

Reporting results to you:

You will be notified of your results, usually in the following way:

Satisfactory: means that the bacteria found were at acceptable levels;

Acceptable: An index reflecting a borderline limit of microbiological quality;

Unsatisfactory: This indicates problems with food handling. An urgent review of food handling procedures is required to ensure that food does not cause food poisoning;

Unacceptable / Potentially Hazardous: Consumption of this food may cause illness. Immediate action is required.

FOLLOW THESE SIMPLE RULES TO HELP YOU TO CONTROL THE QUALITY AND SAFETY OF YOUR FOOD:

- Identify all steps in your activities which are critical to food safety;
- Put adequate safety controls in place;
- Adequately train all staff in food hygiene;
- Wash hands thoroughly before handling food, and again between handling raw and cooked foods, and after visiting the toilet;
- Clean all equipment, utensils and preparation surfaces thoroughly;
- Keep cooked and raw foods separate during preparation and storage;
- Wash salads thoroughly;
- Use food within its use-by-date and promptly use foods you have already prepared;
- Keep food covered;
- **Never** use raw eggs in food which is not going to be cooked e.g. mayonnaise, tiramisu;
- Keep animals out of food preparation areas;
- Use a thermometer to monitor temperatures and disinfect the temperature probe each time that it is used;

- Cook food thoroughly (centre temperature more than 70°C for 2 minutes) and serve. If hot-holding keep above 63°C;
- Re-heat food to at least 75°C;
- Ensure any food requiring refrigeration is kept below 8°C and not left out for long periods;
- When preparing food in advance, ensure it is cooked thoroughly, cooled rapidly and stored in the 'fridge';
- Avoid using leftovers.

ENVIRONMENTAL HEALTH SERVICES COMMERCIAL UNIT

MID DEVON DISTRICT COUNCIL

PHOENIX HOUSE

PHOENIX LANE

TIVERTON

EX16 6PP

TELEPHONE: (01884) 244603

FACSIMILE: (01884) 234256

E-MAIL: ehadmin@middevon.gov.uk

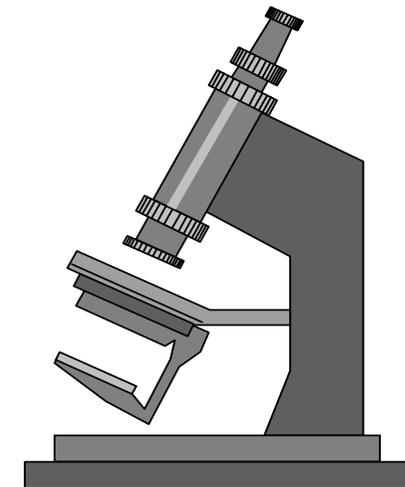
Did this leaflet clearly answer any questions you may have had? Please let us know if there is any other information you require.

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Where People Matter

INTERPRETING MICROBIOLOGICAL RESULTS



Microbiological examination of food allows us to compare the levels of different bacteria found against those we expect to find in similar types of product. This helps us to assess whether the food was handled hygienically, stored correctly or would be a risk to health if consumed.

Food is tested for some, or all, of the following bacteria:

Aerobic Colony Count (30°C)

Escherichia coli

Enterobacteriaceae

Staphylococcus aureus

Clostridium perfringens

Bacillus cereus and other *Bacillus* species

Listeria species

Salmonella species

Campylobacter species

The Aerobic Colony Count (ACC) is the total bacteria found in food. This examination is usually carried out on most foods, the exception being those foods that would naturally contain high levels of harmless bacteria e.g. salamis cheese and 'live' yoghurt. A high ACC may indicate the product has been kept too long or that it has been left unrefrigerated. Refrigeration of food slows down bacterial growth.

Escherichia coli (E coli) is a bacterium, which is found in the gut of man and animals. It may be transmitted through faecal contamination at slaughter or through poor personal hygiene of food handlers. Their presence in cooked foods is indicative of poor personal hygiene - not washing hands after going to the toilet, or post cooking contamination from raw foods. There is a strain of *E coli (O157)* which can cause serious illness, this bacteria is associated with raw dairy products and meat e.g. burgers. The centre temperature of meats should reach at least 70°C for two minutes,

or equivalent temperature/time combination, or until the juices run clear. Always ensure cooked foods are separated from raw.

The family Enterobacteriaceae includes bacteria that naturally inhabit the gut of man and animals but some are widespread in the environment. Enterobacteriaceae are useful indicators of hygiene and of post processing contamination of processed foods (i.e. from dirty machinery). Some of these bacteria are found in the environment and are therefore commonly found in salad/vegetable products or in cooked foods coming into contact with raw foods. It is essential therefore that salads are thoroughly washed, that all equipment be thoroughly cleaned and that cooked and raw foods are kept separate.

Staphylococcus aureus is a bacterium that can produce a toxin in food that can cause food poisoning. This bacterium is found in the nose and mouth of humans and in uncovered wounds, cuts, spots, boils etc. The presence of these bacteria in food is usually due to poor personal hygiene, in cooked food which is stored at room temperature and then eaten cold, eg cooked meats and cream cakes. It is essential that hands are washed before handling food.

Clostridium perfringens is a bacterium that is found in the gut of animals and humans and in the environment. Some strains can cause food poisoning by contaminated meat or poultry dishes subjected to inadequate temperature control after cooking or cooling, or by inadequate reheating before consumption. It is also essential to prevent cross contamination from raw to cooked foods, especially uncooked meats.

Bacillus species and specifically Bacillus cereus, are capable of producing toxins in food that can cause food poisoning. *Bacillus* is widely distributed in the environment, in cereal products, herbs, spices, dried food, dairy and meat products. It is essential that foods are cooked thoroughly,

and if not being served immediately they must be cooled rapidly. *B.cereus* is usually associated with rice dishes where large volumes of food are produced in advance and may be cooled slowly over several hours. Refrigeration slows down growth. *Bacillus subtilis* group is usually associated with meat or vegetable with pastry, cooked meat or cooked poultry

Listeria species especially Listeria monocytogenes are found in the environment and are usually associated with salads, pates soft cheese, seafoods and other meat, dairy or vegetable based products. Its presence in cooked foods can be an indication of insufficient cooking or contact with raw foods. This bacterium can grow well at refrigeration temperatures. It is essential that foods are cooked thoroughly and covered, and that all equipment and surfaces are cleaned thoroughly.

Salmonella species are food poisoning bacteria which can be found in the intestines of a wide variety of wild and domestic animals, birds reptile, amphibians, in polluted waters, and occasionally humans. *Salmonella* may be present in food due to insufficient cooking of contaminated foods, from cross contamination from raw food e.g. raw poultry to cooked foods, (which includes the use of raw eggs in uncooked dishes) or due to poor personal hygiene.

Many **Campylobacter** bacteria are known to cause food poisoning. This bacterium is found in the gut of some animals. Its presence in foods may be due to insufficient processing or cooking (e.g. unpasteurised milk, uncooked centre of rolled meat joints) or contamination by pets and other domestic animals. Food must be cooked thoroughly and once cooked not allowed to come into contact with raw foods or pets