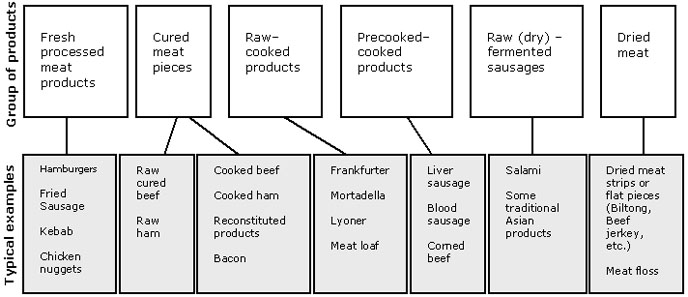
**CATEGORIES OF PROCESSED MEAT PRODUCTS**

When viewing meat products of various size, shape and colour in butcher shops or meat sections of supermarkets, there appears to be is a great variety of such products with different taste characteristics. In some countries there may be several hundred different meat products, each with its individual product name and taste characteristics.

At a closer look, however, it turns out that many of the different products with different product names have great similarities. This issue can be even better understood and becomes more transparent when the processing technologies are analyzed. Based on the **processing** **technologies used and** taking into account the treatment of raw materials and the individual processing steps, it is possible to categorize processed meat products in **six broad groups**.

**Table 5: Meat products grouped according to the procesing technology applied**



Based on the grouping the meat products and their processing technologies are described in detail in the respective chapters (page 103, 115, 127, 149, 171, 221). Hereunder, a definition of each group is given:

**Fresh processed meat products**

**Definition**

These products are meat mixes composed of comminuted **muscle** **meat**(Fig. 125, 126, 127), with varying quantities of **animal fat**. Products are **salted only**, curing is not practiced. **Non-meat ingredients** are added in smaller quantities for improvement of flavour and binding, in low-cost versions larger quantities are added for volume extension. All meat and non-meat ingredients are added **fresh**(raw). Heat treatment (**frying, cooking**) is applied immediately prior to consumption to make the products palatable. If the fresh meat mixes are filled in casings, they are defined as **sausages** (e.g. frying sausages). If other portioning is customary, the products are known as **patties, kebab,**etc. Convenience products, such as **chicken nuggets** (see page 190), have a similar processing technology and can also be included in this group. In contrast to the rest of the group, **chicken nuggets** etc. are already fried in oil at the manufacturing stage during the last step of production.

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| **Fig. 125: Fresh raw beef patties** | **Fig. 126: Fried fresh sausages** (left) **patties** (right) | **Fig. 127: Chicken nuggets and beef** |

**Cured meat cuts**

**Entire pieces of muscle meat and reconstituted products**

**Definition**

Cured meat cuts are made of **entire** pieces of muscle meat and can be sub-divided into two groups, **cured-raw** **meats** (Fig. 128) and **cured-cooked** **meats**(Fig. 129). The curing for both groups, **cured-raw** and **cured-cooked**, is in principle similar: The meat pieces are treated with small amounts of nitrite, either as dry salt or as salt solution in water.

The difference between the two groups of cured meats is:

* **Cured-raw meats** do not undergo any heat treatment during their manufacture. They undergo a processing period, which comprises curing, fermentation and ripening in controlled climatized conditions, which makes the products palatable. The products are consumed raw/uncooked.
* **Cured-cooked meats**, after the curing process of the raw muscle meat, always undergo heat treatment to achieve the desired palatability.

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| http://www.fao.org/docrep/010/ai407e/AI407E156.jpg **Fig. 128: Cured-raw ham** | http://www.fao.org/docrep/010/ai407e/AI407E157.jpg **Fig. 129: Cured-cooked products** |

**Raw-cooked meat products**

**Definition**

The product components *muscle meat, fat*and *non-meat ingredients*which are processed raw, i.e. uncooked by comminuting and mixing. The resulting viscous mix/batter is portioned in sausages or otherwise and thereafter submitted to heat treatment, i.e. “cooked”. The heat treatment induces protein coagulation which results in a typical firm-elastic texture for raw-cooked products (Fig. 130, 131). In addition to the typical texture the desired palatability and a certain degree of bacterial stability is achieved.

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| http://www.fao.org/docrep/010/ai407e/AI407E158.jpg **Fig. 130: Viennas, hotdogs** | http://www.fao.org/docrep/010/ai407e/AI407E159.jpg **Fig. 131: Sausages and meat loaf of the raw-cooked type** |

**Precooked-cooked meat products**

**Definition**

Precooked-cooked meat products contain mixes of lower-grade muscle trimmings, fatty tissues, head meat, animal feet, animal skin, blood, liver and other edible slaughter by-products. There are two heat treatment procedures involved in the manufacture of precooked-cooked products. The *first heat treatment* is the **precooking of raw meat materials**and the *second heat treatment* the **cooking of the finished product mix** at the end of the processing stage. Precooked-cooked meat products are distinguished from the other categories of processed meat products by precooking the raw materials prior to grinding or chopping, but also by utilizing the greatest variety of meat, animal by-product and non-meat ingredients (Fig. 132, 133, 134).

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| **Fig. 132: Blood sausage** | **Fig. 133: Liver pate** | **Fig. 134: Corned beef in cans** |

**Raw-fermented sausages**

**Definition**

Raw-fermented sausages are **uncooked meat products** and consist of more or less coarse **mixtures of lean meats and fatty tissues** combined with salts, nitrite (curing agent), sugars and spices and other non-meat ingredients filled into casings. They receive their characteristic properties (flavour, firm texture, red curing colour) through **fermentation processes**. Shorter or longer **ripening phases** combined with moisture reduction (“drying”) are necessary to build-up the typical flavour and texture of the final product. The products are not subjected to any heat treatment during processing and are in most cases distributed and consumed raw (Fig. 135, 136).

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| http://www.fao.org/docrep/010/ai407e/AI407E161.jpg **Fig. 135: Raw-fermented sausages** | http://www.fao.org/docrep/010/ai407e/AI407E162.jpg **Fig. 136: Naem, a fermented product from South-East Asia** |

**Dried meat products**

**Definition**

Dried meat products are the result of the simple***dehydration***or***drying of lean meat*** in **natural conditions** or in an **artificially created environment** (Fig. 137, 138). Their processing is based on the experience that dehydrated meat, from which a substantial part of the natural tissue fluid was evaporated, will not easily spoil. Pieces of lean meat without adherent fat are cut to a specific uniform shape that permits the gradual and equal drying of whole batches of meat. Dried meat is not comparable to fresh meat in terms of shape and sensory and processing properties, but has significantly longer shelf-life. Many of the nutritional properties of meat, in particular the protein content, remain unchanged through drying.

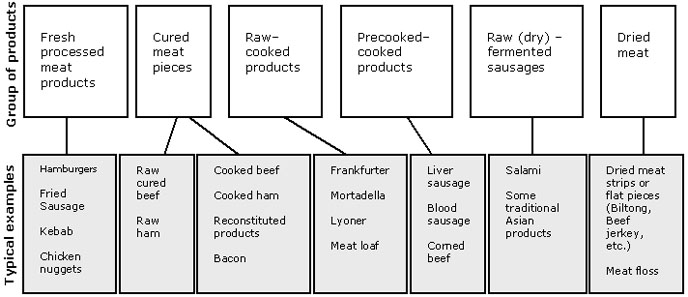
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| http://www.fao.org/docrep/010/ai407e/AI407E164.jpg **Fig. 137: Biltong from Southern Africa** | http://www.fao.org/docrep/010/ai407e/AI407E163.jpg **Fig. 138: Meat floss (beef, chicken, pork) from East and SE-Asia** |

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