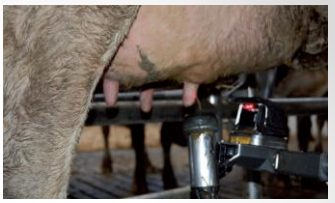
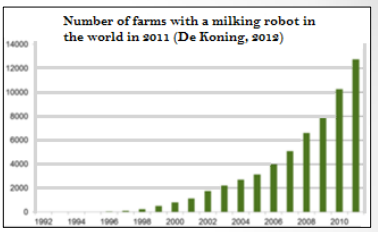


Brown Swiss adaptation to robotic milking system

GRAVE Aurore – BGS

Milking robots around the world

- 1st milking robot installed in 1992 in Europe
- About 12 700 milking robots in the world in 2011 *(De Koning, 2012)*



- France : 15% of the world market
- 3500 milking robots in 2800 farms (Inst. Elevage, 2012)

20 years of experience

- Good overview of the system
- Knowledges on cow's performances

↓

VERY OFTEN based on Holstein herds !

Our goal :

Build an overview of the Brown Swiss strengths and weaknesses in a robotic system and show the good adaptability of the breed

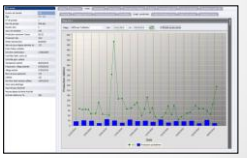
Data collection

✓ Survey on 14 farms

- Breeders points of view
- Scale from 1 to 5

1 = Bad

5 = Very good



✓ Data from robot's software in 5 farms

- Concrete data

Brown Swiss & robots

Survey :

- *Opinion of 14 breeders :* 7 with Brown swiss & 7 with Brown swiss and Holstein
- *Nb of dairy cows :* 55 to 150
- *Housing type :* cubicles or straw bedding
- *Robot presence :* 2 years minimum

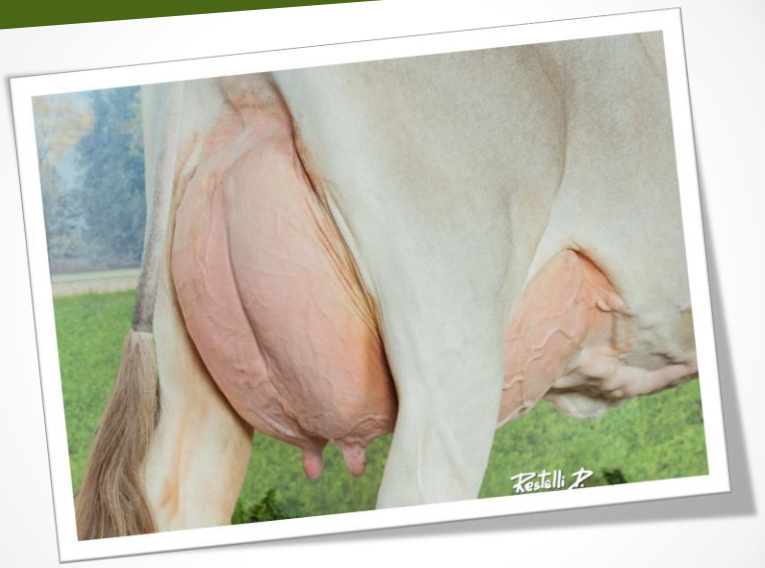
Data collection:

- *5 farms* → 432 dairy cows → 276 Brown swiss
  → 156 Holstein

Important levels in a robotic system

- Production
- Milking frequency
- Connection problems
- Occupation time of the box
- Other traits

Production

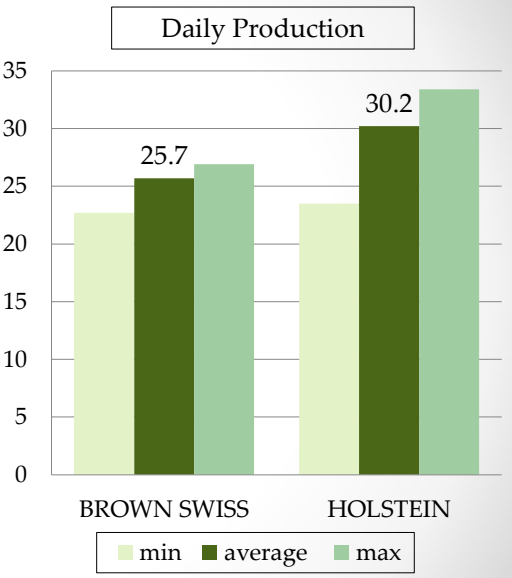


Production

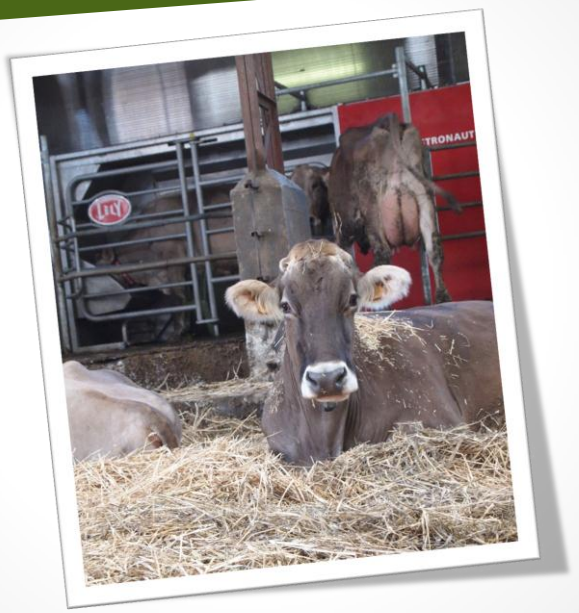
✓ *Herds average*

- **Brown swiss (14 herds):**
8325 Kg - 4,13 % Fat -3,6 % Protein
(National performance record: 7266Kg)

- **Holstein (7 herds)** :
9390 Kg - 3,9 % Fat - 3,3 % Protein
(National performance record : 9215Kg)



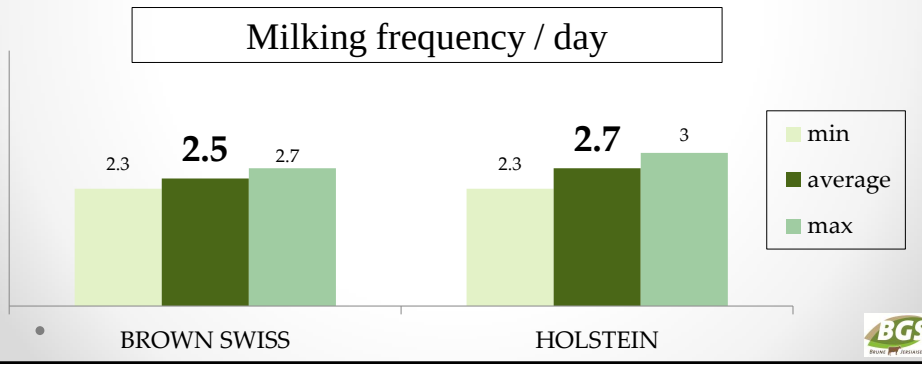
Milking Frequency



Milking Frequency

Depending of :

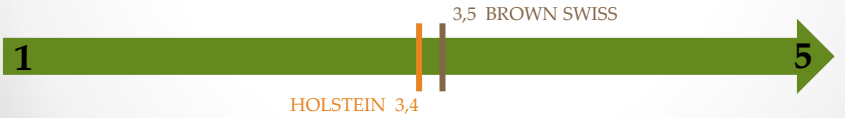
- ✓ Production
- ✓ Animal adaptation to the robot
- ✓ Feet and legs quality



Milking Frequency

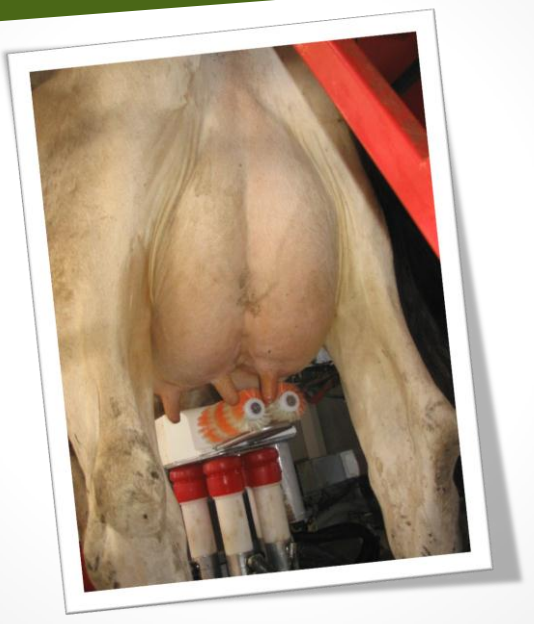
✓ *Animal Adaptation*

✓ *Feet & Legs quality*



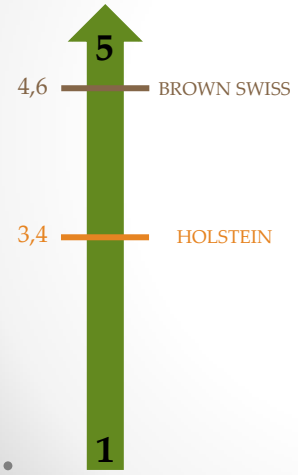
- → More selection on Feet and Legs in Holstein

Connection problems



Connection problems

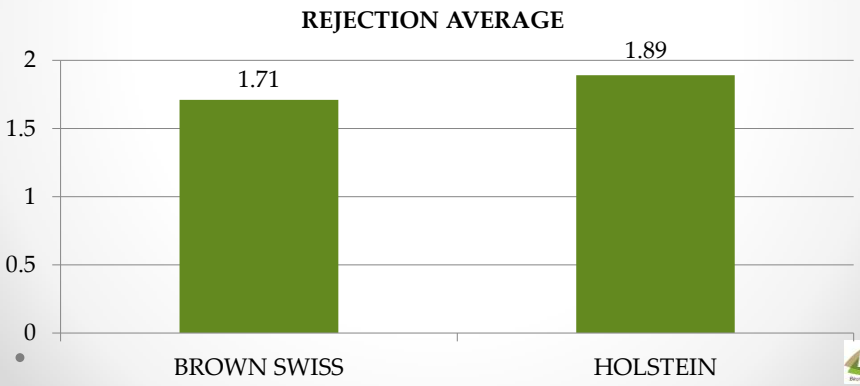
✓ *Animal character*



✓ *Udder conformation*

- Slight trend of correlation with connection problems

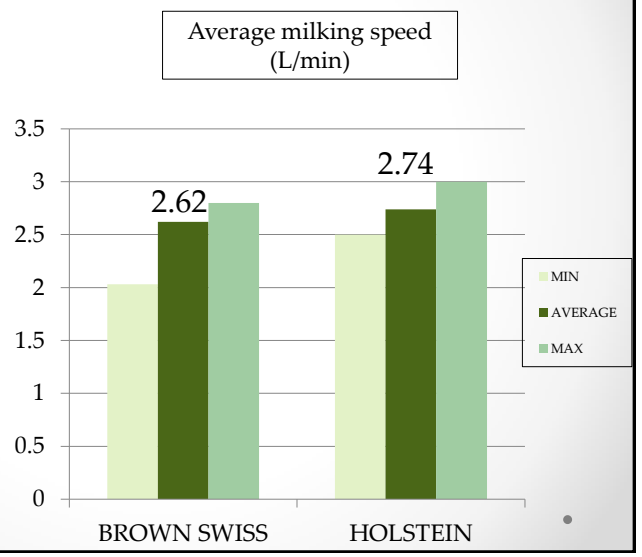
Connection problems



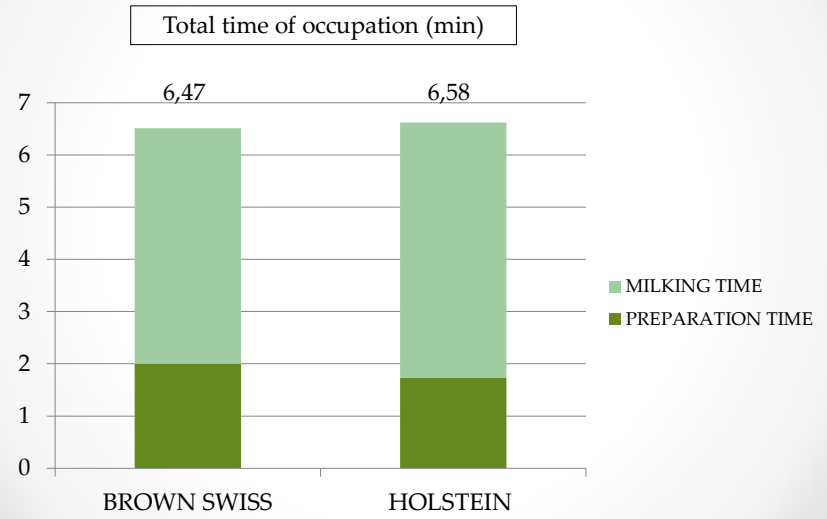
Occupation time of the box

Occupation time of the box

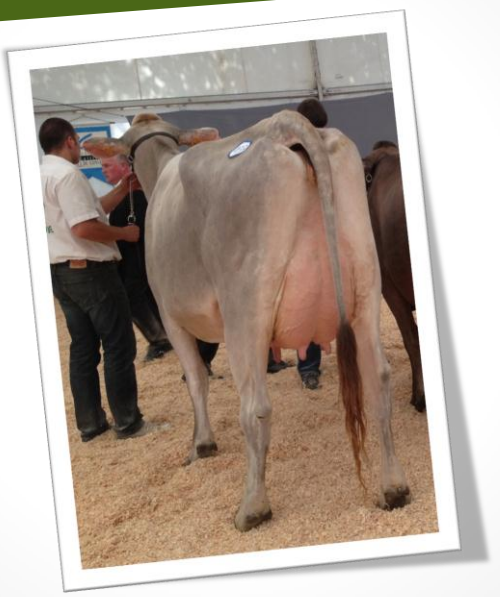
✓ *Milking speed*



Occupation time of the box

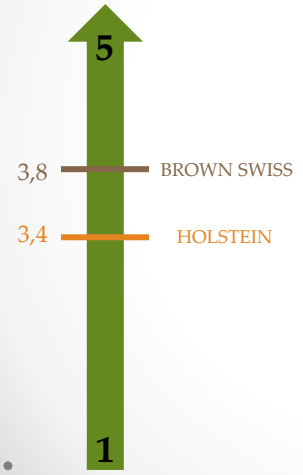


Other traits

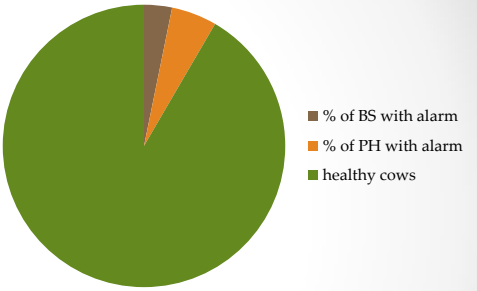


Other traits

✓ *Udder health*



Robot's alarm on udder health



- *Average Cells count*

- Brown swiss (14 herds) : 293 000

- Holstein (7 herds) : 386 000

Other traits

✓ *Selection goals*

- BROWN SWISS : No change of the selection goal due to the robot

But more attention to:
1. Milking Speed
2. Udder
3. Feet and legs

- HOLSTEIN: Evolution of the criteria :

1. Udder : Teats orientation and length
2. SCS
3. Feet and legs

Conclusion

- Slow milking speed
- Lower production

- Good adaptation
- Less rejection
- Equivalent time of occupation
- Few Feet & legs problems
- Good udder health

Thanks for your attention