New value from calf data - How Networking and Analysis will influence Management

Dr. Tobias Nieschulze

Which Calves do you want to raise?

Best Practice in Calf Feeding

First 10 hours: Two colostrum feedings

First 28 days: Metabolic Imprinting

- Udder cell development
- Pasteurized whole milk (casein!)
- More than 2.6 gal (10 L) per calf per day

After 28 days: Slow change (*min 7 days*) to milk replacer possible

After 70 days: Weaned

Single Hutch Feeding

Needs of the FEEDING staff

- Easy work
- Assistance in ration assignment
- Easy way of documentation

Single Hutch Feeding

Needs of the CALF manager

- Tracking of individual calf development
- Early detection of issues in feeding process
- Control of employees

Single Hutch Feeding

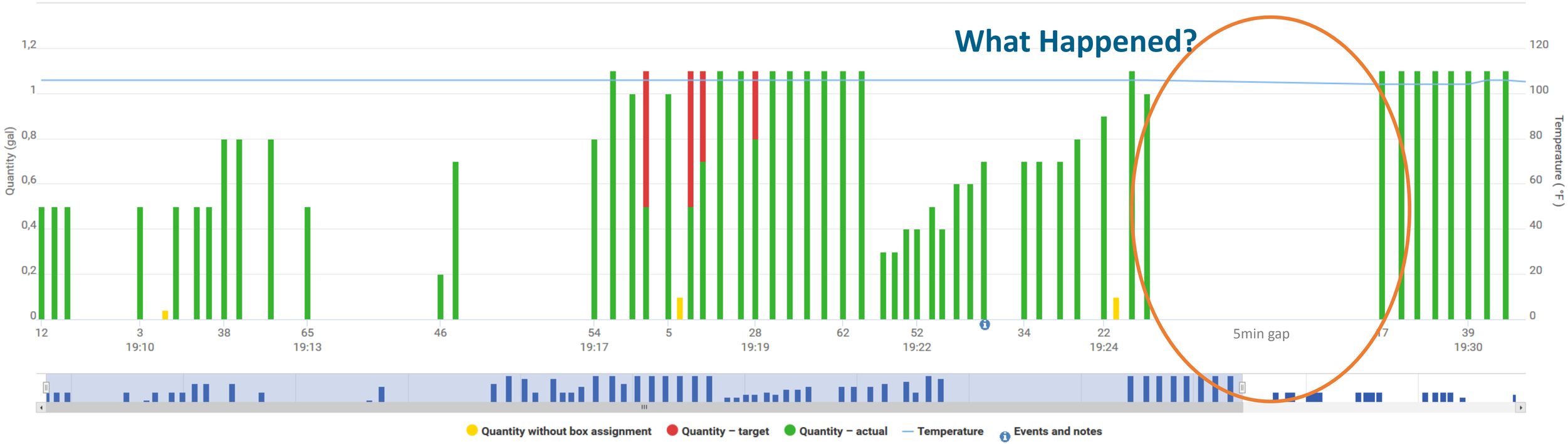
Needs of the HERD manager

- Overview of aggregating figures
- Early detection of issues

Single Hutch Feeding - Solution

MilkTaxi‘s track everything that happens

- **Milk temperature**
- **Dosing amount**
- **Time of each dosing**

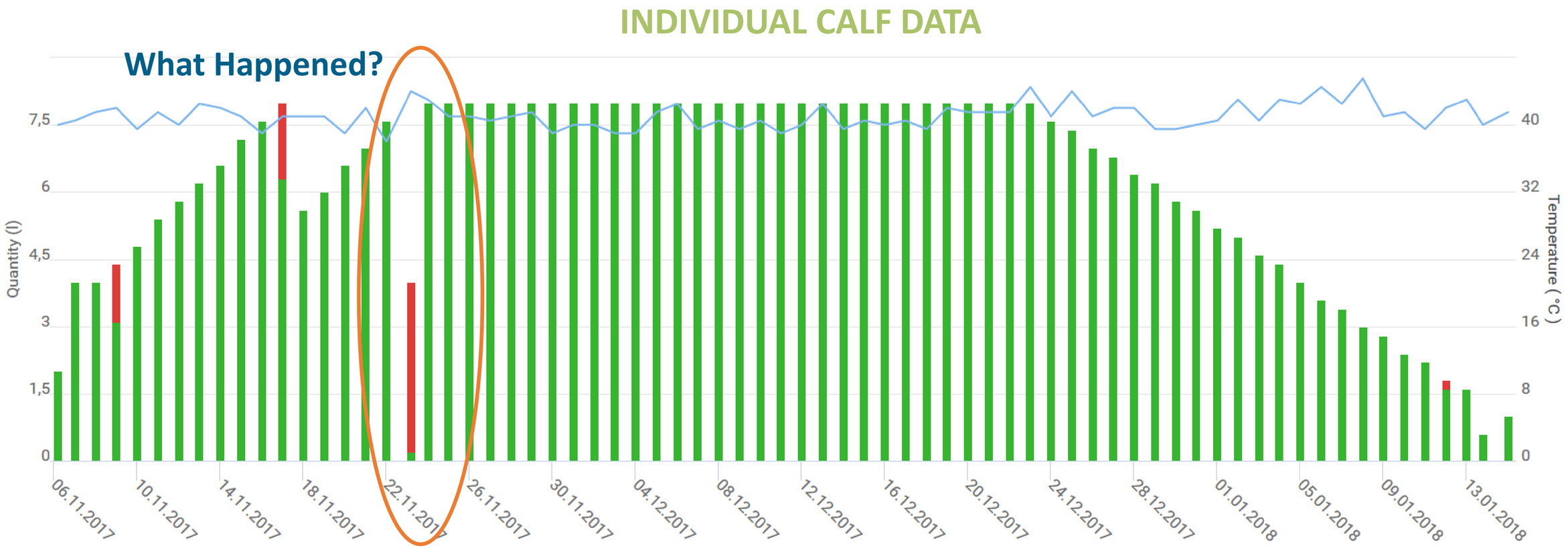


Single Hutch Feeding - Solution

Data analysis finds issues

- **Diarrhea on tuesday – cold milk feeding on weekend**
- **Smaller weight gain of some calves – smaller milk quantity on the last hutches**

Full history of each individual calf as base for further analysis



Single Hutch Feeding - Solution

Integrated Standard Operating Procedures

- Document individual notes immediately
- Information available in calf management software
- Reminder before next feeding of this calf

Automated Calf Feeding

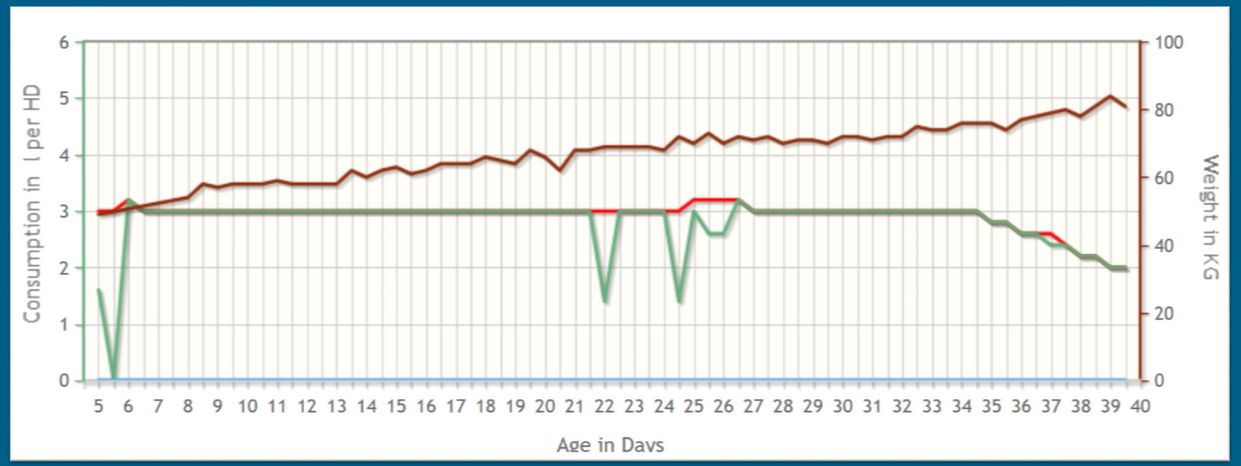
Only here highest milk amounts possible:

- 5 – 6 daily meals of 0.5 gal (2 L) till 0.8 gal (3 L)
- Fresh / pasteurized whole milk (with additional powder)
- Slow change to milk replacer after 28 days possible
- No higher skill level for staff needed
- Easy whole milk handling
- **Highest information level**

Automated Calf Feeding

- Documented information
  - Daily weight gain
  - Consumed amount
  - Drinking speed
  - Activity analysis

- Full history of calf development

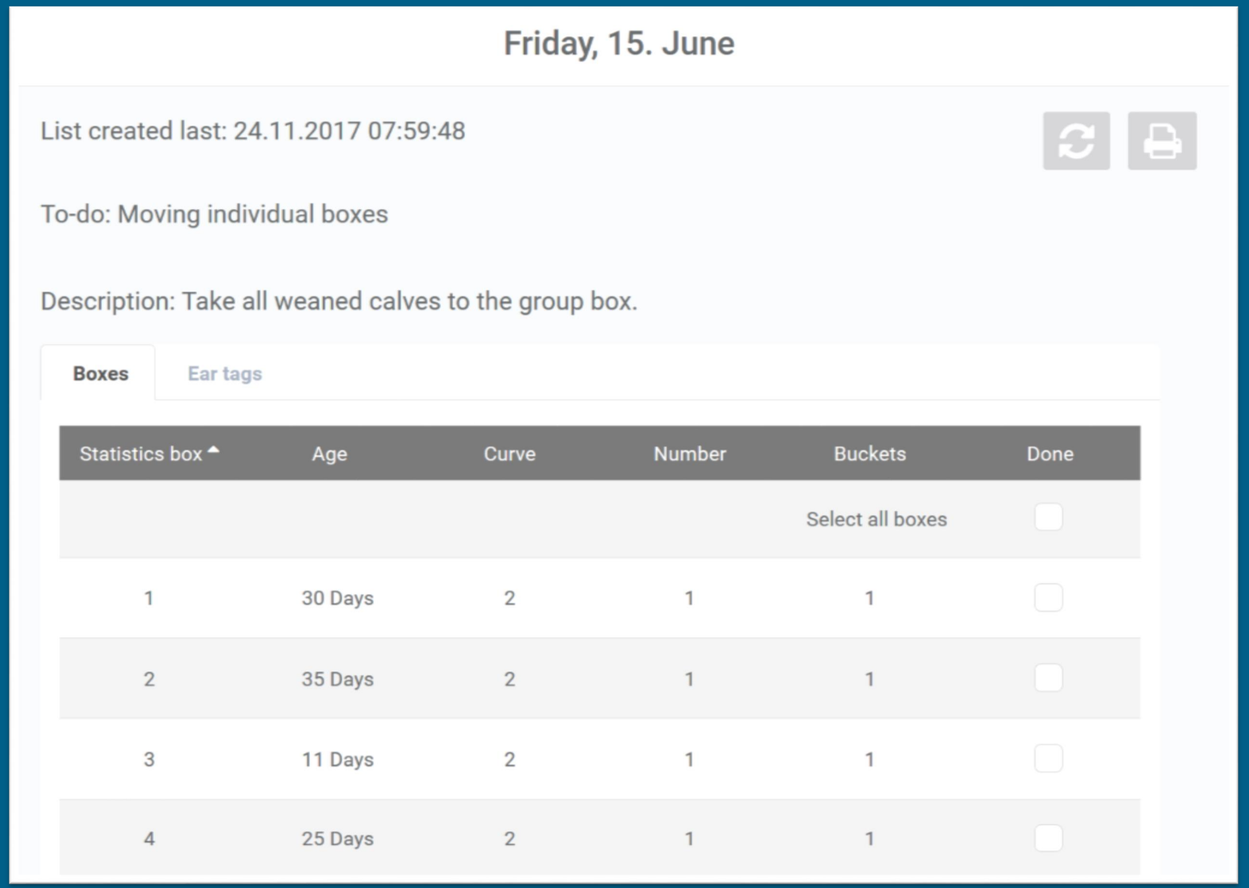


Automated Calf Feeding

- Full integration of:
Standard Operating Procedures

  - Documentation on feeder of diarrhea of one calf
  - Automated control task for next feeding
  - Automated documentation in calf management software and information of farm manager

- Control staff by usage documentation



Data Overview

0 days

Milk feeding period 70 days

70 days

0 days

Milk feeding period 70 days

70 days

Birth

- Day of birth
- Eartag number

vas

CalfGuide

0 days

Birth

70 days

CalfGuide

- Attaching earmark
- Identification by RFID reading
- Weighing
- Add birth circumstances

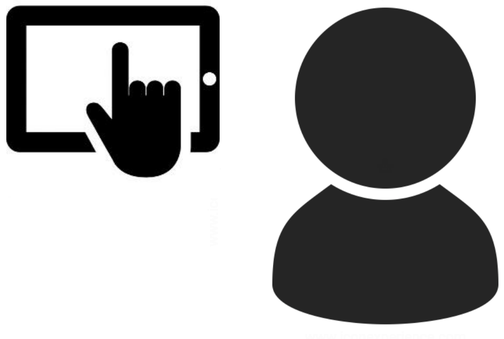
0 days

Colostrum

Birth

vas

70 days



CalfGuide

- Identification by RFID reading
- Document colostrum amount

0 days

Colostrum

Birth

Hutch

vas

70 days

CalfGuide

- Documentation of feeding information

0 days

Colostrum

Birth

Hutch

Feeder

70 days

vas

CalfGuide

- Automatic feeding
- Documentation of feeding information
- Detailled health & growth information

0 days

Colostrum

Vaccination

Vaccination

70 days

Birth

Hutch

Feeder

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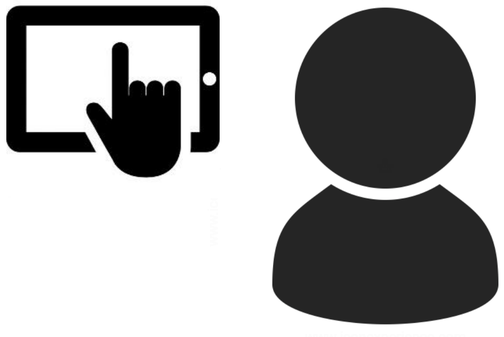


CalfGuide

- All treatments / observation
- E.g.; documentation of vaccination

0 days

Colostrum

Birth

Vaccination

Hutch

Feeder

Vaccination

Weaned

70 days

vas

CalfGuide

- Additional weighing after weaning

0 days

Colostrum

Birth

Hutch

Vaccination

Feeder

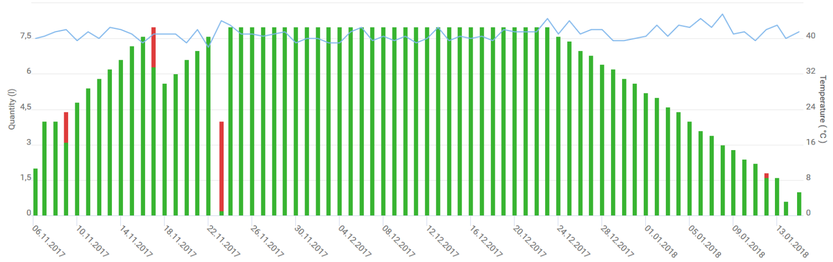
Vaccination

Weaned

70 days

vas

CalfGuide



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Calf Management System

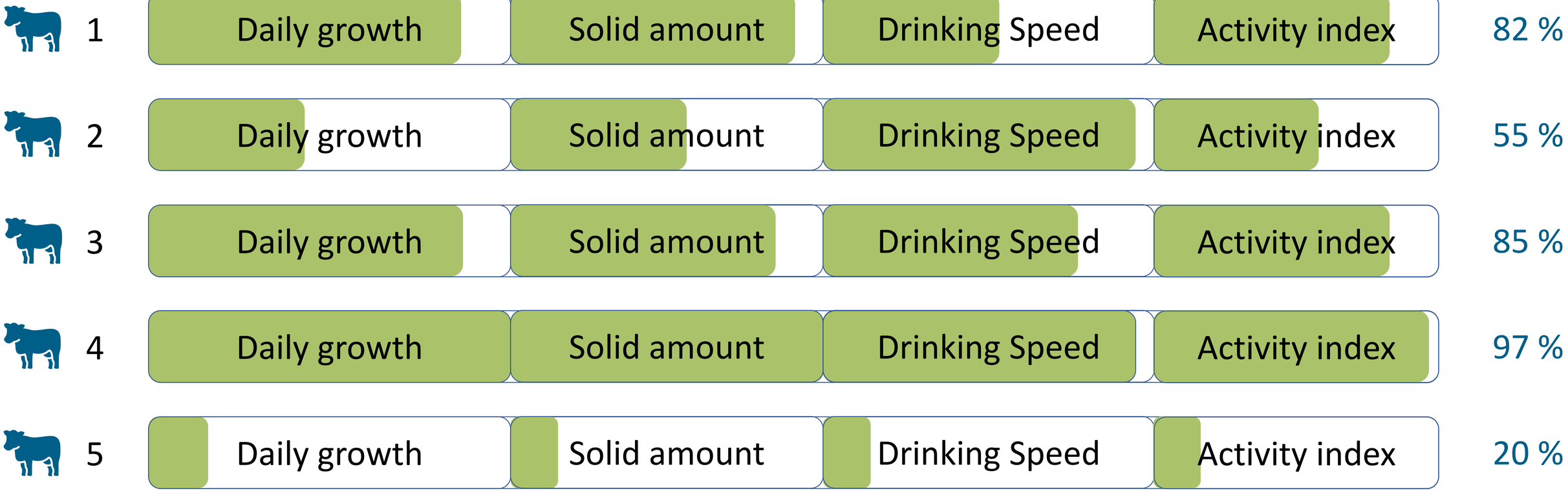
Herd Management System

Using Data to Influence Management

- Create farm individual target values
  - Daily growth: 1100 gr / day
  - Solid amount first 28 days: > 30 kg
  - Drinking speed: 650 ml / min
  - Activity index: > 80 %
- Combine the deviation of the targets to a farm individual performance index

Daily growth	Solid amount	Drinking Speed	Activity index

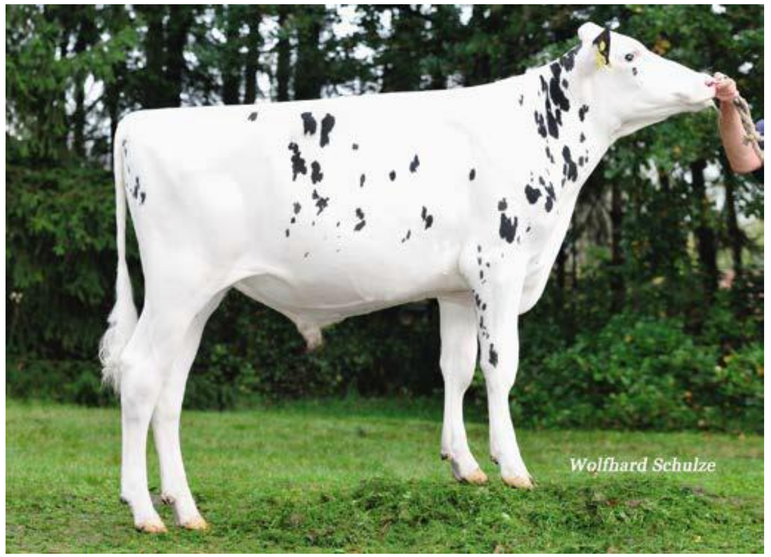
Using Data to Influence Management



Performance = Genetics + Environment

Heritability

Milk yield……..40 %
Usage duration…….12 %
Fertility……2 %
Health……2-10 %



We need to find out, how a calf performs in the given environment and combine this with the genetic potential!

Performance = Genetics + Environment

	Genetic	Performance	Selection order
1		82 %	
2		55 %	
3		85 %	
4		97 %	
5		20 %	

Performance = Genetics + Environment

	Genetic	Performance	Selection order
1		82 %	1
2		55 %	4
3		85 %	2
4		97 %	3
5		20 %	5

Conclusion

- Technical innovation improves processes
- Integration of SOPs in product software helps to establish and use them
- Analysis of data will continue to be a major topic
- Creating aggregated figures helps to reduce and summarize the data
- Combination of environment data and genetics helps to improve selection

Which Calves do you want to raise?

Thank you for your attention

POLL QUESTION

Which data in calf rearing have the greatest importance to you?

A. Total rearing costs until wean
B. Total consumption of dry feed
C. Daily weight gain
D. Total consumption mild/solids
E. Morbidity/mortality rates
F. Calf activity

POLL QUESTION

Which data in calf rearing are you already recording on a regular basis?

A. Total rearing costs until wean
B. Total consumption of dry feed
C. Daily weight gain
D. Total consumption mild/solids
E. Morbidity/mortality rates
F. Calf activity