The bovine production use diversified breeding practices (animal type, breed, diet, etc.) which influence the quality of beef meat. According to breed types (beef and hardy), the aim of this study is to determine which breeding practice combinations, during the fattening period, have a positive impact on the sensory quality of beef meat.

**Dataset**

Individual data from 329 young bulls

5 breeds, 2 breed types (beef and hardy)

Fattening period: 13 breeding practice variables

- Animal growth (n=6)
- Animal Intake (n=5)
- Diet (n=2)

Longissimus Thoracic sensory quality data (sensory panel, score: 1-10)

**Sensory clusters**

To remove sensory panel effect, clusters were performed with kmeans method on linear model residuals of sensory quality data (R software).

2 sensory clusters were obtained:

- **HSQ**: High sensory quality (n= 165)
- **LSQ**: Low sensory quality (n= 166)

### What breeding practices to reach HSQ for each breed type?

**Descision trees**

#### Beef Breeds (n = 215)

- **HSQ**
  - Fattening period duration: < 178 d
  - Average daily gain: ≥ 1.2 kg/d
  - Net energy intake: ≥ 13.9 Mcal/d
  - Forage intake: < 1.4 kg/d
  - Average daily gain: ≥ 1.95 kg MS/d

- **LSQ**
  - Fattening period duration: ≥ 178 d
  - Average daily gain: < 1.2 kg/d
  - Net energy intake: < 13.9 Mcal/d
  - Forage intake: ≥ 1.4 kg/d
  - Average daily gain: < 1.95 kg MS/d

#### Hardy Breeds (n = 114)

- **HSQ**
  - Fattening period duration: < 161 d
  - Average daily gain: ≥ 1.3 kg/d
  - Beginning live weight: < 379 kg
  - Slaughter age: ≥ 161 d

- **LSQ**
  - Fattening period duration: ≥ 161 d
  - Average daily gain: < 1.3 kg/d
  - Beginning live weight: ≥ 379 kg
  - Slaughter age: < 161 d

**For each breed type,**

- **3 breeding practice combinations allow to reach HSQ**

- Common and specific breeding practice variables influence descision trees

- Breeding practice combinations to manage sensory meat quality are different

Managing the sensory quality of beef meat needs to adapt the breeding practice combinations according to the breed type.