

Assurance of reliability and validation of yield values in milk recording according to immediately previous history of records

ICAR Prague 2019

Why?

- Economic pressure
- Technology progress
- Accuracy of breeding

Economic pressure

	1998	2018	Index
Milk - gate price	7,89	8,62	109
Mik - supermarket price	12,07	19,67	163
Diesel	16,92	31,80	188
Salary	11 801	31 885	270

New technology

- Big farms
- On-line milk analyzers
- Information technologies

Accuracy of breeding



Only genomic feedback is milk recording!

BEFORE



AFTER





Breeding business become a fake









Boh Henge

ICAR 2019 Prague

Max. I.: úraz jako jalovice, bez užitkovosti

Max. I.: matka uhynula po prvním otelením

Genomic

- A fake?
- Business with accuracy
- 30 % of risk was turned over to the farmers
- Progress versus accuracy

What is the accuracy of genomic?

- 60%?
- 70%?
- Accuracy of breeding values based on progeny testing
- Accuracy of (milk) recording

Accuracy of milk recording

- Paternity errors - up to 10%?
- Parlour errors - up to 10%?
- Do we start to estimate breeding values already with 20% errors?

What we do?

More genomic tests!



Who wants to see the truth?

- Labs?
- Breeding associations?
- Breeding organizations?
- Stud farmers?



1. Milk recording

2. Breeding values estimation

3. Genomic breeding values estimation

How to increase an accuracy and decrease the cost

- Five values previous to the official recording day (6 days in total)
- Average
- Standard deviation
- Confidence field
- Excluding data out of the confidence field
- Validation

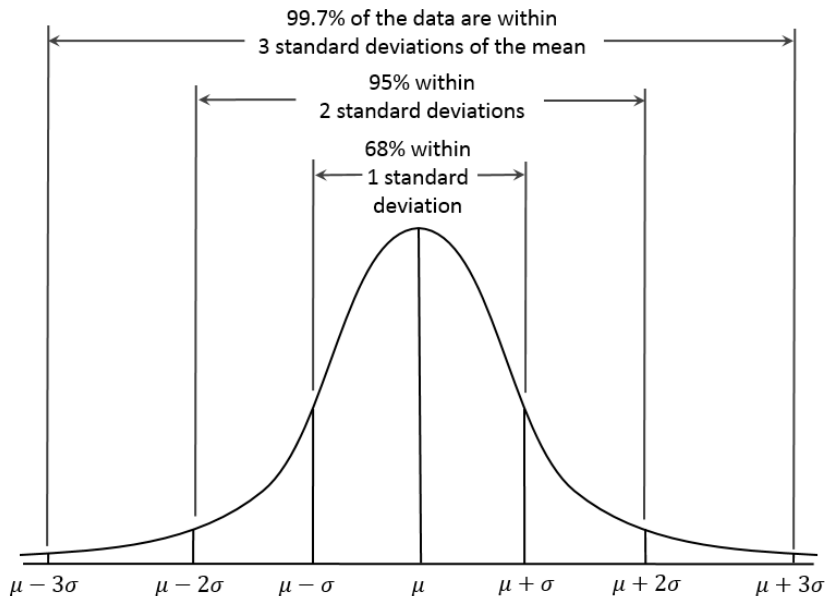
What happened

- All values in the confidence field - 90 %
- One or more days are excluded from the confidence field (not the official one) - 5 %
- The day of milk recording is excluded - the days that are in confidence field are used to calculate an average and the average will replace the milk recording day - 3 %
- If there are less than 3 days, the day of milk recording is used - 2%

Results

- 4 farms were used for the test (273 - 266 - 241 - 253)
- Insignificant difference between validated and not validated milk yield
- Identified error rate was between 0 and 6,64% (2,99% average)

Example



-5	22,9
-4	15,2
-3	22,8
-2	23,2
-1	23,3
Control day	23,1
Average	21,75
Standard deviation	3,2141873
Confidence field (90%)	$1,64 \times 3,21 \pm 21,75$
Lower limit	16,49
Upper limit	27,01

Protocol

Code	Description	%
1	No data excluded, milk from CD is used	90
2	One or more values are excluded, not the value from CD, milk from CD is used	5
3	CD day is excluded, average is used (minimum 3 days)	3
4	Other situation	2

CD - control day

Conclusion

- Higher accuracy
- Lower cost

by excluding the human factor from a part
of milk recording process.

Breeding Cooperative Impuls

- Fleckvieh breeding since 2001
- Quality with reliability
- Genomic selection - **YES**
- Genomic marketing - **NO**



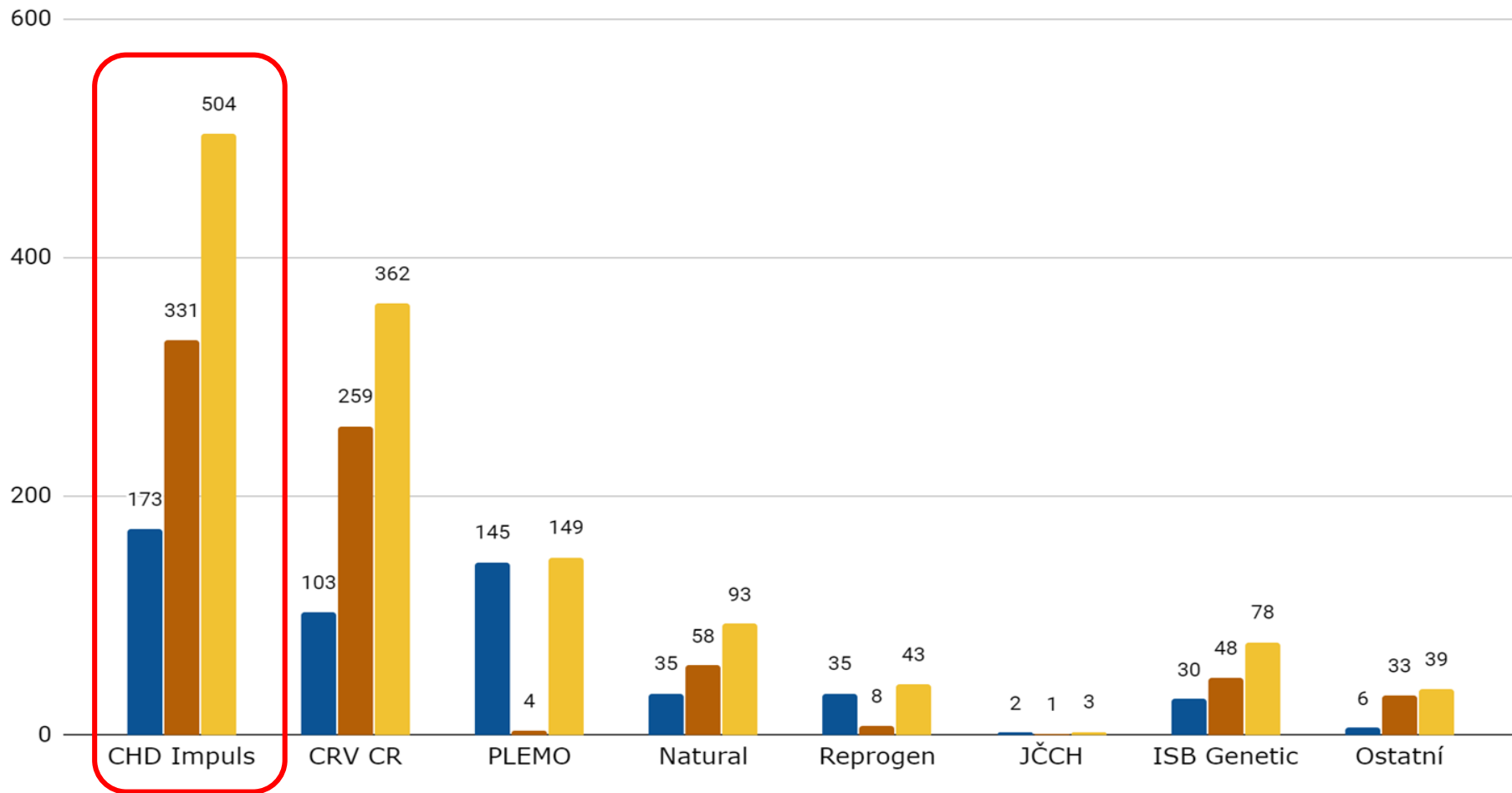
Why is high accuracy our number one priority?

Robot ready

High accuracy = Lower variability



■ býk ■ kráva ■ celkem





Thank you!

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Breeding Cooperative Impuls

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