



VetAgro Sup

IMPROVING BEEF SENSORY QUALITY THROUGH BREEDING PRACTICES MANAGEMENT

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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**.

1

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 Thoracis **sensory quality data**
(sensory panel, score: 1-10)

Tenderness
Juiciness
Flavor

Sensory clusters

2

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= 163)

LSQ: Low sensory quality (n= 166)

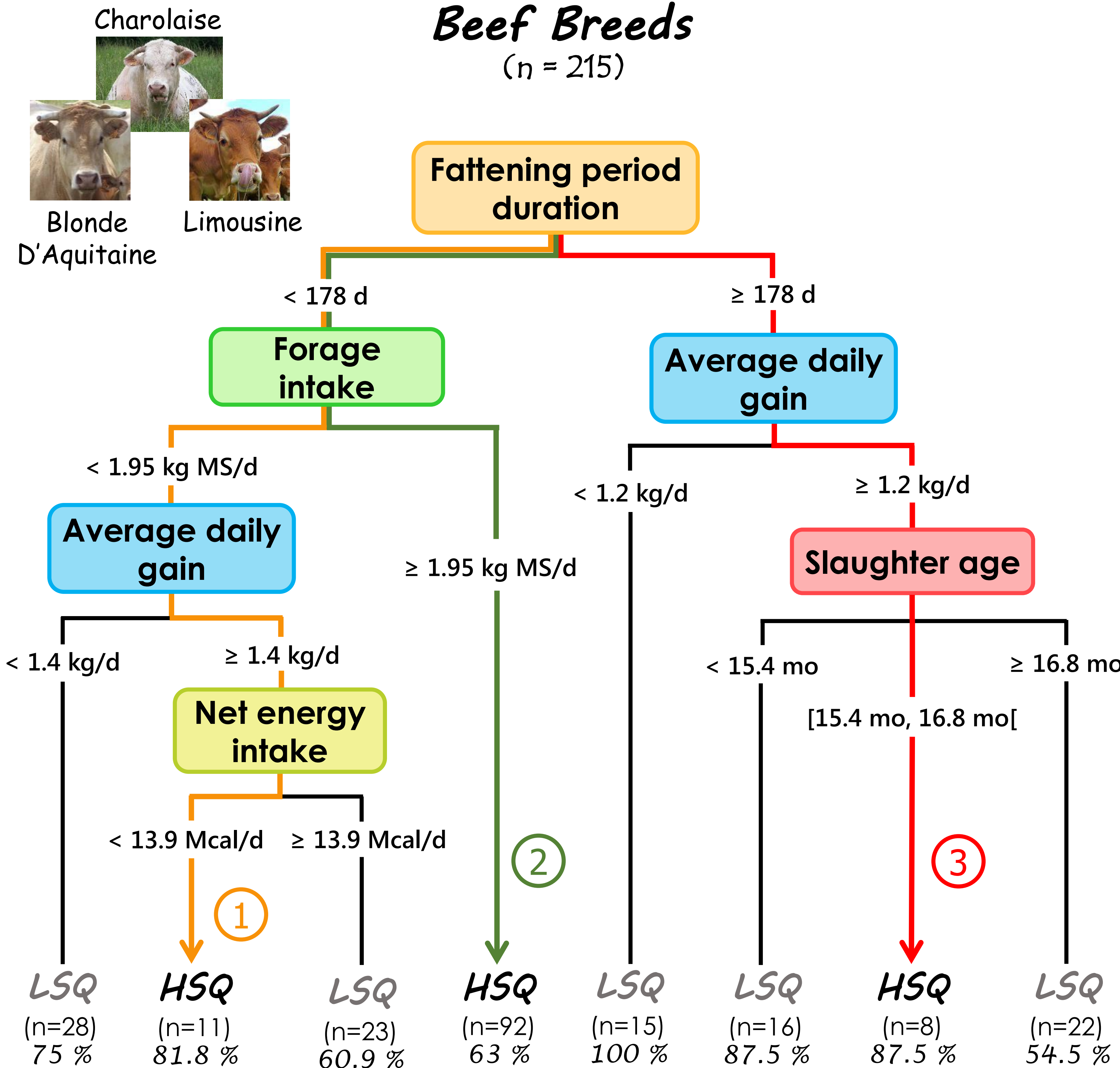
3

What breeding practices to reach HSQ for each breed type ?

Decision trees

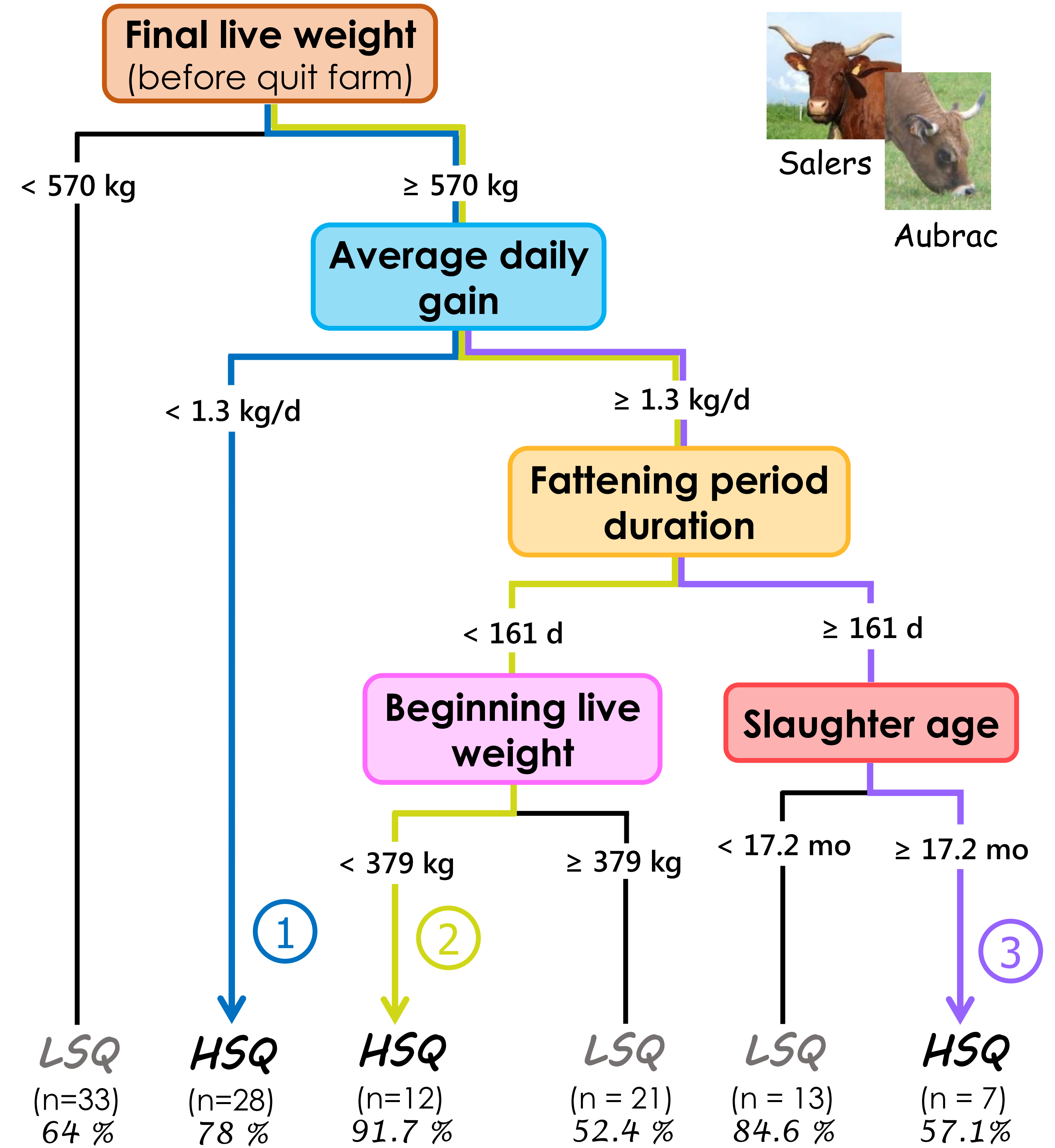
Beef Breeds

(n = 215)



Hardy Breeds

(n = 114)



n: number of animal in the terminal sheet ; %: animal percentage classified in the good cluster

Beef Breeds

① ② ③

For each breed type,
3 breeding practice combinations
allow to reach **HSQ**

Hardy Breeds

① ② ③

- ➔ Common and specific breeding practice variables influence decision 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