Annex 5 - sear and shave method

This section gives an overview of the sear and shave method and how it can be used as part of the process to prepare and cook burgers which appear to be less than thoroughly cooked.

This method is based on the same principle as cooking whole pieces of steak - searing the outside of the meat to kill bacteria. Whole muscle cuts of meat must be used because any harmful bacteria will be on the outer surfaces of the meat and will be reduced to safe levels. Meat that has been minced, rolled, tenderised, or reconstituted in any way must not be used.

The method has two steps:

- step one is searing - cooking the outside surface of the meat by briefly heating it to a high temperature to destroy surface bacteria, while the deeper tissues remain raw
- step two is shaving the piece of meat to remove the seared surface, and the remaining meat can be minced and formed into burgers which can be lightly cooked

The searing stage can be achieved by frying the piece of meat but blanching, boiling, deep frying or other types of cooking can also be used to heat the outside of the meat to a high temperature.

It is important that the surface of the cut of meat is not pierced, for example by using utensils to tenderise the meat. This could cause contamination to be pushed into the cut of meat, which could make the sear stage ineffective.

The combination of time and temperature applied at the searing stage must be sufficient to thoroughly cook the surface of the meat as this will reduce harmful bacteria to safe levels in accordance with the FSMS. The surface of the meat must be smooth to ensure searing is even.

Once the outside of the meat has been seared, the outer surfaces are sliced or shaved off, this must be done hygienically to prevent any potential for cross contamination. The meat can then be minced, formed into burgers and lightly cooked. If the burgers are not cooked and consumed straight away, an appropriate shelf life must be given.

It is the responsibility of the food business to determine the shelf life of the burgers in line with their food safety management system. This date should be determined by a HACCP validation study

Best practice
It is recommended the burgers are used within the shortest time possible to minimise the growth of any harmful bacteria.

Potential for cross-contamination must be prevented at all stages of the process. Mincers are considered to be complex equipment so a mincer which is used for raw meat to be LTTC must not also be used for other meats unless it can be fully dismantled and disinfected between uses.

This is because contamination can occur throughout the internal components of the equipment that cannot be adequately disinfected without a full dismantle. The burgers must be stored separately from other foods, including other raw meat products and ready-to-eat foods. Detailed guidance on cross contamination can be found in the E. coli cross-contamination guidance.

It must be remembered that any ingredients added to the minced meat to make the burger, such as raw onions or spices, will need to be free from microbiological contamination (ready-to-eat) as

they will not be thoroughly cooked.

Best practice
It is best practice to use separate, designated equipment for meat which has been seared to reduce the risk of cross contamination.

It is possible to sear the outside of a whole cut of meat, and then mince the whole piece of meat without the 'shave' step to remove the cooked outer layer of meat. As with 'sear and shave', food businesses must ensure that the handling, preparation and storage of the meat after the searing process is safe and hygienic.

If the process is carried out hygienically a six-log reduction in bacteria can be achieved.

Best practice

It is best practice to provide a consumer message to explain that the food business has used specific controls to produce burgers that appear to be less than thoroughly cooked. This is to help consumers understand that cooking pink burgers at home is not recommended.