham Tinned	0.89	27.1	13.4	0.0
590	Kidney Ox	0.49	17.0	5.3	0.0
591	Lamb Prep	0.76	18.8	11.8	0.0
592	Lamb Chop Raw	1.68	10.6	40.4	0.0
593	Liver Ox	0.58	16.5	8.1	0.0
594	Mutton Leg with Bone	1.05	18.0	20.0	0.0
595	Pork Stuffed	0.91	17.0	12.7	9.4
596	Pork Prep	0.81	20.4	12.6	0.0
597	Pork Leg with Bone	0.80	15.4	14.6	0.0
598	Rabbit Raw	0.51	23.2	3.1	0.0
599	Sausage Black Pudding	1.62	14.1	36.9	0.7
600	Sausage Frankfurter	1.15	9.4	26.6	0.6
601	Sausage Pork Raw	1.37	8.8	28.8	9.8
602	Sausage Beef Raw	1.09	9.9	17.0	18.0
603	Tail Ox Raw	0.68	14.0	11.9	0.0
604	Turkey	0.72	17.0	11.7	0.0
605	Cod Steaks	0.25	13.0	0.7	0.0
606	Cod with Bone Raw	0.21	11.0	0.5	0.0
607	Haddock Raw	0.29	15.9	0.6	0.0
608	Haddock Smoked	0.33	18.0	0.6	0.0
609	Herring Smoked	0.66	20.4	8.4	0.0
610	Kippers Raw	0.92	19.0	16.0	0.0

No	*Food Item*	*Energy Value MJ/100g*	*Protein g/100g*	*Fat* g/100g	*Carbohydrate g/100g*
611	Plaice Raw	0.17	8.3	0.9	0.0
612	Blancmange Powder	1.61	10.5	12.1	61.5
613	Brown Sauce Powder	0.46	5.2	2.2	0.0
614	Custard Powder	0.21	0.0	0.3	12.7
615	Jelly Crystals	1.10	6.1	0.0	12.7
616	Lemonade Powder	1.07	2.1	0.0	64.5
617	Mince Meat	0.54	0.6	3.3	25.5
618	Orange Squash	0.58	0.3	0.0	35.8
619	Puff Pastry	1.79	4.9	31.4	34.1
620	Soup Powder	0.45	3.9	2.2	18.9
621	Tomato Puree	0.10	1.0	0.1	5.0

PART 1 - GENERAL

SECTION G

MICROWAVE COOKERY

1. Introduction
2. Application of microwave cookery
3. Microwave oven design
7. Factors which influence heating
15. Using the microwave

Reviewed May 2008

SECTION G

INTRODUCTION

1. Microwaves are electromagnetic, short length, high frequency, radio waves which vibrate at a frequency of two thousand four hundred and fifty times per second. In a microwave oven these waves are generated in a valve known as a magnetron and then directed via a wave guide into the oven where they are reflected around and establish an alternating electromagnetic field. It is an interaction between this alternating field and the food components which generates heat and cooks the food. Microwaves penetrate food and generate heat to a depth of about 25mm then heat is transferred to the remaining areas of the food by conduction and convection and this completes the cooking process. It is important to understand that a microwave oven does not cook or reheat food in the same way as a conventional oven.

APPLICATION OF MICROWAVE COOKERY

2. Microwaves are suitable for cooking, reheating or defrosting foods and will give comparable results in considerably reduced cooking times. They do not however give colour to the cooked surfaces of the food, to achieve this, the food must be subjected to a period of conventional cooking, i.e. grilling or baking in a hot oven. Some microwave ovens have a combined microwave and conventional facility and are known as combination ovens.

3. Reheating chilled and frozen prepared food is greatly facilitated in a microwave oven. All food undergoing this process must be heated to reach a temperature of 70°C for two minutes at its centre and this should be checked with a temperature probe.

4. Defrosting frozen foods is achieved by microwaving for short periods interspersed with periods of rest to allow the heat to penetrate the food by conduction. Modern domestic and industrial ovens normally have a facility which allows automatic programming of this function.

MICROWAVE OVEN DESIGN

5. There are two grades of microwave oven, domestic and industrial:

a. Domestic microwave ovens are usually rated at 650w or below and are frequently equipped with a turntable to help ensure that foods cook evenly.

b. Industrial microwave ovens are rated from 700w to 1400w and are designed and built to more robust electric and mechanical standards to cope with much greater use. They are not equipped with turntables but have fans built into the base or top of the oven, sometimes both. These are known as stirrers and help to achieve an even distribution of the microwaves.

6. Both domestic and industrial ovens usually have variable power control systems. Because microwaves can pass through almost any substance except metal the oven cabinets are metal lined to provide a safe barrier. All models have a tight fitting door which is equipped with a device which automatically switches off the power if the door is opened. Doors are usually fitted with a glass panel reinforced with metal mesh to prevent microwaves escaping. Because cooking times are extremely critical an automatic timer is essential.

FACTORS WHICH INFLUENCE HEATING

7. In general the lower the rated power output of the appliance, the slower it heats, but it is important to assess the performance of the oven on loads representative in mass of the foods which will be heated in it.

8. The lower the starting temperature, the longer it takes to heat.

9. Although it takes longer to heat dense foods through to the centre, some dense foods can reach high surface temperature very quickly and can be a fire hazard. Each food has a finite depth to which the heating effect of microwaves will penetrate. Beyond this, all heating is by the methods of conduction and or convection.

10. Irregular shapes and large variations in component size should be avoided if consistent reheating/cooking both within and between different batches of a given product are to be achieved.

11. For a given food, the greater the quantity in terms of mass, the longer will be the heating time. The relationship between heating time and increased mass is not generally proportional.

12. Containers transmit (glass), absorb (some ceramics) or reflect (foil or metal) microwaves. This influences greatly the heating of foods within these packs. The shape of the pack also influences the reheating within the pack.

13. For products which are normally presented moist, covering the product assists faster, more even heating, with greater moisture retention and less likelihood of products being spilled or splattered in the oven.

14. The specific heat of a product is of great influence in product reheating. Those with low specific heat capacity eg oil, although poor absorbers, can reach high temperatures very quickly, whilst high heat capacity materials, even if good absorption, rise in temperature more slowly. Electrolytes, such as salt, can lead to areas of overheating in products and, because of their more rapid absorbance of energy, lower penetration depths into the food.

USING THE MICROWAVE

15. Manufacturers of microwave ovens produce user instructions and recipes written for their own machines and the best results are achieved by conforming with these. All the major oven manufacturers have demonstration units at which courses for microwave cookery are available and attendance on these is very worthwhile.

PART 1 - GENERAL

SECTION H

CHEESE

SECTION H

HISTORICAL BACKGROUND

1. Cheese has been valued as a food since before Roman invasion of Britain. It was recognised by the Romans as a valuable source of energy and was provided regularly as part of their soldiers rations. It is likely that prior to this time the ancient Britain's made cheese of acid curd origin. Certainly within three hundred years of the occupation cheese making was a well established aspect of agriculture in Britain and was widely available as a popular and nourishing food.

PRODUCTION

2. Cheese is a solid product made from milk. It is produced by coagulating the protein (casein) in milk so that if forms curds, usually by adding rennet* (or a vegetable equivalent extracted from certain fungi) and a "starter" made from a culture or bacteria. After draining off the liquid (whey) the resultant curds are then pressed and formed into the particular shape required for the cheese variety, then stored for ripening. As cheese undergoes the ripening process it changes in taste, texture and appearance and each variety takes on its own special characteristic. Most cheese is made from cows' milk with a small amount of specialist cheese being made from ewes' or goats' milk. The type of milk and also the milk itself, (whether it is morning or evening milk or full cream or skimmed), combined with the different techniques used to separate the curds and whey (solids and liquids) and ripen the cheese, result in the many different types of cheese now available to us.

***Rennet:** A preparation made from the stomach membrane of a calf.

3. Much of the popular cheese varieties we buy are produced in large quantities under factory conditions (Cheddar cheese particularly lends itself to this process) using pasteurized* skimmed, semi-skimmed or whole milk from various sources. They are also available as a "farmhouse" product, made by traditional methods on the farm and using unpasteurized whole milk from a single herd of cattle. The process is the same except that farmhouse is allowed to mature for longer than factory produced cheese, which gives an improved, more mellow flavour and a richer cheese. It therefore follows that farmhouse cheese will often cost more than the factory product.

4. Special varieties from certain areas cannot be produced in large quantities under factory conditions due to local climate seasonal changes and the type of feed required for the animal from which the milk is obtained. These varieties are not available in such quantities as the more popular cheeses and are bound to be more expensive and sometimes more difficult to obtain.

* **Pasteurization:** A process of heat treatment used to destroy bacteria in certain food products, particularly milk, invented by the French chemist Louis Pasteur.

TYPES OF CHEESE

5. **Semi Hard and Hard Cheese**. These are made by removing an amount of whey from the curd. This involves the curds and whey heated then textured and milled. The curds are then cut into blocks and piled repeatedly until the correct acidity is reached.

6. This is done by the process known as "cheddaring"; the cutting, piling and turning causes the whey to drain from the curds to achieve a texture of curd not unlike chicken breast meat.

7. The blocks are then pressed, salted and moulded before being ripened. This process, as the name implies, is used to make Cheddar cheese. The name has also been adopted for the process of making all cheeses manufactured in a similar way. Not all cheeses are "cheddared" and it is this variation of the recipe that gives cheese its different texture and consistency. Hard cheeses often undergo a further heating and shrinking process to remove whey and are then left to mature for longer than semi hard cheeses. Examples are: Semi hard: Cheddar and Edam, Hard: Parmesan and Gruyere

8. **Fresh and Soft Cheese**. True soft cheese is made by coagulating unpasteurized milk with rennet and, before that, a "starter" (a culture or bacteria) which gives the cheese a clean and acid flavour. The cheese is not textured, milled or pressed and they whey is allowed to drain naturally from the curd. The majority of soft cheeses are foreign in origin and are sold either in the fresh state or when fully ripe and mature, when the flavour is strongest. British soft cheeses are usually sold "fresh" or unripe, when they have a milder flavour but can be ripened in the same way as foreign cheeses. Some soft cheeses are made from semi skimmed milk to give a low calorie, low fat product. These cheeses have smooth, yoghurt like texture and are bland with a slightly acid taste. Examples are: Fresh British: Lymeswold, Foreign: Camembert and Brie, Low Fat: Fromage Frais.

9. **Cream Cheese**. Cream cheese can also be classified as a soft cheese but is best regarded separately due to its particular nature. It is manufactured in a similar way to soft cheese but is made from cream instead of milk. There are two recognized varieties of cream cheese made with either single or double (or, in some cases, triple) cream. A typical cream cheese is a soft bodied, unripened cheese which has a rich, full and mildly acid flavour.

10. It may sometimes have a granular texture but with a buttery consistency and creamy appearance. Usually, it is moulded into small cylindrical, square or rectangular shapes of varying sizes. Cream cheeses are sometimes coated with herbs or nuts or flavoured with liquor, herbs or garlic. Examples are: Single cream: French Demi-Sel, Full cream: Scottish Caboc and French Boursin.

11. **Acid Curd Cheese**. Acid curd cheese is sometimes classed as a soft cheese but the process of forming the cheese is quite different. Acid curdling is brought about by the addition of lactic acid* which reacts upon the protein in the milk. This action yields a curd of high acidity with quick drainage properties and a granular texture. The resultant cheese has a clean, acid flavour and a soft, spreadable quality. Cottage cheese is a perfect example and is made from skimmed milk. After processing, salt, single cream and sometimes herbs fruit and even vegetables are added to alleviate the bland taste and add to the smooth velvety texture of this cheese.

***Lactic Acid:** A clear, odourless, syrupy acid formed in sour milk.

12. **Low Fat Cheese**. Low fat hard cheeses such as Cheddar and Cheshire have been produced in response to the need for fat reduced cheeses which are useful in diets. They are made in a similar way to traditional hard cheeses but with half their fat content and the consequent reduction of calories. Also, vegetable rennet is often used so that the cheese can be used for those on a vegetarian diet. Low fat cheese tends to be mild in flavour and when used for cooking can be improved with the addition of mustard or, longer storage than usual, which will allow the flavour of the cheese to develop and mature.

13. **Processed Cheese**. These are made by combining cheese with a number of other ingredients such as flavourings, herbs, spices and cream and are manufactured using a "melting" process (literally, the cheese is melted then the other ingredients added and the cheese allowed to set to the desired shape). Processed cheeses are mostly sold in portions. They can be wrapped in foil and shaped into triangles or cubes or, first shaped then thinly sliced and wrapped in pre-

portioned packs. They are useful in making sandwiches, as an addition to a packed meal or, as a portion control ingredient for hamburgers and appetizers.

14. **Blue Cheese**. Although not strictly a cheese type, blue cheese varieties are quite different and are best explained in this section. Some cheeses develop veining during the ripening process. This veining is caused by bacteria in the cheese which may occur naturally or be introduced. The mould induced by the process is a species of Penicillin Roquefort and is nowadays incorporated in the milk or the curd during manufacture. The curd is soft and velvety and conditions throughout manufacture and maturing are conducive to the growth of the blue mould which provides the distinctive flavour and character of the cheese. All blue cheeses are pierced with stainless steel needles at least once during the maturation period. This allows air to penetrate into the body of the cheese and mould growth to develop more quickly.

15. **Stilton** is perhaps one of the best known of the blue cheeses. It is the only registered generic variety of traditional English cheese and is made only from whole British milk and produced in the three countries of Leicestershire, Derbyshire and Nottinghamshire.

Even with today's modern methods of production, perfect Stilton will take four months or more to mature and cannot be mass produced as it needs individual attention, thus production remains traditional and labour intensive. There are many other varieties of blue vein cheese, some of which are: English: Blue Cheshire, Lymeswold, French: Roquefort, Blue De Bresse, Danish: Danish Blue, Italian: Gorgonzola, Dolcelatte.

16. **Farmhouse Cheese**. In Britain, cheeses made on the farm in particular areas have become very popular in recent times. They are sought after for their special qualities and flavour. Some are, in fact, quite rare, as only small amounts are produced and not freely available in supermarkets. However, they can sometimes be found in specialist cheese shops or delicatessens when the search for them is definitely worth it.

17. **Blended and Additive Cheeses**. These are cheeses made form two or more cheese varieties or cheeses that contain an additional ingredient other than cheese. They have been produced to meet the demand for greater variety than the standard produce. Some cheese manufacturers and even some farm producers now market a wide selection of cheeses that are blended with many and various additional food items. Cheese making remains a far from static business, with new varieties coming into production (and some disappearing after test marketing). As an example, a British cheese Company made international headlines when it introduced Cheddar blended with beer: teetotallers complained it would corrupt the young! This publicity started an export trade that has never looked back.

BUYING

18. When buying cheese, check that it does not look sweaty or excessively runny. Freshly cut cheese should look fresh with no dried areas or beads of fat on the surface. Cut pre-wrapped cheese should have no evidence of mould, moisture or greasiness inside the packaging. If there is this indicates that the cheese has been stored at too high a temperature. Vacuum packed cheese keeps longer than loosely wrapped cheese and the date code or use-by date will give an indication as to the length of time the cheese may be kept before consumption. If this date code is some weeks ahead it may mean that the cheese is immature and is still to ripen. When buying whole cheeses of hard, semi-hard or soft varieties, the outer crust or rind should be whole and without cracks, dry to the touch and, in the case of most cheeses, of a pleasant light brown or beige to white colour, depending on the variety (the exceptions being those cheeses that are coated in either a coloured wax rind or a cloth).

STORAGE

19. Soft cheeses will not keep for long and are best stored in a refrigerator or a cold place, kept covered and eaten within a few days of purchase. Hard cheeses will keep well in a refrigerator for as long as a month, providing the cheese is in good condition when purchased and is wrapped properly in cling film or foil. Vacuum packed cheeses will keep well, unopened, in a cold place, for several weeks. Freshly cut or vacuum packed cheese which has been opened should be wrapped in cling film or foil. Close wrapping will keep the cheese moist and protect it from absorbing the flavours from other foods but beware of allowing the cheese to become warm when wrapped in cling film as this will induce sweating.

20. Correct refrigeration should not harm the flavour of cheese but will inhibit it, especially if eaten straight from the refrigerator. For dining room service, cheese should be removing from the refrigerator at least one hour before serving to allow the flavour of the cheese to return to normal. Cheese can be frozen but as it is plentiful, reasonably priced and best eaten fresh, it should not be necessary to freeze it. Also, freezing in bulk will take up valuable freezer space best used for those food items that must be frozen. If freezing, the higher fat content hard cheeses, such as Cheddar, freeze better than others. The texture is altered somewhat and cheese becomes crumbly when defrosted. To offset this, allow the cheese to remain at room temperature for 12 hours after thawing before consuming. If freezing for eventual cooking only, cheese is best grated then packed in handy amounts in plastic freezer bags.

PRESENTATION AND SERVICE

21. The variety of cheese and the style of its service will depend very much on the particular function, what type of clientele, any customs or traditions and, last but not least, the type of menu being served. Cheese is a versatile product which can be cut in a variety of ways or styles to show the cheese at its best. Indeed, it can form a very attractive display, cut in different ways and served with various accompaniments such as fresh fruit and different types of biscuits or breads. It can be cut into convenient sized wedges or slices and placed around a display of fruit, or, it can be left whole for slicing and cutting as required; as in the traditional way of serving a whole Stilton or a wheel of Brie. At what point to serve cheese at meal is no longer a case for tradition.

22. The British custom is to serve cheese after the sweet. This gives a savoury end to the meal and, for many; the tradition of serving Stilton with port wine is a most agreeable way to end a meal. The French way of serving cheese before the sweet has become popular in some circles as it allows the diner to continue drinking red or white wine with the cheese.

BRITISH CHEESE VARIETIES

23. In recent years, cheese manufacturers have expanded the range of their product to now include many blended and additive cheeses. The choice of the cheese maker's art is almost bewildering and the following list of cheeses contains examples of some of the varieties to be found. The list is by no means exhaustive; in fact there are as many, if not more, cheese varieties available

as there are days in the year!

24. **Abbeydale**. A factory produced, additive cheese, it is semi soft and flavoured with chopped chives and onions. It is also fat and salt reduced with an increased protein content, which makes it ideal for diet use. Also, from the same factory come: **Grosvenor**, a semi soft cheese, speckled with fresh herbs. **Albany**, the same base cheese as Grosvenor but with the flavour of celery and, **Penmill**, again, the same cheese base but with the addition of crushed peppercorns.

25. **Blue Shropshire**. A farmhouse, blue vein cheese that used to be known by a different name but did not sell well, so the name was changed. Since then it has become more popular and is now made in two creameries in Shropshire, in a similar way to Stilton. The cheese has delicate blue veins running through a cheese which is orange in colour. This orange colouring is achieved by the addition of a vegetable dye, added to the milk at the start of the process.

26. **Boston Spa Village Cheese**. A farmhouse cheese made in the Yorkshire village of Boston Spa, it is made from unpasteurized milk with vegetable rennet added. A smooth cheese with a dry, flaky texture and distinctive flavour.

27. **Caboc**. An ancient cheese originally from the Western Highlands of Scotland. Caboc is a rich, soft, full cream cheese which is pale to almost pure white inside and covered in toasted pin-head oatmeal outside. Best eaten with biscuits and no butter.

28. **Caerphilly**. A moist, white, close textured cheese made specifically from the milk of Hereford cows. It has a mild, slightly salty flavour and is best eaten with biscuits.

29. **Cheddar**. Originally from the area around the Cheddar Gorge, in Somerset, Cheddar cheese is now made world wide and is probably the most popular of all cheeses. Mild Cheddar is between three and five months old, mellow and with a clean flavour. Mature at six months old, it is strong and deep yellow with a fully nutty flavour and a close texture. Imported Cheddar varieties vary from mild (New Zealand and Australian) to strong (Canadian) which is similar to mature English Cheddar in flavour and texture. An all purpose cheese, Cheddar is ideal for cooking or eating with fruit and sweet or savour biscuits.

30. **Cheddar 'n' Scotch**. A blended cheese made from a base of Dunlop and mixed with 'Laphroaig', a 10 year old, single malt Scotch whisky.

31. **Cheshire**. The oldest known British cheese, Cheshire has a savoury, mellow and slightly salty taste with a loose, crumbly texture. There are three types: White Cheshire is really a pale yellow in colour, Red Cheshire in coloured with a vegetable dye and is similar in colour to Red Leicester. Farmhouse Blue Cheshire is rich and creamy with an open texture and blue veins. Cheshire is excellent for grilling or eating with fruit and biscuits.

32. **Cornish Herb and Garlic**. An additive cheese, it is similar to the Cornish Pepper variety but is mixed with six fresh herbs and with garlic. Hand made.

33. **Cornish Pepper**. An additive cheese, full fat and soft, rich and creamy in texture, it is shaped into small rounds and coated in cracked black pepper. Hand made.

34. **Cornish Yarg**. An additive cheese made with vegetable rennet, it is full flavoured, creamy and with a mould ripened skin which is coated in nettles. When fully mature, the cheese has a delicate texture and subtle taste. Hand made.

35. **Cotherstone**. A farmhouse cheese from Teesdale, Yorkshire, it is made from unpasteurized milk to a very old recipe. It has an open textured white cured with a golden crust and a definite flavour.

36. **Cottage Cheese**. Made from skimmed milk curds, Cottage cheese is low in calories due to its low fat content. It is pure white with a bland flavour but can be purchased containing herbs, fruit or even vegetables mixed with it. It is ideal for diet use or for adding to salads.

37. **Crowdie**. Originally a Highland farmhouse cheese, it is now produced commercially. It is a traditional, skimmed milk, cottage type cheese which has a fresh, soft and curd like appearance with a crumbly texture and mild flavour. It is available mixed with double cream or, for a stronger more savoury taste, can be purchased containing wild garlic. Can be served with fruit, vegetables, meat, eggs or fish and is also popular on oatcakes topped with strawberry jam.

38. **Curworthy**. A farmhouse cheese which is based on a 17th century Devonian recipe. It is made with unpasteurized milk and has a close texture and hard finish.

39. **Derby**. No such a common cheese (and considered by some to be an additive cheese) there are two types of Derby available. Ordinary or White Derby is a close textured cheese which has a clean, tangy and distinct flavour and a honey colour. Sage Derby (the additive variety) has layers of fresh sage incorporated during the cheese making process. It is close textured with a pronounced flavour and plenty of green in the overall colour. Derby does not cook well and is best eaten very fresh with biscuits.

40. **Devon Garland**. An additive cheese from North Devon, it is a mild tasting cheese made into the shape of a wheel which has fresh, mixed herbs running through the centre.

41. **Dunlop**. Unique to Scotland, Dunlop was originally a farmhouse cheese but is now commercially produced. It has a moist texture which is rather similar to Cheddar but is softer with a milder flavour and a pale, butter colour. Good for grilling or eating with fruit and biscuits.

42. **Eskdale**. A farmhouse cheese from the Cleveland district of Yorkshire, it is a soft cheese very similar to the French cheese, Camembert.

43. **Gaelic**. An additive variety, it is a full fat, cream cheese which contains chopped, fresh garlic leaves and is rolled in flaked oats, crumbled almonds and hazel nuts.

44. **Gloucester**. Now properly called Double Gloucester, it is still possible to buy Single Gloucester, which is a cheese made from skimmed milk that used to be known as "hay", because of its popularity with haymakers. The flavour of Double Gloucester varies according to maturity. It may be mellow and creamy, or, have a distinct "bite" to it. Farmhouse Double Gloucester has a pale, straw colour, is close textured and is made only with milk from Guernsey cows. The factory produced cheeses are more golden in colour due to the addition of an artificial colouring. Double Gloucester is perfect served with crusty bread or with fruit or biscuits.

45. **Highland Choice**. A blended cheese made from a base of Dunlop and mixed with flaked almonds and the famous Scottish liqueur, Drambuie.

46. **Highland Herbs**. A blended cheese made from a base of Dunlop mixed with Scottish mustard and chives.

47. **Howgate**. An additive variety, it is a full fat, cream cheese which is coated in oatmeal.

48. **Hramsa**. The word Hramsa is derived from the Gaelic name for wild garlic, the "all healing herb". Made from double cream this Scottish, soft cheese is flavoured with the leaves or wild garlic gathered from the woods around the Cromarty Firth. Is best eaten as a dessert cheese with biscuits and no butter.

49. **Illchester Cheese Co**. Applewood smoked Cheddar), Sage Cheddar, Cheddar with port wine and Stilton, five more Cheddar blends and three Double Gloucester blends.

50. **Lancashire**. Originally a farmhouse cheese, it later became a staple food of the mill workers in the cotton towns. White in colour with a crumbly texture, Lancashire has a high fat content which makes it perfect for grating and grilling "au gratin". It also spreads extremely well, rather like butter. Mild when young, it develops a full flavour as it matures.

51. **Lankskaill**. A factory produced cheese similar in texture and taste to Dutch Douda and coated in a red wax.

52. **Leicester**. Leicester has a rich, russet colour, obtained by the addition of artificial vegetable colouring. It has a granular texture and a medium strong flavour. Some would argue that it is the most perfect cheese for grilling and toasting due to its high fat content but it is equally good eaten with fruit and biscuits.

53. **Long Clawson Dairy**. Huntsman, which contains layers of Double Gloucester and Blue Stilton: Cotswold, a Double Gloucester with chives and onions: Nutcracker, a Cheddar with walnuts: Charnwood, a smoked Cheddar with an outer coating of paprika: Rutland, a Cheddar with beer, garlic and parsley: Cheviot, a mild Cheddar with chopped chives: Windsor Red, a Cheddar marbled with elderberry wine: and Sherwood, a mixture of Double Gloucester and sweet pickle.

54. **Lothian**. A factory produced mature, soft cheese with a white outer mould similar to French Camembert. Also available from the same source are: **Scottish Camembert** and **Pentland**. All of these cheeses have similar characteristics and can be eaten firm or soft.

55. **Lymeswold**. A creamery made cheese; Lymeswold is a mild, soft white cheese with delicate blue veining and edible crust. It has a similar quality and taste to some of the foreign soft cheeses, with a definite tang to it. Best eaten fresh.

56. **Melbury**. A creamery made cheese; Melbury is a soft white cheese, with an edible crust. Mild and firmer in texture than some foreign soft cheese, it is made in a unique loaf shape.

57. **Morven**. A mild Scottish cheese made in small squares, it has a full flavour and a texture similar to Dutch Gouda. Sometimes available with a flavouring of caraway seeds. Serve with biscuits.

58. **Mozzarella**. With its origins in Italy, Mozzarella is now also produced in England, Wales and Scotland. It is a mellow, compact, curd cheese with a subtle flavour and an elastic quality which is ideal for pizza toppings but is also suitable for other recipes. It can be eaten cooked or uncooked and is available in two forms: the traditional "wet" form, when it is left in its own whey, and a drier form which is vacuum packed for longer life.

59. **Orkney**. Originally made in farmhouses, it is now produced in creameries on the island. It is similar to Dunlop but is made in individual rounds and can be purchased white, coloured or smoked.

60. **Oxford**. A very old farmhouse cheese recently revived. It is a Cheddar type, full bodied cheese with a smooth texture but with the mellow taste of Cheshire.

61. **Peat Smoked**. A factory produced cheese with a distinctive flavour. It is full fat, soft, mild cheese, individually made and placed on small straw mats, after which it is peat smoked.

62. **Scottish Cheddar**. The factory produced cheese is similar to English Cheddar in every respect and is available in either traditional yellow form or, in the very popular (in Scotland anyway) red form. Farmhouse produced Scottish Cheddar has a very high reputation for quality and taste and is traditionally made and matured.

63. **Sharpham**. A farmhouse cheese made only during the summer months in Devon, it is a semi-soft, and ripened cheese made from unpasteurized milk and can be eaten immature or mature.

64. **Somerset Brie**. Made by Lubborn Cheese Ltd in Crewkerne, Somerset, from whole milk to a traditional French method. When mature it has a good tangy flavour.

65. **Somerset Cider Cheddar**. An additive cheese, it has cider added in the initial making process which produces a cheese which is mild flavoured but with a definite tang of apple.

66. **Stilton**. Blue Stilton has a close texture with blue veins running through a rich, creamy coloured cheese which has a strong, tangy and lingering taste. It is at its best between November and April, as that years cheeses made from the best quality milk become mature. White or immature Stilton is freely available and this has a crumbly texture, mild taste and a lack of the distinctive blue veining found in a mature cheese. It may be tempting to do what some feel is sacrilege: namely to "Port" the Stilton (literally soak it in Port wine by boring holes in the tope of the cheese and pour in the Port, over a period of time). However, while this does add a particular flavour to the cheese it also serves to mask the delicious flavour of this "King of Cheeses" and is not recommended. This said, there is nothing quite as fine as a slice of Stilton with butter, biscuits and a glass of Port Wine to round off a perfect meal.

Note: Stilton is surprisingly versatile and can be used for cooking in savouries or quiches, where its particular "bite" provides a delicious alternative to other cheese varieties.

67. **St Ivel Brand**. Cheddar with walnuts, Cheddar pizza style, Cheddar with herbs and garlic, Cheddar with ham and mustard and Double Gloucester with chives and onions.

68. **Swaledale**. A farmhouse cheese made only on a few farms around the village of Grinton in North Yorkshire, it has a soft texture and mild flavour.

69. **Tendale**. A factory produced cheese made in two varieties which taste similar to Cheddar and Cheshire, Tendale has half the fat content, a third less calories and a quarter more protein than normal cheese, which makes it ideal for diet use.

70. **Warkleigh**. A farmhouse cheese made in North Devon, it is a rich, fresh cheese which develops a creamy taste when ripened.

71. **Wedmore**. An additive cheese from Somerset, it can be consumed very soon after manufacture or left to mature for up to three months. Immature it is fresh and milky, with a more pronounced taste when fully ripe. Made into a wheel shape, it has fresh chives running through the centre.

72. **Wensleydale**. An old established cheese dating from Norman times, there are white and blue varieties available. White Wensleydatel is close textured, mild and with a honey taste to it. The blue veined variety is soft and close textured, rich and creamy. In the north of England it was traditionally served with apple pie and indeed, makes a good accompaniment to fresh apples. It is also good for cooking or eating with biscuits.

FOREIGN CHEESE VARIETIES

73. There are literally hundreds of foreign cheeses, many of which are imported into Britain to meet the demand and the ever changing tastes of the British public. The continental countries of France, Italy, Germany, Denmark, Holland, Austria and Switzerland have always produced cheeses that are popular in Britain. And indeed, the varieties these countries export include some of the most famous and best liked cheeses in the world. Large imports of Cheddar type, factory produced and other cheeses are also made from Canada, New Zealand, Australia and Southern Ireland, with a small amount of specialist cheeses being imported from Greece. Several of the foreign cheeses do not differ widely in taste from hard or soft British cheeses, while others, especially pungent varieties such as Emmenthal, Gruyere, Parmesan and Tilsit, have a flavour all of their own and cannot be compared. When buying foreign cheeses look for the same quality points expected when buying British cheese.

The following section contains just a small selection of foreign cheeses that are available in Britain now.

74. **Banon**. A pungent tasting cheese from France, originally made only from goats' milk, Banon is now mixed with cows' milk or made exclusively from cows' milk. The cheese is dipped in "eau de vie", then into rosemary and winter savoury or chestnut leaves which have been soaked in eau de vie. Traditionally, Banon is left to mature for several months in stone jars.

Note: Meaning, literally, "water of life", eau de vie is the French name given to a number of fruit brandies such as kirsch (cherry), and framboise (raspberry).

75. **Bel Paese**. One of the most famous of Italian cheeses, Bel Paese has an ivory colour and a thin, dark yellow rind. Soft and compact, this cheese has a delicate, slightly salty flavour and is usually served as a dessert cheese, but may also be used in cooking.

76. **Bergkase**. Dull yellow with a dark brown rind, this hard Austrian cheese has a high fat content and a mild, nutty flavour.

77. **Bleu De Bresse**. A soft, creamy, dark veined blue cheese from France made from full cream cows' milk. It has a rich acid taste and is sold wrapped in foil and boxed. When over-ripe it goes salty and dry.

78. **Boursin or Boursault**. Two brand names for the same triple cream cheese from France, it has a soft, thick texture and is flavoured with either garlic, herbs or pepper.

79. **Brie**. A large, round, soft, delicately flavoured pale yellow cheese from France. When fresh, Brie has a creamy white, edible crust which takes on a slightly reddish hue as the cheese matures. One of the world's great cheeses, Brie is made from cows' milk and is at its best fresh cut from the wheel (whole cheese). Brie is fully ripe when the cheese has a consistent texture: when cut or pressed, the cheese should bulge but not run.

80. **Camembert**. A world famous cheese from Normandy, France, Camembert is a round, soft, pale to creamy yellow cheese with a soft edible crust. It has a stronger taste than Brie and is also made from cows' milk. Sold whole in boxes or in individually wrapped portions, the ripeness test is the same as for Brie. Camembert should not be allowed to become over-ripe, when the taste becomes bitter. However, some people think this is an acceptable flavour for eating.

81. **Carre De L'Est**. A square, soft cheese from France that has a high fat content. It is similar to Camembert but milder in flavour.

82. **Comte**. From France, this firm, yellowish cheese is riddled with holes that occur naturally: it is particularly good for cooking.

83. **Danbo**. A mild flavoured, firm textured Danish cheese. When cut it is easily recognized by its regular, even sized holes. Sometimes, it is given an added (and unusual) taste by the addition of caraway seeds.

84. **Danish Blue**. This cheese is also known as Danablu and was invented in 1914, at the beginning of the First World Ware, when the importation of Italian veined cheeses into Denmark was curtailed. The strong, salty flavour of this white cheese with its close blue veins diminishes as it matures. It has a high cream content and is soft with a slightly crumbly texture.

85. **Demi-Sel**. A small, square, fresh cream cheese from France, Demi-sel has very little salt and tastes almost like cream. Also sold under various other brand names, the very best Demi-sel comes from Normandy.

86. **Dolcelatte**. One of the most famous of Italian veined cheeses, Dolcelatte is off-white in colour and has blue/green veins running through it. It has a full, robust flavour and a creamy, moist texture.

87. **Edam**. This Dutch cheese has a mild flavour and a slightly rubbery texture. It is always encased in a wax rind of either red, for the normal variety, or, green, for the variety which contains herbs. Edam is not unlike Dutch Gouda cheese in flavour and texture but, whereas Gouda is made from whole milk, Edam is made from semi-skimmed milk.

88. **Emmenthal**. Originally from Switzerland, Emmenthal is now also produced in Germany and Denmark, but there is little difference in the flavour. The best kind of Emmenthal is made from the highest quality milk which produces a cheese which is dull yellow, with naturally occurring holes the size of cherries. It has a distinct nutty taste and is suitable as a dessert or cooking cheese.

89. **Feta**. A Greek semi-soft cured cheese made from ewes' milk. It is white and very salty and is perfect served with fresh salads.

90. **Fontina**. This is produced in the mountains of Northern Italy near the Swiss border. It is a soft, fat cheese, slightly straw coloured with a few small holes. The orange coloured rind is often slightly thicker than on other cheeses. Imitations of this cheese are known as Fontal or Fontinella.

91. **Fromage De Monsieur**. An oval, slightly salty, cream cheese, made in Normandy, France. It has a high fat content and should be eaten slightly under-ripe.

92. **Gorgonzola**. Probably the best known Italian cheese, named after the village of Gorgonzola near Milan. The cheese is made from cows' milk and is straw

coloured inside, mottled with green, naturally occurring veins (which can also be introduced with the aid of a culture, passed into the cheese with the aid of copper wires). It has a coarse, brown rind and a sharp, slightly spicy flavour.

93. **Gouda**. A creamy tasting, soft Dutch cheese with a high fat content. Produced in squat moulds, it is golden yellow in colour. Quite a mild cheese, it is not recommended for cooking.

94. **Gruyere**. True Gruyere is only made in the French speaking area of Switzerland but essentially the same cheese is made over the border in France. A firm, pale cheese with small holes and a crinkled, slightly greasy golden brown rind. Excellent as a dessert cheese and for cooking, especially for fondues.

95. **Haloumi**. Another of the Greek cheeses, Haloumi is similar to feta and is also made from ewes' milk. It is mature after just one month and is best eaten very fresh. Can be sliced and eaten fresh or sliced and grilled, then served with grilled, smoked bacon rashers.

96. **Livarot**. A soft yellow cheese from France. Made from skimmed milk, it has a reddish brown rind and a strong, pungent flavour; similar to Camembert but stronger.

97. **Limburger**. A soft cheese from France made from whole cows' milk, Limburger has a very strong smell and a spicy taste. The rind is brown and shiny and the cheese is bright yellow, close textured and with a few holes.

98. **Molbo**. A mild flavoured, Dutch cheese which has a slightly acid after taste. Close textured with a sprinkling of holes, the cheese is pale yellow with a red rind.

99. **Mozzarella**. Moulded into a flask, egg or ball shape and tied with raffia, this soft, compact cheese from the Neapolitan area of Italy has a thick rind and a slightly sour taste. It is used mainly as an ingredient of pizzas because of its spongy texture. Stored in its own buttermilk, it must be used fresh and while still wet or it will dry out and become too tough to use. Also available smoked.

100. **Munster**. A semi soft creamy textured cheese with a pungent taste, strong flavour and a reddish rind. Munster comes from the Alsace region of France and is sometimes flavoured with cumin or aniseed.

101. **Parmesan**. Parmesan is another of the better known Italian cheeses and is made from skimmed milk. After a period of drying, the cheeses are given a coating of fume negro, literally, black smoke, which gives the cheese its distinctive outer black coating. It is off white inside with a grainy texture and a strong and fragrant taste. In grated form, Parmesan is a staple of the Italian kitchen being added to soups, polenta (a type of porridge), vegetable dishes and most pasta dishes.

102. **Petit Suisse**. A very creamy cheese from France made from whole milk and extra cream. It has a faintly sour flavour and is often eaten with sugar. Sold in little, individually wrapped rolls.

103. **Pont L'Eveque**. A square, semi soft, pale yellow cheese from France. It has a pale crust and a rich, Camembert like flavour.

104. **Port-Salut**. A semi-hard yellow cheese from France. It has a reddish rind and a bland taste which becomes stronger as the cheese ages.

105. **Ricotta**. A soft, bland, Italian cheese with a distinctly ridged rind. Made from sheep's' milk and with a low fat content, it is particularly useful in dishes such as lasagne.

106. **Roquefort**. A crumbly, blue cheese from France with a salty but piquant flavour. Roquefort is made from ewes' milk curds which are sprinkled with breadcrumbs that have been specially treated with a particular mould culture that produces the characteristic green veins found in the cheese. The cheese is ripened and matured in limestone caves.

107. **Samsoe**. A mild flavoured Dutch cheese with a sweet, nutty flavour, yellow colour and firm texture with shiny round holes.

108. **Saint Paulin**. A semi hard cheese from France with a yellow colour and bland taste, similar to Port-Salut.

109. **Tilsit**. Originally made by Dutch letters in East Prussia, this Germany cheese is also produced in Switzerland and Scandinavia. Tilsit is a savoury, straw coloured slicing cheese, easily recognized by its loaf shape and small, irregular holes. It has a sharp, slightly sour taste.

110. **Tome Au Raisin**. A white, slightly chewy, semi hard and strong flavoured cheese from France. It is coated with a mixture of dried black grape skins and pips.

111. **Trappistenkase**. Pale yellow inside and with a rich yellow rind. Trappistenkase is a mild flavoured, semi soft German cheese made in loaves or bars. It has a firm consistency with round or slitted holes.

PART 1 - GENERAL

SECTION I

Raw Meat Preparation

SECTION I

INTRODUCTION

1. The main essentials in ensuring correct raw meat preparation practices are cleanliness, receipt, proper storage, preparation and accounting for meat by weight.

STORAGE

2. Raw meats should be stored in accordance with the following guidelines:

a. **Storage of Carcass Meat (Frozen)**. Frozen carcass meat. Meat arriving at the butchery should be hung on rails well away from walls, or laid on palettes in a temperature of minus 20°C, wrapped in polythene to prevent freezer burn.

b. **Storage of Carcass Meat (Fresh)**. Fresh carcass meat should be hung in a refrigerator at a temperature of 4°C. Drip trays should be placed underneath the carcass and the wrappers removed. Fresh carcass meat can be held for up to ten days after slaughter before cutting up.

c. **Storage of Boxed or Pre-Jointed Meat**. Boxes of prejointed meat should be stored in a deep freeze at minus 20°C. Space should be left between boxes and stored loose must be completed wrapped in a suitable material to avoid freezer burn.

DEFROSTING

3. Carcass meat must be thoroughly defrosted before being cut into joints. This process should be carried out gradually in a cool, well ventilated place at a temperature not exceeding 10°C. On no account should frozen meat be cut up except where a band saw is used nor should it be defrosted by immersion in water. Nutritive juices will be lost, leaving a tough rubbery substance with little taste. Also such action can provide ideal conditions for the growth and spread of bacteria.

4. During the defrosting process blood loss necessitates drip trays being placed under the meat. In addition, the meat should be wiped down occasionally with a sterile cloth. Pre-jointed meat, should be removed from the box, unwrapped and defrosted at a temperature not exceeding 10°C.

Note: The following are the approximate defrosting times at 10°C:

a. Carcass of Lamb or Side of Port between 12 and 24 hours.

b. Hindquarter/Forequarter of Beef - 48 hours.

c. Turkey 8 kg size - 48 hours.

d. Joints per 1 kg - 6 hours.

EQUIPMENT AND ITS USES

5. Meat preparation departments should be equipped to a scale which includes knives and other butchery implements. In cutting and preparing meat to the best advantage the correct tools are essential: each piece of equipment is designed to do a particular job. Some examples of equipment found in a butchery department are as follows:

a. **Knives and Saws**

(1) Boning Knife. A short, narrow, stiff bladed knife used for cutting close to, and separating flesh from, the bone.

(2) Steak Knife. A long, wide bladed knife used for cutting, slicing and dicing of meat up to 25cm in depth.

(3) Tenon Saw. A wide, solid bladed saw with fine teeth used for sawing surface bones.

(4) Bow Saw. A narrow bladed, bow shaped saw with medium sized teeth used for cutting deep seated bones under a layer of flesh.

b. **Electrical Equipment**

(1) Steak Tenderiser.

(2) Knife Sharpener.

(3) Band Saw.

(4) Mincer.

c. **Other Items**

(1) Butchers Steel. Used for boning the cutting edge of knife blades at regular intervals during the cutting process.

(2) Butchers cleaver.

(3) Wet stone wheel.

(4) Meat bat. Used for tenderising or flattening cuts of meat.

SAFETY

6. The application of, and adherence to strict safety rules in the meat preparation department is of paramount importance. The department uses a variety of equipment which, if handled incorrectly or inexpertly, can have very serious consequences. For this reason, there are rules for the handling of sharp and potentially dangerous implements.

7. The following are some guidelines for the care and use of knives which can also be applied to other sharp implements.

a. Cutting edges of knives are easily dulled therefore they should not be kept in a drawer with other tools.

b. Knives should be stored on a magnetic rack with the point downwards.

c. Use each knife for the purpose for which it was designed.

d. Wash knives or any sharp implement separately and never leave it in a sink with other equipment.

e. Hold a knife firmly either when cutting meat or sharpening the knife.

f. Never attempt to catch a falling knife let it drop, and then pick it up.

g. Keep handles of all tools clean and free from grease or wet.

h. Never carry a knife when using both hands to carry other objects.

i. Never joke or fool around when using cutting tools.

j. Never carry cutting tools in the pockets of clothing or in the waistband of an apron. Knives should be carried point down with the blade facing the rear.

k. Always sharpen correctly with either a steel or a sharpening stone.

I. Never use undue force with a blade or saw as it may slip and cause an injury.

8. Sharp knives are essential for efficient work. Knives should never be sharpened on a power driven dry stone as the heat generated will remove the temper from the cutting edge. A grind stone or wet stone should always be used. After the knife has been sharpened on a stone it should be finished or honed on a steel. The technique for handling a steel and sharpening a knife is as follows:

a. Hold the steel firmly in the left hand with the thumb on the top, 25mm away from the guard and angled slightly away from the body.

b. Place the heel edge of the blade against the far side of the tip of the steel. The steel and the blade should meet at a slight angle, about 15 degrees.

c. Bring the blade down across the steel towards the left hand with a swinging motion of the right wrist and forearm. The entire blade should pass over the steel.

d. Bring the knife into position again but with the blade against the near side of the steel. Repeat the same motion passing the blade over the steel.

Note: The sharpening process is the same for left handed persons: simply hold the steel in the right hand and the knife in the left.

9. If a knife has been cared for, a minimal amount of alternating strokes should true the edge. An uncared for knife will take longer to sharpen and will also need more frequent sharpening, thus wearing it more quickly and shortening its useful working life.

10. Stainless steel implements require little maintenance after washing, simply ensure they are dry then store them as recommended. Carbon steel knives and implements require a little more care after washing. They should be dried thoroughly then smeared with a thin layer of edible oil to prevent rusting. Before use, remove the protective oil layer.

11. Equipment manufacturer's instructions are supplied with each piece of static mechanical or electrical machine. These should be displayed by each machine and followed in every respect. Guards and other protective items are installed to help make machinery safe to use, removal of these items before and during use may render a machine dangerous. Once an operator uses such machinery for purposes beyond those for which it was designed and when safety devices are removed, a potentially dangerous situation exists. The following safety rules can be applied to all types of machinery:

a. Always keep guards in place.

b. Stop machinery before making any adjustments.

c. Inexperienced persons should be trained before being allowed to use any machinery.

d. Instruction should only be given by a suitably qualified and registered instructor/operator.

e. Machinery should be unplugged or isolated when being cleaned or when it is out of use.

f. Do not wear loose clothing when operating machinery.

g. Follow the manufacturer's instructions for operating, stripping, re-assembly and cleaning.

h. Use only for its designed purpose.

BACON

12. Bacon supplied for Service use normally comes from the UK. Denmark and the Republic of Ireland. All is of good A1 quality.

13. Bacon is produced from fresh port and preserved by curing with brine. The brine is a salt solution containing permitted preservatives which colour and flavour the meat. Bacon today only contains about 4% salt content. It is for this reason that bacon must be treated as a perishable item and kept under refrigerated conditions. There are two main types of bacon available:

Green
Sides which have been cured in brine - 28-31kg.

Smoked
A Green side which has been smoked - 25-28kg.

14. The majority of bacon is pre-joined or vacuum packed and is available as follows:

a. **Fore-ends**. Whole by number, collar and fore hock together.

b. **Back**. Sliced, in packs of 1.5 kg to 2.5 kg.

c. **Streaky**. Sliced, in packs of 1.5 kg to 2.5kg.

d. **Middle Cut**. Sliced, in packs of 1.5 kg to 2.5 kg.

e. **Gammons**. Whole, in numbers by individual weight.

15. If bacon is received in sides the guidelines below should be followed:

a. **Gammon**. Measure the width of one finger below the exposed end of the thigh bone, cut clean across the flesh with a sharp knife.

b. **Fore-end**. Make a cut parallel to the last at the gammon end between the forth and fifth ribs. Saw through the ribs then cut through the flesh with a sharp knife.

c. **Collar**. To separate the Fore-end into Fore-Hock and Collar, feel for the end of the upper fore-leg bone and at this point, parallel to the back, saw through the ribs then cut through the flesh with a sharp knife.

d. **Back and Streaky Middle**. To separate the middle, take a point between the two eyes of meat at the gammon and from that point, saw through, parallel with the back. Cut through the flesh with a sharp knife.

16. These cuts will then give the following joints, the preparation and uses of which are also briefly described:

a. **Gammon**. Tunnel through the flesh to remove the thigh bone and patella then remove the shank bone. Roll and tie for boiling or cut into steaks or rashers for grilling and frying.

b. **Fore-end**

(1) **Collar**. Remove the rib bones and use for boiling as a joint or cut into steaks or rashers for grilling and frying.

(2) **Fore-hock**. Remove the bone, roll and tie for boiling. An economical way of using this joint is to remove the rind after cooking then press the meat and serve it cold.

c. **Back and Streaky**. Remove the rib bones and rind then slice into rashers for grilling or frying.

17. When slicing by hand do not remove the rind. Cut down evenly to the rind which will serve to hold the rashers firmly. When a number of rashers have been cut they can then be easily removed by slicing with a knife underneath them.

18. Rashers cut with a machine should be stacked in even piles as they come off the machine for ease of checking and issuing.

BEEF

19. All Service supplied ox or steer beef is frozen and is usually directly issued by designated contractors to units by unit demand. It should be of good average quality (GAQ) either fresh, chilled or frozen.

20. Good average quality beef has been killed when the beast was from two to four and half years old. It should have a fresh, red appearance with a fair covering of outer fat without being excessive. The meat itself should have what is known as a marbled effect: that is that the meat is flecked or marbled with fat. A good hindquarter should weigh between 54kg and 82kg.

21. The majority of beef issued to the services is frozen pre-jointed (pj) or boxed/preboxed meat. A description of pre-jointed/pre-packed beef is as follows:

Box Description	*Actual Cut*	*Uses*
Insides - "INS"	Topside	Roasting, Braising
Outsides - "OUTS"	Silverside	Braising, Stewing, Pickling
Knuckles	Thick Flanks	Roasting, Braising, Stewing
Striploin	Striploin	Roasting, Grilling, Frying
Sirlion	Loin, Bone in	Roasting
Rolled Sirloin	Loin, Boneless Rolled	Roasting, Grilling, Frying
Tenderloin	Fillet	Roasting, Grilling, Frying
D-Cut	Rump	Roasting, Grilling, Frying
Pony/Ponies/ Crop	Chuck and Blade	Stewing, (Mince and Dice)

Note: First quality ox or steer beef has a blue stamp on the box, second quality has a red stamp on the box.

DISSECTION OF CARCASS MEAT

22. In the event that carcass meat is in issue and there is a requirement to dissect the meat, the following information will be found useful. The first step in the preparation of meat for cooking is the dissection of the carcass once it has been correctly defrosted. It is important that waste be avoided and that meat and its valuable by-products should be used to the best advantage. For good dissection a set method and order of cutting is necessary. In dissecting meat all cuts must be clean and squarely made. In preparing joints for cooking they must be cut in accordance with their cooking uses. All bone, skin and gristle must be removed where required and the fat content adjusted on all joints and stewing meat. Oven space and cooking apparatus must be taken into account when deciding the size of the joints, which should be regular in size and thickness and tied with string to ensure correct size and shape. Steaks must be seamless and of equal thickness and size. All these points must be considered before beginning the dissection.

DISSECTION OF HINDQUARTER OF BEEF

23. The hindquarter is divided into seven joints and the cutting sequence is as follows:

a. **Removal of Suet**

(1) First remove the kidney knob and rump suite by making a light incision where the suet joins the backbone, taking care to avoid cutting the fillet underneath.

(2) Grasp the end of the kidney knob and pull away from the flesh. Remove the rump suet, cut along the rump bone and lift out the suet through the natural seam.

Note: The kidney knob and rump suet are normally removed at the slaughterhouse or abattoir.

b. **Cod Fat and Thin Flank**

(1) Take a line at right angles to the round end of the aitchbone. Where this line meets the code fat, cut into the cod fat at an angle towards the thin flank until a seam is reached which separates cod fat from the thick flank. Cut down along this seam and lay back the cod fat.

(2) At the wing end, take a point, equal distance of fat to the eye of meat and carry this line down parallel to the backbone. Saw through the ribs.

(3) Grasp the cod fat with the hand, cut from the part where the cod fat was laid back, following along the guiding line and detach the joint.

(4) The cod fat is then separated from the thin flank by cutting down through the seam on either side of the cod fat leaving all flesh attached to the thin flank.

24. The hindquarter can then be divided into two parts:

a. Rump and Loin.

b. The Top Bit.

To do this:

(1) Take a point three fingers' width from the round end of the aitchbone, and three fingers' width from the end of the rump bone. Connect these two points together with a straight line.

(2) To make the separation, cut through the flesh with a large knife, saw through the bone, finally dividing the hindquarter with a long cut.

c. **Loin and Wing End, Rump and Fillet**.

(1) To separate the rump and fillet whole from the loin and wing end, cut through the pad that separates the straight loin bone from the angle rump bone.

(2) Saw through the backbone and cut through the flesh then with a large knife, cut through the flesh from the same cut on the backbone keeping the knife hard against the rump bone.

Note: The fillet may be removed separately before the removal of the rump from the loin and wing end.

d. **The Shank**

(1) Place the top bit firmly on the block with the shank overlapping. Open the stifle joint with the point end of a small knife. This joint is found by backward movement of the shank.

(2) Sever the ligament which holds the bone in position and then cut clean across the flesh with a large knife in a parallel line to the base of the top bit.

(3) Remove the aitchbone cleanly without cutting into the flesh.

e. **Thick Flank**

(1) It will now be seen that with the removal of the shank and the aitchbone, both ends of the thigh bone (marrow bone) are exposed

(2) Take a point at the middle of the exposed ends of this bone. Connect these two points together in a straight line, cutting clean through the flesh down to the bone.

(3) Pick up the skin surrounding the bone with the fingers until the seam or pocket is reached underneath the bone. Open this pocket to its fullest extent, cutting into the seam.

(4) Finally, cut through the skin to remove the thick flank just below the gristle.

f. **Topside. Silverside**

(1) Place the remaining two joints bone down on the block with the shank end facing away.

(2) Look for the lean eye of meat on the shank end which is immediately above the bone. Push the eye of meat towards the silverside then cut through the natural seam down towards the bone.

(3) Finally, remove the topside from the bone leaving the silverside attached to the bone.

25. Uses of cuts of meat from the hindquarter.

Joint	*Class*	*Preparation*	*Uses*
Cod Fat	Unclas	This may be cut into thick slices and flattened out for covering lean joints.	Rendered for first class dripping
Think Flank	2nd	Remove the skin surplus fat then cut into disc.	Casserole Stewing
Rump and Fillet	1st	Remove the fillet; remove the bone from the rump. Cut into joints or into steaks.	Roasting Grilling Frying
Loin and Wing End (Sirloin)	1st	Remove the fillet and backbone. Place the sirloin flesh downwards on the block. Carefully lay back the thin covering of fat to a depth of 10cm. Remove the fat, trim any surplus fat from the underside, roll and tie with string. Cut into joints or into steaks.	Roasting Grilling Frying
Shank	3rd	Remove the bone skin, gristle and surplus fat. Dice or mince the meat.	Stewing Beef Tea
Thin Flank	1st	Remove the outside skin, cut the meat lengthways into two pieces. For joints: adjust the fat then tie with string. For Beef olives: cut into scallops 5mm thick. For stewing steaks: separate the muscles through the natural seams, cut into steaks.	Roasting Braising Stewing
Topside	1st	Remove the dark muscle which lays on top of the flesh. Carefully scythe with a large knife half the thickness of fat and lay back over the exposed flesh. Cut lengthways into two or three joints; adjust the fat, tie with string.	Roasting Braising
Silverside	2nd	For braising: remove the deep inset gland, cut lengthways into two. Adjust the fat and tie with string. For stewing: separate the two muscles through the natural seam and cut into steaks.	Braising Stewing

DISSECTION OF FOREQUARTER OF BEEF

26. The forequarter is divided into eight joints and the cutting sequence is as follows:

a. **Dislocation of Shin Joint**

(1) Place the forequarter on a block with the rib bones facing down. Run the thumb up the centre of the shin to locate the bone, from that point make a small cut 25cm above the bone.

(2) On the outside of the shin bone there is a bone protruding out. From a point just above that bone, make a mark in the shape of a letter S, to run into the previous cut.

(3) Dislocate the joint by pressing towards the head end and downwards. **DO NOT REMOVE**.

(4) Turn over the forequarter so that the rib is uppermost.

The forequarter can then be divided into two parts:

a. Neck Half.

b. Breast Half.

To do this:

(1) Measure an equal proportion of fat and lean on the rib end and make a mark.

(2) Measure three fingers width from the backbone on the first rib at the neck end and make a mark. Connect these two points together for a guiding line.

(3) Saw through the rib bones with a saw from the neck end. Cut through the flesh from the rib end until the ball and socket joint at the neck end is reached.

(4) Open this joint with a small knife, cut through the flesh to complete the separation of the rib and breast halves.

b. **Shin**

(1) Place the breast half on the block, flesh part uppermost and remove the shin.

c. **The Leg of Mutton Cut**

(1) Lift the exposed end of the upper fore-leg bone and cut along the seam found immediately underneath.

(2) Open this seam to its fullest extent and cut away the leg of mutton cut from the brisket.

d. **The Plate. The Brisket**

(1) To separate these two joints, count six ribs from the neck end and cut between the sixth and seventh ribs.

(2) At this point it is normal to be able to cut clean through with a knife. However, with older animals it may be necessary to use a saw to cut through the cartilage.

e. **The Fore Rib**

(1) Place the neck half, bone uppermost on the block.

(2) Count six ribs from the neck and saw through the backbone between the sixth and seventh ribs.

(3) From this point and using a large knife, cut squarely between the bones to remove the fore rib.

f. **The Middle Rib**

(1) For this joint count three ribs from the neck end and saw through the backbone between the third and forth ribs.

(2) Cut squarely through the flesh until the blade bone is reached.

(3) Saw through the bone, finally cutting through the flesh underneath. Scrape away any bone dust from the flesh.

g. **The Chuck Rib. The Sticking Piece**

(1) To separate the chuck rib form the sticking piece, make a cut at the socket end of the blade bone in line square from the previous cut. Saw through the backbone.

(2) Finally separate the two joints by cutting through with a large knife.

Joint	*Class*	*Preparation*	*Uses*
Shin	3rd	Remove the bone skin and gristle, cut the meat into dice.	Stewing Pies Beef Tea
Leg of Mutton	2nd	Remove the bone, gristle, and surplus fat, cut the meat lengthways into two, adjust the fat and tie with string or cut into dice or steaks.	Braising Stewing
Plate	2nd	Remove the bone, skin, gristle and surplus fat, roll and tie with string or cut into dice.	Braising Stewing Pickling
Brisket	2nd	Remove the bones and surplus fat from around the sternum bone. Lay back the first of two layers of lean meat. Remove the fat which lies between them. Roll the meat and tie it into joints.	Braising Pickling
Fore Rib	1st	Method 1: Remove the bones with a small knife. Cut away the muscle end of the blade bone lying between the flesh. Cut away the thick pad of gristle running along the back. Remove any surplus fat, roll the meat and tie it with string. Method 2: Saw at an angle towards the backbone on the end of the ribs to separate the chine bone. **Do not cut this bone away from the flesh** Remove the pad of gristle from the back and also the gristle end of the blade bone from the flesh. Tie the meat with string. When cooked, the chine bone easily separates from the flesh.	Roasting
Middle Rib	2nd	Remove the blade and rib bones, cut away the pad of gristle from the back. Separate the joint into two parts: top ribs above the blade bone, bottom ribs below the bone. Roll each piece, adjust the fat and tie with string.	Roasting Braising
Chuck Rib	2nd	Remove the blade and rib bones, cut away the pad of gristle from the back. Separate the top ribs above the blade bone and tie the meat with string. For bottom ribs cut into two lengthways at an angle through the eye of meat to make two joints of approximately equal weight. Tie with string.	Roasting Braising
Sticking piece	3rd	Remove the seven neck bones, trim off any gristle or dark coloured flesh and cut the meat into dice.	Stewing

LAMB

28. All Service supply lamb is issued chilled or frozen. It should be of good average quality (CAQ).

Most of the lamb supplied for Service use is either home produced or imported frozen from New Zealand and Australia Lamb is slaughtered before it is one year old. It is particularly tender and all joints can be roasted. Mutton is the meat of older sheep and can be quite tough. For this reason it should only be used for boiling or braising. The meat of lamb should be lean and fine grained, firm and pinky brown. Fat should be crisp, creamy white and quite dense. Weights of carcass lamb can be from 11kg to 18kg depending on the breed.

The majority of lamb issued to the Services is frozen prejointed (PJ) or boxed/pre packed meat. Boxes will state on the outside exactly the nature of the contents and are normally packed as pre-cut joints. A blue colour code or tag on the box will indicate first class meat.

DISSECTION AND PREPARATION OF LAMB

29. The carcass is divided into six joints and the cutting sequence is as follows:

a. **Division of the carcass**

(1) Divide the carcass into two, halving the haunch and trunk by first opening its gristle pad on the backbone at a point where the backbone joins the tail bone.

(2) When the cartilage is severed, cut clean through the carcass at this point with a long knife.

b. **The Shoulder**

(1) To remove the shoulder, make a mark between the sixth and seventh rib at the vase of the blade bone.

(3) Cut across the carcass, severing the cartilage end of the blade bone to the centre of the neck.

(4) Place the carcass on its back with the shank towards the cutter. Force the knife down to the rib bones, detaching the flesh to the centre of the shoulder, peel out through the natural seams and detach at the neck end.

c. **The Saddle**

(1) Take a point equal distance of fat and lean at the haunch end, cut down either side of the breast parallel with the backbone and sever the last rib bone.

(2) Lay back the breast and cut down between the twelfth and thirteenth rib bones. Sever the gristle pad with a knife and detach the saddle.

PART 1 - GENERAL

SECTION J

Home Freezing

SECTION J

INTRODUCTION

1. Freezing is a quick and easy way to preserve food. Most foods, including cooked dishes can be frozen so that they retain their original flavour and texture and home freezing can realise many benefits the most notable being:

a. Bulk purchase and freezing of items particularly meats and vegetables.

b. Quick availability of pre-cooked dishes.

c. Freezing of produce straight from the garden.

d. Buying and freezing of seasonal goods when they are cheapest.

EFFECTS OF FREEZING ON FOOD

2. Most foods have a large water content, even meat contains about 70% water. Freezing converts this water to ice crystals and if food is frozen quickly, tiny ice crystals are retained in the cell structure. When thawed, the structure will remain undamaged and the food value remain relatively unchanged. Alternatively, slow freezing results in large crystals which cause cell damage and a loss of nutrients on defrosting. As a result of this, it is possible to distinguish between quick and slow frozen foods; slow frozen foods will show a loss of texture, colour and flavour once thawed. Foods with a high water content and delicate structure such as soft fruits and some soft vegetables may not freeze successfully if rapid and careful freezing is not carried out. Because of their composition, the crystal formation will break down their cell structure more easily.

3. The success of freezing as a method of food preservation depends on the fact that low temperatures destroy some micro-organisms and prevent the growth of others. However, enzymes, chemicals naturally present in food which cause the destruction of nutrients, texture and colour are not destroyed by freezing but are slowed down and become dormant. Also, bacteria cannot multiply in or on frozen food, so there is no real danger of food becoming a health hazard, no matter how long it is stored. In spite of this, freezing does not kill bacteria and food contaminated before freezing will still be contaminated after it has thawed. Bacteria will develop in any perishable foods that are allowed to thaw and then kept at incorrect temperatures rendering them a health hazard.

4. Different foods will have different recommended storage times. These are determined by the length of time they can be stored frozen without any detectable change in food value, taste, colour and texture. They can be stored longer than the recommended times without becoming harmful to health, but the flavour and texture will not be as good.

THE FREEZER

5. There are various types of freezer available and each type has some advantages and disadvantages.

6. **Upright freezers**. These range in size from small, table-top models to large floor standing types. They take up less floor space than chest freezers, are easy to load and unload but require more frequent defrosting. Frost free models are available but these cost more to purchase and to operate than conventional models. Upright freezers are fitted with sliding, pull out baskets which makes loading and unloading easy. The front of each basket has a hinged flap which helps to keep warm air out when the freezer is open. The capacity of an upright freezer is less than that of a similar sized chest freezer, the space being reduced by the basket runners and the way the baskets are stacked on shelves.

7. **Chest freezers**. These are cheaper to buy and operate than upright freezers. More food can be fitted into the same amount of space since small items can be packed around large ones, unrestricted by shelves. They do, however take up more floor space and can be more difficult to keep clean and well organised.

8. **Combination fridge freezers**. These combine a refrigerator and a freezer, one above the other, in a single unit. They have the space saving advantage of the upright freezer but, as freezer storage space is restricted to a smaller area half the size of the unit, they are only suitable for small domestic kitchens.

9. **The star system** A freezer used for home freezing must carry a four-star symbol which indicates that it is capable of freezing fresh food. An appliance with three stars or less is suitable only for storing foods obtained ready frozen. The star system works as follows:

*	Storage for 1 week at - 6C
**	Storage for 1 month at - 12C
***	Storage for 3 months at - 18C
****	Suitable for freezing unfrozen food at - 18C constant, without detriment to food already frozen.

10. The 4 star symbol indicates that the freezer has a food freezing capability and manufacturers will state in their instructions the maximum weight of food which can be frozen in a 24 hour period. Freezers with this symbol should also have a “fast freezing” facility. This enables the freezer temperature to be quickly reduced below -18C for fast freezing of foods.

11. **Defrosting**. Upright freezers will need defrosting two or three times a year, chest freezers once or twice at the most. As a guide, defrost when the frost on shelves or walls reaches a thickness of 0.5cm. Follow manufacturers instructions as the procedures vary with different models. Defrost when stocks are low and try to select a cool day as this will assist in the conservation of food removed from the freezer whilst defrosting. Wrap the contents of the freezer in newspapers, towels or blankets and place them into a refrigerator if possible.

12. **Do not** use metal scrapers to remove ice as these can damage the casing or internal freezer tubes. Allow the freezer to defrost naturally and as the ice melts, ease it free with the aid of a plastic spatula. Bowls of hot water can be placed in the freezer to speed up the process and as the ice melts it should be removed.

13. When the freezer is free of all frost, ice and water it should be cleaned with a solution of bicarbonate of soda and warm water. A ratio of 20g of bicarbonate to 1 litre of warm water is sufficient. Do not use disinfectants, soaps, strong household sodas or abrasive cleaners to clean a freezer. All these agents will cause damage or taint to the inside of the freezer cabinet. When the freezer is clean, dry it thoroughly before switching it on again. The use of the fast freeze facility will quickly bring the cabinet to the required temperature.

14. **Power cuts**. Most power cuts do not last long and the food in the freezer should be safe. If there is an advance warning of a power cut, turn on the fast freeze and make sure the freezer is as full as possible. Fill any gaps with paper, towels or plastic boxes filled with cold water. Cover the freezer with rugs or blankets to increase insulation but make sure the condenser pipes on the back are left uncovered. Do not open the freezer door during the power cut as this will let in warm air. After the power has been restored, leave the fast freeze on for at least 2 hours. Food left in a chest freezer should remain frozen for about 48 hours if advance warning was given and 35 hours if there has been no warning. An upright freezer will keep contents safe for about 36 hours with advance warning or 30 without.

HOW TO FREEZE

15. Try not to freeze more than one tenth of the freezer's capacity in any 24 hour period, otherwise heat will be absorbed by the other frozen contents. The use of the fast freeze switch will override the thermostat and allow the temperature in the cabinet to fall below the normal thermostatically controlled temperature of - 18C. Fast freezing at lower temperatures will allow the formation of smaller ice crystals. Reducing the temperature will also allow food already in the freezer to become colder and will mean that it will be less affected by the increase in temperature when fresh food is added. Allow about 6 hours at fast freeze before putting fresh items in the cabinet, then leave it on for between 12 to 24 hours to freeze the food. It is possible to freeze without a fast freeze but the food will be of inferior quality when defrosted.

16. **Freezing solids**. Package solids tightly to expel as much air as possible. Wrap in freezer wrap or foil. If partly filling a rigid container pack the vacant space with crumpled foil or paper. If possible, avoid partly filled containers as they are wasteful of energy.

17. **Freezing liquids**. Liquids expand by one tenth when frozen, so it is essential to leave at least 1cm of "head space" in a container holding 300ml and about 2.5cm in a container holding 600ml. Unless room is left for expansion frozen liquids or items frozen in a liquid will push off their container lids.

18. **Freezing combined solids and liquids**. Combined solids and liquids such as stews, casseroles or fruit in syrup should have a layer of liquid on the top. Remember to leave a head space. Solids will naturally rise to the surface of liquid and to prevent this, an inner covering of foil can be used to cover the solid, then the container topped up with liquid.

19. **Pre-forming**. This method is ideal for storing liquid foods such a purees, casseroles and stocks. The liquid is placed in a container which is lined with a polythene bag, the item is then frozen. Once solid it can then be removed and packed in the freezer, freeing the container for further use.

20. **Open freezing**. Foods may be frozen, on an open tray without covering. Iced cakes, pies, vegetables and soft fruits such as broccoli and raspberries particularly benefit from this process. They can then be packed when frozen solid. This will mean that the vegetables and fruits will be free flowing and will retain shape and texture better when defrosted.

PACKAGING

21. Good packaging is important if frozen food is to remain in good condition. Badly packed food will dry out and will lose vital water content. White patches (freezer burn) will appear, especially on meats, denoting a loss of liquid content due to direct contact with frost in the freezer. Strong smelling foods tend to transfer their odours to other foods and will need special attention when freezing. Any food that is to be stored for an appreciable period of time must be well wrapped since it is likely to be move around the freezer frequently. When choosing packaging materials. Consideration should be given to whether the food will be thawed or re-heated in a microwave cooker. Anything packed in foil must be transferred to a suitable "microwave safe" container.

22. **Polythene bags and sheeting**. These can be of heavy or thin gauge, depending on their intended use. This gauge sheeting is more suitable for over-wrapping. When bagging, remove as much air as possible before sealing then tie with a bag twist or seal by applying heat. Self sealing bags of assorted sizes are also available and are particularly useful.

23. **Cling film/Freezer wrap**. Plastic film or wrap is very useful when packing food for the freezer. It can be used as a lining or for wrapping single portions that are to be bagged up in bulk then removed individually.

24. **Foil**. This is ideal for wrapping awkwardly shaped items as it can be moulded closely around the food to exclude air. Single or double layers can be used depending on the gauge of the foil. Foil is not suitable for wrapping acidic foods which may react with it.

If the foil is likely to become punctured in the freezer, over-wrapping with a plastic bag is advisable. Foil is also useful as a lining for casserole dishes when preparing food. Once the dish has been cooked and frozen, the foil lining containing the food can be removed. The parcel can then be over-wrapped and stored in the freezer until needed. For reheating, simply unwrap the food and return it to the casserole dish. Also useful are foil dishes, which are available in a variety of sizes and are complete with lids.

25. **Plastic containers**. These are expensive compared to other types of freezer packaging but will last longer. After heavy, prolonged use, they tend to lose their sealing qualities and may require sealing with freezer tape to prevent air affecting the contents.

26. **Other items**. Packaging containers left over from purchased foods such as ice cream and margarine tubs, can be useful when freezing foods. Care must be taken to ensure they are scrupulously clean and freezer tape should be used for an airtight seal. Specially toughened glass freezer proof dishes are useful for certain desserts which are to be served in the dish. In addition, waxed paper, non-stick paper, labels and a waterproof pen will be required.

27. **Labelling**. Everything that goes into a freezer should have a label stating its contents and the date it

was placed into the freezer. Where large amounts of food are frozen, a record of the contents of the freezer should be kept to ensure that items are used in rotation and within the recommended storage period. Freezer labels are available in different colours to aid recognition, for example; red for meats and green for vegetables.

FOOD FREEZING AIDE-MEMOIRE

28. The following basic rules should be followed when carrying out home freezing.

a. All foods prepared for freezing must be fresh. Always use good best quality foods and freeze them at peak freshness. This is important.

b. Once prepared, food for the freezer should be cooled and frozen as rapidly as possible. Fruit and vegetables deteriorate quickly if they are not processed immediately after picking. Hot or warm food should not be put in the freezer.

c. Keep handling to a minimum and make sure everything is scrupulously clean. Remember, freezing does not kill bacteria or germs.

d. Food must be thawed correctly. Rapid thawing will result in toughness and loss of texture and flavour.

e. Freeze food in small quantities. Use the coldest part of the freezer and do not pack the food up too tightly. Fast freezing slows up the formation ice crystals in the food and thereby preserves better texture.

f. Only the amount of fresh food that can be frozen safely within 24 hours should be frozen at one time. This is normally the amount that would fill one-tenth of the total storage capacity. Overloading the freezer with fresh food will slow down the freezing process.

g. Food must be stored at the correct temperature of -18C.

h. Food must be sealed in moisture proof wrapping. Air should be removed, but head-space must be left in rigid containers for the expansion of liquids. Strong smelling or highly flavoured foods should be over-wrapped. Label and date food and maintain a record or log.

29. Foods that are considered unsuitable for freezing are: Boiled eggs (including scotch eggs) and whole fresh eggs
Soured cream and single cream
Custards, including tarts
Soft meringue toppings
Mayonnaise and salad dressings. Milk puddings
Royal icing and frostings without fat
Salad vegetables with a high water content, eg lettuce
Boiled potatoes, (best frozen mashed or baked)

FOOD FREEZING

30. Freezing vegetables. Vegetables should be frozen when really fresh, within 12 hours of harvesting if possible. All vegetables will keep better if they are blanched before freezing. Blanching inactivates enzymes that would otherwise cause deterioration of flavour, colour, texture and nutrient value. Although some nutritional loss is inevitable when blanching, it can be minimised by blanching in fast boiling water for the precise time for each type of vegetable.

31. **Blanching**. Prepare vegetables as for cooking and size them as carefully as is possible. Have a large bowl of iced water ready. Fill a pan with a water/salt solution to the ratio of 1 litre water to 5g of salt (salt is optional); 1 litre will blanch approximately 100g of vegetables. Bring the water to the boil, place the vegetables into a wire basket or colander then immerse them in the boiling water.

Return them to the boil quickly and blanch for the required time. After blanching, plunge the vegetables into the iced water. When cold, drain thoroughly and pack immediately. The iced water can be used a number of times before it needs to be replaced. As a guide, the following blanching times can be followed:

a. All types of beans: 2 to 3 minutes.

b. Pease and cabbage; 2 minutes.

c. Carrots: 4 minutes.

d. Courgettes and mange-tout: one minute.

e. Broccoli, cauliflower, Brussels sprouts: 4 minutes.

f. Onions, fennel, spinach, parsnips, turnips: 2 minutes.

g. Corn on the cob (medium size): 4 minutes.

32. **Unblanched vegetables**. Vegetables can be frozen unblanched, however storage times are reduced and the produce must be used more quickly. The following is a guide to approximate times for keeping unblanched frozen vegetables.

a. Brussels sprouts; three days.

b. Broad beans: three weeks.

c. Runner beans and sweetcorn: one month.

d. Peppers: three months.

e. Pease six to nine months.

f. Carrots and spinach: twelve months.

33. **Other vegetables**. Some vegetables are unsuitable for freezing except when part of a soup, a cooked dish or a puree. These include: chicory, cucumber, endive, kale, lettuce, radish, Jerusalem artichokes and celery. Potatoes are best frozen cooked as a croquette or, pipe, as for duchess potatoes.

They can also be chipped or cut to shape then blanched in oil. Tomatoes can be frozen as a puree although whole small tomatoes freeze quite well. Mushrooms and sliced leeks are best lightly cooked in butter or oil before being frozen. They can also be used in casseroles, soups and other cooked dishes. Avocado pears should be frozen as a puree, mixed with a little lemon juice to preserve colour.

34. **Cooking**. All vegetables should be cooked from frozen, direct from the freezer. Final cooking times will be shorter for vegetables that have been blanched.

35. **Freezing Fruit**. Fruit for freezing should be ripe and free from blemishes. It should be prepared as for eating or cooking and can be frozen in a variety of ways.

a. **Dry pack**. Fruits such as blackberries, gooseberries, blackcurrants and raspberries can be frozen individually. The fruit should be spread onto trays lined with waxed or greaseproof paper and put into the freezer until frozen. This is also known as opening freezing. When frozen, pack the fruit into polythene bags or tubs. The fruit will remain separate and small amounts can be removed.

b. **Dry sugar pack**. Sprinkle fruit with sugar, mix together carefully then pack into rigid containers before freezing. As the fruit thaws, the fruit and sugar will make syrup. Use 100g of sugar to 450g of fruit and when freezing allow for headspace in the container.

c. **Cold syrup**. Use this for firm textured fruit such as apples, peaches and pears. Fruit that may discolour should be soaked in a solution of lemon juice first: one lemon per 1 litre of water is sufficient. Make the syrup the day before if freezing in large quantities. For high acid fruit such as gooseberries make the syrup with 900g of sugar to 1 lt of water, for other fruits, 450g of sugar to 1 litre of water, bring to the boil, add the lemon juice if required then leave to go cold. Pour over the prepared fruit or place the fruit into a container with the syrup. Hold down any floating fruit to ensure it is covered with the syrup. Leave a headspace of 1cm for expansion.

d. **Puree**. Over-ripe fruit can be pureed and frozen. Some fruits such as bananas, pomegranates and kiwi are not suitable for freezing. Strawberries and melons will freeze whole or cut but they tend to lose their form and crispness when defrosted and both can be better used as a puree.

36. **Thawing and cooking**. Fruit to be served raw should be thawed slowly in an unopened container and then be eaten while still slightly chilled. Fruits that tend to discolour should be thawed rapidly and kept submerged in syrup while thawing. Dry sugar pack fruits tend to thaw more quickly than fruit in syrup. If the fruit is to be cooked, that it until the pieces separate then cook as for fresh fruit, but remember that it will already be sweet if it has been packed in dry sugar or syrup.

37. **Freezing meat**. Fresh meat needs little preparation. Simply trim off excess fat and remove bones where possible as these take up freezer space.
Meat should be packed carefully to prevent damage from freezer burn. Use moisture and vapour proof wrapping that cling to the sides of the item being frozen. Excludes as much air as possible to prevent fat becoming rancid and the meat drying out. Use heavy duty polythene bags and wrapping to over bag. Separate chops and steaks with layers of greaseproof or non-stick paper and treat as for joints. Wash and dry offal thoroughly and remove any blood vessels. Wrap in close wrapping film, overwrap in polythene then bag for freezing. For mince, use a good quality meat, without fat if possible, add no salt. Pack in polythene bags, remove any air then freeze quickly.

38. **Freezing poultry**. As commercially frozen oven ready poultry is readily available, it is only an advantage to freeze fresh poultry if the price is very favourable. Joint the chicken and use the bones and carcass for stock. Wrap joints or quarters individually, bag and label in bulk. Cooked chicken must be completely cold for freezing. Wrap in foil, pack stuffing separately then freeze. To help avoid excessive drying, freeze in sauce, gravy or stock. All other poultry, turkey, goose and duckling can be treated in the same way as chicken. Always pack giblets separately as their storage times are shorter than the poultry item.

39. **Freezing game**. Venison should be hung before freezing, and then cut into joints for freezing. Prepare hare and rabbit by cutting into portions, discarding any bony parts not required. Pack and freeze as for meat. The texture and flavour of game birds improves with freezing. Hang and prepare as required for individual recipes, pack in foil or freezer bags and freeze.

40. **Freezing.** Only freeze very fresh bacon, the longer it has been cut or kept the shorter will be its freezer life. As an alternative to the commercial vacuum packed bacon, top quality bacon joints can be frozen close wrapped in foil or cling film then over-packed in polythene bags. For rashers, interleave with waxed or non-stick paper then foil wrap and over bag in polythene.

41. **Freezing fish**. Whole fish can be frozen uncooked but it must be very fresh. Wash and scale, gut and re-wash. Drain then dry and, for best results, freeze the whole fish unwrapped in the freezer until solid. Remove from the freezer, dip in cold water to form a thin layer of ice and repeat until the fish is “glazed” then wrap in cling film or foil. Fish steaks, should be packed with a layer of cling film or foil to separate them then over-wrapped in foil or film and bulk packed in polythene bags.

42. **Methods of thawing**. Food thawed slowly will have a superior taste, colour and texture to food that has been rapidly thawed. Thawing can be done at room temperature but there is less risk of contamination if it is carried out in a refrigerator. The two main methods of thawing are:

a. **Slow thawing**. This is best carried out in a refrigerator or cold room. Always leave food in its original wrapping to prevent leaching and loss of colour and quality. Allow plenty of time for thawing to take place; for example, as little as 450g of meat can take up to 6 hours to thaw. Before cooking meat and poultry ensure that it has thoroughly thawed.

b. **Quick thawing**. Food will thaw in normal room temperature in half the time of food thawed in a refrigerator. In an emergency, food may be thawed by submerging the package under running cold water until defrosted. Both these methods have their disadvantages.

The quality of the end product will be inferior and the risk of bacterial contamination will be increased.

43. **Cooking and reheating from frozen**. Some foods can be cooked from frozen, others must be thawed first. Reheating must take place rapidly and at a fairly high temperature. This will preserve the flavour of the food and will reduce the risk of bacterial contamination from insufficiently heated food. It may be possible to thaw or even cook from frozen using a microwave oven. Where this is desired, check the manufacturer's instructions for use.

44. **Refreezing**. It is possible to re-freeze some cooked foods that were once frozen but great care must be taken to ensure that they are still in good enough condition to re-freeze, if in any doubt and as a general rule, do not re-freeze.

45. **General points**. The following are some general points when dealing with meat, poultry and fish:

a. **Small cuts or joints**, such as chops, steaks, diced meat and mince can be cooked gently from frozen. Allow almost twice the cooking time and start the cooking process slowly, gradually building up the heat. Flavour and texture retention will be better if this method is used.

b. **Whole joints** can be cooked from frozen, use a meat thermometer or probe to ensure complete cooking. As timing for cooking this way tends to be difficult to estimate, it is best to thaw joints before cooking. Rolled joints, such as breast of lamb, whether stuffed or not, must be thawed before cooking. This is because all the surfaces of the meat have been handled so it is important to ensure thorough cooking to destroy any bacteria which may be present.

c. **Stews, pre-cooked pies and casseroles** must be heated thoroughly if cooking from frozen but are best thawed before use. As an alternative, they may be thawed then cooked in a microwave oven, check the manufacturer's instructions before cooking.

d. **All frozen poultry** must be completely thawed before cooking. A large turkey may take up to several days to thaw completely. Poultry weighting up to 2.5kg can be thawed in a refrigerator and poultry above this weight at cool room temperature. Remove the giblets from the body cavity as soon as possible. The bird is completely thawed when no ice crystals remain in the body cavity and the joints are flexible. Once thawed, poultry should be cooked as soon as possible and should not be stored, unfrozen, for more than two days.

e. **Whole large fish** should be thawed very slowly to retain moisture and texture. Small fish and cuts are best cooked from frozen.

FREEZING MISCELLANEOUS ITEMS

46. **Double or whipping cream** can be frozen, but single cream does not freeze well. Whipped cream can be piped onto non-stick paper and frozen then transferred to a suitable container and sealed. Fresh cream can be stored for up to three months and will need 45 minutes thawing at room temperature before use.

47. **Cakes** of all sorts can be frozen; sponge, flans, Swiss rolls, layer cakes and large gateaux all freeze well as do rich fruit cakes, although there is little point in freezing these as they will keep and improve using traditional storing method. Bake cakes in the normal way then cool on a pastry wire. Do not spread or layer the sponge cakes with jam as when this thaws it will become wet and make the sponge soggy.

Wrap plain cake layers separately or together with cling film or waxed paper between the layers. Pack decorated cream cakes in boxes to protect them. All types of cake will store well in a freezer for up to three months. Thaw smaller cakes at room temperature for 2 hours and large cakes or gateaux for up to 4 hours. Cream cakes are best cut while still frozen to retain shape and to aid quicker thawing. Light fruit cake will need 4 hours to thaw.

48. **Biscuits** in the raw uncooked state benefit from freezing; the resulting cooked biscuit is higher than the fresh baked variety. Freeze in cylinder shapes, either formed into the finished product or left in bulk. Foil or cling film wrap then bag in polythene. Thaw for 45 minutes, or until just beginning to soften then bake or cut to shape and bake in the normal way.

49. **Icings and fillings** can be stored in bulk in the freezer, butter creams or icings being the best for keeping. Brief chilling in the refrigerator will achieve a firm set on cakes which can be wrapped and frozen. Remove wrappings before thawing to allow moisture to escape and avoid spoiling the icing.

50. **Flavourings and decorations** must be pure for all icings and fillings; chemical substances may tend to leave an after taste when the item is thawed. Highly spiced foods tend to develop off-flavours, so spiced cakes should not be frozen. However chocolate and coffee cakes freeze well.

51. **Bread** is a useful standby to keep in the freezer; freshly baked bread freezes well as does home made bread. Crisp, crusty bread stores well up to one week in its original wrapper after which the crust deteriorates and flakes. For longer storage, remove bread from its original wrapping, wrap in cling film or polythene then freeze.

Bread wrapped in this way will keep for two months without breaking up. Thaw either in the sealed polythene at room temperature for 3 hours or unwrap put in an oven and heat through.

52. **Pastry** will freeze equally well cooked or uncooked, short, flaky and puff are particularly suited to freezing. Pastry can be stored baked or unbaked; baked will keep longer at six months, unbaked for four months. Unbaked will have a better flavour and will be crisper and flakier. To freeze, form into a roll or slab, wrap in greaseproof paper and then freeze. Flan cases, pastry and vol-au-vent cases are all useful to keep unbaked or ready baked and are best stored wrapped in foil then over wrapped in polythene. Baked cases should be thawed in their wrappings and at room temperature before being filled. They can be heated in a low oven if a hot filling is to be used. For defrosting by microwave, follow manufacturer's instructions.

53. **Herbs** can be frozen in small bunches in a rigid container or in a bag. They can also be washed, chopped and frozen in ice, rather like an ice cube and using an ice cube maker. Herbs can be stored for up to six months

and can be used straight from the freezer in whichever form they were frozen.

54. **Cheese** should be wrapped in foil or cling film to prevent drying. It should then be over wrapped in polythene ready for freezing. The maximum recommended time for freezing cheese is six months. Thaw in a refrigerator then allow it to come to room temperature before eating. Grated cheese freezes well and can be packed in handy amounts and used straight from the freezer.

55. **Pasta** freezes well as part of a complete dish such as macaroni cheese or, cooked on its own. Pasta shapes freeze well for use with a soup but should be frozen separately as they break down in liquid. For freezing, undercook slightly in boiling, salted water then dry as much as possible, put into polythene bags and freeze.

56. **Sauces, soups and stocks** make very useful, standbys to keep in a freezer. After cooking, pour into rigid containers, leave headspace, seal, label and freeze. Sauces may be stored for three months and stocks for up to six months. To thaw, put at room temperature for 2 hours or heat from frozen, bringing to the boil quickly.

HIGH QUALITY STORAGE LIFE

57.

Item	*Months*	*Item*	*Months*
Meat		*Fruit*	
Beef	8-12	Apricots	6
Ham and Bacon (Whole)	3	Cherries	7
Ham and Bacon (Sliced)	1	Currants	10
Lamb	6-9	Fruit Juices	4-6
Minced Beef	3	Fruit Purees	9-12
Offal	3	Gooseberries	10
Pork	6	Melon	6
Sausages and Sausage Meat	3	Peaches	6
Veal	6-9	Plums, Raspberries, Rhubarb and Strawberries	12
Poultry		*Baking Goods*	
Chicken	12	Baked: Bread, Rolls, Buns	1-2
Duckling	6	Breadcrumbs	3
Giblets	2-3	Danish Pastry	1
Goose	6	Decorated Cakes	3
Poultry Stuffing	1	Fruit Pies	6
Turkey	6	Meat Pies	3
Game		Pancakes (Unfilled)	2
Feathered Game	9	Pastry Cases	3
Hare	6	Pizza	1
Rabbit	6	Plain Cakes	6
Venison	12	Sandwiches	2
Fish		Savoury Flans	2
Oily Fish: Herring, Mackerel, Salmon, Trout	3	Unbaked Biscuits	4
Shellfish	1	Unbaked: Bread, Rolls, Buns	2
White Fish: Cod, Plaice, Haddock, Sole	3-6	Unbaked Cakes	2
Vegetables		Unbaked Pastry	3
Asparagus	9	*Cooked Dishes*	
Beans	12	Casseroles and Stews	3
Brussels Sprouts	10	Curry	4
Carrots	10	Filled Pancakes	1
Fresh Herbs	10	Fish Dishes	2
Part Fried Chips	4	Meat in Sauce/Gravy	3
Peas and Spinach	12	Meat Loaf	1
Vegetable Purees	6-8	Pate	1
Tomatoes	6	Roast Meats	1
Dairy Products		Sauces	2
Double Cream	6	Soufflés	2
Eggs	12	Mousses	2
Fresh Butter	6	Soups	3
Hard Cheese	3-6	Sponge Puddings	3
Ice Cream	3	Stocks	4-6
Soft Cheese	6	Cottage Pie	3
		Meat Sliced, not in Sauce or Gravy	2-3
		Pasta dishes, cooked	1

PART 1 - GENERAL

SECTION K

Packed Meals

SECTION K

INTRODUCTION

1. Packed meals are frequently required for personnel who are engaged on duties away from their parent unit. The majority of these are for groups on training and can be anticipated and planned for well in advance of requirement. It is sound practice to have a standing detail for packed meals in all units in order to ensure that a consistently high standard is achieved. Special arrangements can be made for packed meals required for special occasions when added variety might be required. Individuals or small groups can be allowed, where practical, to choose the ingredients for their own meals.

2. The planning and preparation of a packed meal should be of the highest standard consistent with the resources available. Such meals are judged by the consumer in the same critical fashion as a meal taken at the hot plate and the same care and attention should be devoted to the production of packed meals as is customary when producing meals in static Mess locations.

FACTORS TO BE CONSIDERED IN THE PRODUCTION OF PACKED MEALS

3. The type of packed meal produced depends on a number of factors; the main ones for the caterer to consider are the type of duty being undertaken, its duration and the environment in which the meals are likely to be eaten. These are circumstances over which the caterer exercises no control but which have most influence over how the meal will be planned.

4. The most practical type of packed meal for most circumstances is a combination of sandwiches or filled rolls, individual pies or pastries, fruit pies or fresh fruit, cheese and biscuits and a hot or cold drink depending on the facilities available.

5. A popular meal, but no always practical in all circumstances is a packed salad accompanied by a cold sweet or a piece of fresh fruit or cheese and biscuits also with a hot or cold drink.

PRODUCTION

6. Packed meals should be manufactured as late as possible with strict regard to a high standard of hygiene during all stages of preparation and storage. Regulations regarding temperature controls should be strictly applied. The practice of preparing meals the evening or day before should be avoided unless absolutely necessary. Food stuffs being used must be cooked thoroughly with the utmost care and attention and even then the use of items such as chicken legs or shellfish are best avoided.

7. A good packed meal will meet certain criteria which are that it will:

a. Be substantial.

b. Contain popular food.

c. Be satisfying.

d. Be attractively presented.

MANUFACTURE

8. With imagination a wide range of sustaining and interesting foods can be used to manufacture packed meals. A variety of sandwiches or filled rolls or salads can be made from roast meats and poultry, tinned meats and fish, pates and pastes, cheeses and egg. These, combined with salad items such as tomatoes, lettuce, cucumber, various pickles, coleslaw and mayonnaise and accompanied by fresh fruit, chocolate bars or sweet biscuits provide an attractive and filling packed meal which is generally acceptable to a majority of customers.

Further inspiration can be gained from the many shops now specialising in packed foods and the packed food industry has its own, regularly published magazine which promotes new trends and improvements as they appear. Packed meals need not be monotonous and a regular review, perhaps as an item on the unit messing meeting will help to achieve this.