

Defects occurring during cutting and mixing

Reduction

- Separation of fat or water (over 10%) during production
- Insufficient binding capacity of water, or insufficient cutting of final meat product
- Product - reduced cohesion, friability, disintegration

Inappropriate material composition of the product

- Small amounts of lean raw material and a large proportion of fat raw material
- Excessive addition of water (ice) → protein solution of low viscosity → incoherent gel when heated – product disintegrates

Unsatisfactory condition of raw material

- Rigor mortis – a maximum of 48 hours after slaughter, actin and myosin - complex, meat does not bind water
- Suitable additives (polyphosphates) at the stage of rigor mortis - increase in binding capacity

Incomplete disruption of muscle tissue

- Little protein goes into solution, the pulp will not be sufficiently stable during heat treatment, the release of water and fat – product reduction

Excessive heating of raw material during cutting

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- Coagulation of proteins - product disintegrates

Insufficient addition of salt

Poor bonding capacity of water, reduction of final meat product

- min. addition of salt 1.8% of the weight of final meat product

Indistinctive and irregular mosaic

- Imperfectly-cooled raw material
- Blunt composition in the cutter (spreading of raw material)

Irregular dispersion of insert

- Fast one-time adding of insert or pulp, imperfect mixing

Defects occurring during stuffing and filling

Poorly stuffed product

- Shrunken after heat treatment, cavities filled with juice between the casing and filling

Too stuffed product

- Casing crackles by tension

Insufficient strength of clip

Defects occurring during heat treatment

Insufficient heat treatment

- Bad smell - sanitary defects, degradation of proteins
- Product souring - the multiplication of lactobacilli - increased production of lactic acid

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- Greening of the product - the multiplication of lactobacilli producing peroxides

Defects in cooked meat products and their causes

Liver sausage

- *Dry dark sausage*
 - too high a proportion of the liver
 - low in fat ingredients
 - addition of tripe and meat from bovine heads
- *Sour product*
 - High number of lactobacilli, due to the addition of raw liver, which were slowly cooled

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- Strong propagation of contaminating microflora due to slow processing of material
- Insufficiently cooked, cooked at low temperature
- slowly cooled after being cooked
- *Sticky surface*
 - Sausages insufficiently dried off before moving into cold storage
 - Sausages hung close together
 - Lack of airflow

Blood products

- *Soft disintegrating products*
 - too low content of skins
 - skin used is too fat

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- overcooked skins
- product insufficiently cooked

- *Products affected by microbial growth*
 - Raw material heavily contaminated
 - Multiplication of germs caused by long pause between stuffing of final meat product and heat treatment
 - Multiplication of germs caused by slow cooling after cooking

Headcheese

- *Disintegrating product*
 - too low content of skins in pulp
 - skins cooked too long

Defects of long-keeping meat products

Blurred mosaic

- Spreading of raw material during cutting - blunt knives
- Insufficiently cooled (frozen) raw material

Wrinkling of the sausage surface

- Supply of too hot smoke
- Processing of meat with high water content
- Insufficiently firm stuffing of final meat product into the casing

Soft consistence of long-keeping fermented sausages

- Meat with high water content
- Insufficiently cooled raw material



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

- Undesirable fast heating of final meat product

Akce je realizována v rámci projektu INOVACE STUDIJNÍCH PROGRAMŮ AF a ZF MENDELU SMĚŘUJÍCÍ K VYTVOŘENÍ MEZIOBOROVÉ INTEGRACE, CZ.1.07/2.2.00/28.0302

Tento projekt je spolufinancován z Evropského sociálního fondu a státního rozpočtu České republiky

„Surface ring different in colour“

- fast drying
- surface layers lose more water, soft middle, “alive” - unwanted microflora

Mould growth on the surface

- inadequate smoking with insufficient air supply

Product greying

- fast drying of the sausage surface
- high air humidity or low temperature during aging
- insufficient cooling of meat and fat before processing
- too low addition of salt
- insufficient mixing of salt in the final meat product

Increased acidity of fermented sausages

- High addition of carbohydrates in connection with high temperatures of ageing
- Acetic acid fermentation (heterofermentative bacteria) - pungent aroma and flavour
- CO₂ (formation at heterofermentative fermentation) → porosity of final meat product to sausage bursting

1. Durable meat products

Csabai sausage

Appearance on the surface:

- product is wrinkled
- golden reddish colour with distinct meat and fat grains

Consistency:

- semi-rigid, elastic
- while tasting the product is fragile, pliable without a hard ring on the edge

Appearance on slicing:

- Typical colour, same in the central part and the edge, deep red due to paprika
- Mosaic with evenly distributed fat grains
- Cut is smooth, without holes

Aroma: typical, pleasant, robust thanks to spices

Flavour: pronounced, piquant after paprika, appropriately salty, characteristic for the product

2. Cooked smoked meats

Cooked smoked pork neck

Appearance on the surface:

- Product compact, not overcooked
- lighter brown colour

Consistency:

- adequately firm, fat soft, fragile
- while tasting the whole product is fragile, juicy
- fibrous muscle

Appearance on slicing:

- The typical image of pork neck marbled with fat of white colour
- Muscle of deep pink colour

Aroma: of freshly cooked smoked meat

Flavour: appropriately salty flavour of smoked meat

3. Soft sausages

Parisian salami

Appearance on the surface:

- golden brown colour
- surface slightly shiny, slightly wrinkled

Consistency:

- elastic, cohesive
- product fragile while tasting

Appearance on slicing:

- product of pink colour
- fat grains are distributed
- minor porosity and collagen grains are allowed

Aroma: of fresh sausage, spices and smoke

Flavour: adequately salty and spicy

4. Small meat products

Špekačky

Appearance on the surface:

- Product in beef intestine
- Individual pieces are separated from each other by binding or clips are inserted

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- Product of golden brown colour with a permissible darker or lighter shade without smoke stains
- Permissible dried drops of juice and lighter areas at the point of contact between two pieces and contact on the “sticks”
- Permissible isolated air holes under the casing
- Surface is slightly matt to shiny, slightly wrinkled

Consistency: elastic, cohesive

Appearance on slicing:

- The product is light to dark pink
- Fine grains of collagen parts and small pores and cavities are permitted

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- Fat component visible on cut,
slightly melted

Aroma: of fresh sausage, spices and
smoke

Flavour: adequately salty, spicy,
the product is juicy after heating