Accounting for Meat Productivity (Yield)

Aim of the work

To learn how to calculate meat yield from livestock, to understand the factors affecting meat productivity, to analyze slaughter results and efficiency.

Theoretical background (brief)

Meat productivity (yield) is determined by the proportion of usable meat obtained from livestock relative to the live weight. The main indicators include:

- **Live weight**: weight of the animal before slaughter.
- **Dressing percentage**: proportion of carcass weight to live weight.
- **Meat yield**: proportion of boneless meat to carcass weight.
- **By-products**: offal, bones, fat, and other usable parts.

Formulas:

1. **Dressing percentage (%)** $DP = \frac{Carcass\ Weight}{live\ weight} \times 100$
2. **Meat yield (%)** $MY = \frac{Boneless\ Meat\ Weight}{Carcass\ Weight} \times 100$
3. **Total meat obtained (kg)** $M = Live\ Weight \times DP \times MY / 10000$
   (Note: dividing by 10000 if both percentages are in %)

Practical example

Given data:

- Animal type: **Cattle**
- Live weight: **500 kg**
- Carcass weight: **300 kg**
- Boneless meat: **240 kg**

Step 1: Dressing percentage

$$DP = \frac{300}{500} \times 100 = 60\%$$

Step 2: Meat yield

$$MY = \frac{240}{300} \times 100 = 80\%$$

Step 3: Total meat obtained

$$M = 500 \times 60 \times \frac{80}{10000} = 240\ kg$$

Result:

From a **500 kg live weight cattle**, **300 kg carcass** is obtained, containing **240 kg of boneless meat**. Dressing percentage is **60 %**, and meat yield is **80 %**.

Independent practical tasks

1. **Pig:** 200 kg live weight, carcass 140 kg, boneless meat 110 kg. Calculate dressing %, meat yield %, and total meat obtained.
2. **Sheep:** 70 kg live weight, carcass 45 kg, boneless meat 36 kg. Calculate dressing %, meat yield %, and total meat obtained.
3. **Goat:** 50 kg live weight, carcass 30 kg, boneless meat 24 kg. Calculate dressing %, meat yield %, and total meat obtained.

Conclusion

Accounting for meat productivity allows assessing livestock efficiency, planning production, and calculating expected meat output for the industry.