

# Guidelines for Troubleshooting of Different Meat Products

## Acknowledgement:

We would like to acknowledge the committee of National Egyptian Guidelines for Veterinary Medical Interventions, Egyptian Health Council for adapting this guideline.

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## Scope:

Troubleshooting of different meat products deals with the technical defects that occurred during the production and processing of meat products.

## Objective:

Understand troubleshooting and brainstorming needed to find the definite cause of the defect and correctly design a solution, which is applied by a flow chart and sequences of one change.

## Shooting Guide for Sausage Makers

Name of defect	Causes of defect	Picture of defect
<b>Rupture of casing material</b>	<ul style="list-style-type: none"><li>• Expired casing material</li><li>• Low quality casing material</li><li>• Using piston filler</li><li>• Using vacuum filler with maladjustment of vacuum</li><li>• Over filling</li><li>• Rapid heating up rate in cooking program</li></ul>	

**Wrinkle casing  
(shrinked)**

- Under filler
- Absent or insufficient cold showed after cooking program



**Gassiness in vacuum  
packed product**

- Gas-forming bacteria survived from cooking
- Stored at warm temperatures after cooking
- Contamination in vacuum area
- Maladjustment of vacuum-packed machine



**Air pockets**

- Using piston filler
- Using vacuum filler with maladjustment in vacuum
- Runny batter (high moisture content)



**Gelatine pockets**

- High connective tissue with high cooking temperature (more than 80 °C)

**Fat separation as:  
(grease surface- fat  
cap – complete fat  
separation)**

- Low amount of meat
- High amount of non-functional protein (collagen)
- Rancid fat (low quality)
- Over chopping of fat
- High temperature during processing
- Early addition of starch
- Late addition of water or salts
- High amount of water or rework or fat



**Olive detachment in luncheon slice**

- Absent or insufficient washing and drying of olive before addition to meat batter



**Mold growth**

- Contamination of slicing area
- Fluctuation of storage temperature and relative humidity



**Bad binding (bad slicing)**

- High filler (starch)
- Low moisture
- Low functional protein
- Low amount of meat



**Sparing defect**

- Using piston filler
- Using vacuum filler with maladjustment in vacuum
- Runny batter (high moisture content)
- Uneven diameter of natural casing



**Over smoking**

- Long time of smoking
- High smoking temperature
- Bad quality smoking material



**Shooting Guide for burger Makers**

**Name of defect**

**Causes of defect**

**Picture of defect**

**Over chopped  
(absent of marbling  
appearance)**

- Low amount of fat or meat
- High amount of soy proteins or MDM
- Over chopping



**Fringe defect**

- Temperature of meat mix higher than optimum for forming machine.
- Insufficient or no spraying of water on forming plate and forming cup



**Brownish abnormal color**

- Spoiled meat and rancid fat
- High textured soy
- High amount of MDM (oxidized)



**Shooting Guide for pastirma Makers**

**Name of defect**

**Name of defect**

**Name of defect**

**Cracked coat**

- Low moisture content in coat paste
- High temperature of dryness
- Long time of dryness step after application of coat



**Mold growth**

- Fluctuation in storage temperature and relative humidity
- Contamination in drying or storage area
- Absent of addition or spraying of sorbate (mold inhibitor) on coat



**Nitrite burn**

- Insufficient washing step after salting
- High amount of nitrate
- Inefficient salt mix
- Inefficient curing mix distribution



**Uneven curing**

- High amount of nitrate
- Inefficient curing mix distribution
- Small knife stabs



**Shooting Guide for canned meat Makers**

**Name of defect**

**Causes of defect**

**Picture of defect**

**Swollen can**

- Under processing (low temperature or short time in autoclave)
- Overfilling
- Poor gas exhaustion



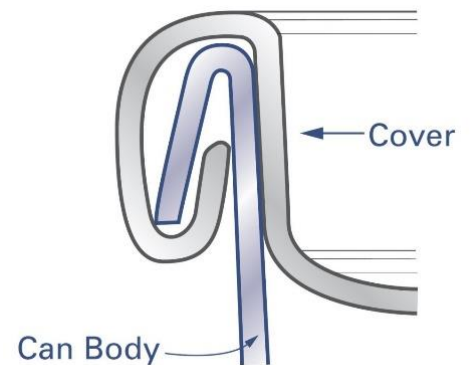
## Rust and leakage

- Bad storage
- bad handling
- Bad polishing and coating of can metal



## Seam defect

- Maladjustment in pressure of seaming machine
- Bad storage and handing
- Denting or physical damage of can



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