



THE GLOBAL STANDARD  
FOR LIVESTOCK DATA  
**Annual Conference**  
ICAR2018.NZ

7 – 11 February 2018

Aotea Centre  
Auckland,  
New Zealand



# First national recording of health traits in dairy cows in the Czech Republic

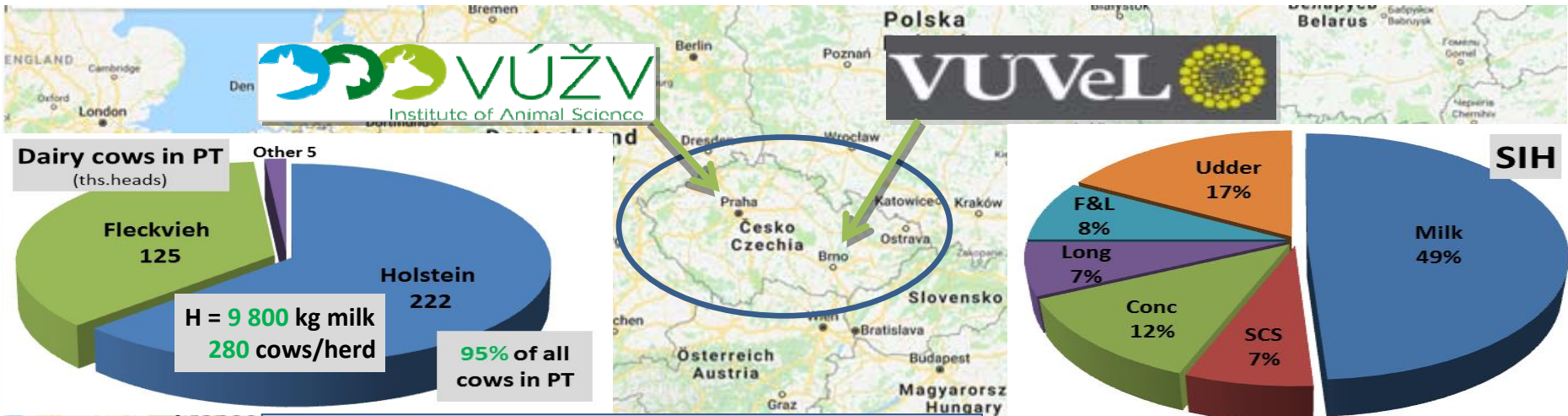
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# Actual situation in the Czech Republic



**Genetic evaluation:**  
 Centralised ([www.plemdat.cz](http://www.plemdat.cz))  
 SS GBLUP – 2015 validated Interbull  
 H: EBV for 30 traits  
 Economic weights (ECOWEIGHT, Wolf et al., 2013)

↓

**Selection index for Holstein „SIH“**

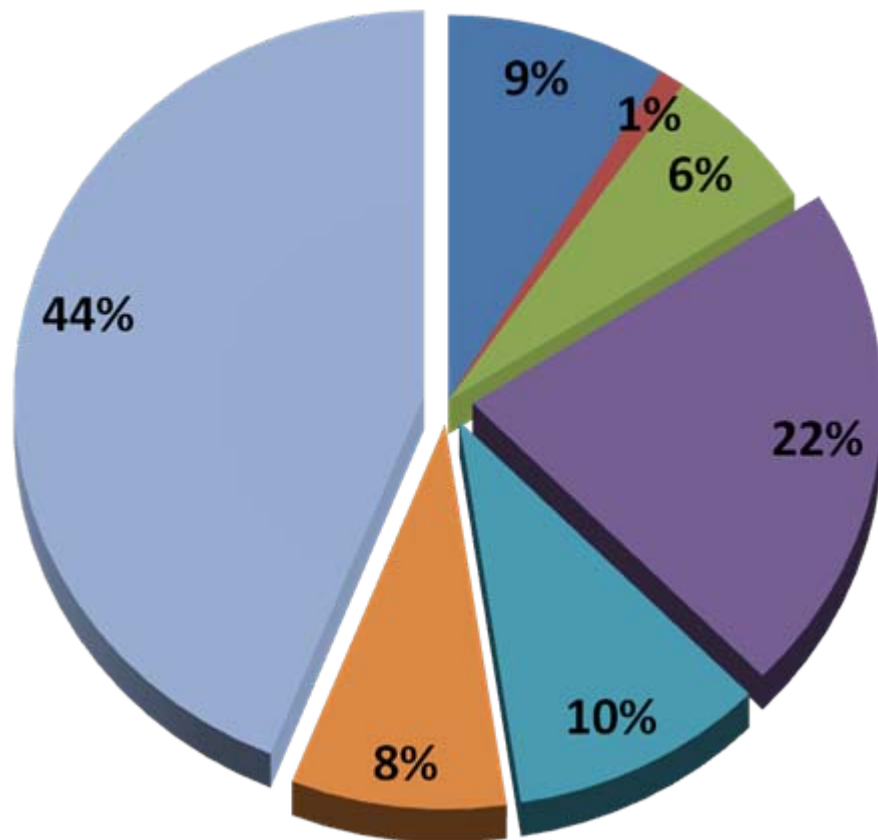
**Health traits:**

SCS ✓ EBV + EW  
Mastitis, CLD, ... EBV ✓

EW /case/cow/yr

Mastitis - 118 €  
 CLD - 103 €

# Why health traits?



Reasons for **culling**  
of dairy cows in CR (%)

- low yield
- high age
- other breeding
- reproduction disorders
- dystocia
- udder health
- other health

> 80 %

# Challenge in the Czech Republic !!!

- How to **get the data**?
- **Records of reasons** for medication (veterinary prescription)
- **Documentation** is very variable (paper - 20 farm manag. softwares)
- **Non-uniform system** of diagnoses
- **No central database** to collect and store the data

# „Diary of diseases & medication“

**Web application** for farmers

✓ **connected** to already **existing national databases** of **PT**

✓ **includes:**

✓ **health key** based on **ICAR** key of data recording

✓ **updated database** of approved medications

[Úvod](#)
[Vložit nové onemocnění](#)
[Nemocná zvířata](#)
[Všechna zvířata](#)
[Skupiny zvířat](#)
[Sklad léčiv](#)
[Záznamy o léčení](#)
[Hodnocení zdraví](#)
[Zpět na Přístup k datům](#)

## Nové onemocnění

### Základní údaje

Stáj: *	<input type="text" value="Stáj č. 1 (5205177761)"/>	Diagnózu určil: *	<input type="text" value="Chovatel/zootechnik"/>
Skupina zvířat:	<input type="text" value="== není vybrána =="/>	Datum stanovení diagnózy: *	<input type="text" value="24.01.2018"/>
Zvíře/zvířata: *	<input type="button" value="vybrat zvíře/zvířata"/>		

[uložit a nový](#)
[uložit a další diagnóza](#)
[uložit a zadat léčbu/kontrolu](#)
[uložit a zavřít](#)
[zpět](#)

### Výběr diagnózy

#### Základní výběr

[Kompletní výběr](#)
[Uživatelský výběr](#)


#### Reprodukce

- Cysty = Syndrom ovariálních cyst
- Endometritida (= po 20. dni p.p.)
- Indukce říje
- Metritida = poporodní zánět dělohy
- Porodnická pomoc (zásah do telení)
- Synchronizace říje
- Zadržení lůžka

#### Vemeno / Nádoj

#### Trávení / Metabolismus

- Acidóza - bachorového obsahu
- Dislokace slezu
- Indigestce u přežvykujícího skotu
- Ketóza - Klinická primární
- Ketóza - Subklinická primární
- Prevence metabolických poruch
- Průjem
- Sekundární ketóza
- Ulehnutí

**6 groups:**  
*Reproduction*  
*Udder*  
*Digestion/Metabolism*  
*Feet & legs,*  
*Infections*  
*Culling/death*

# How to motivate farmers to use the “Diary of diseases & medication”?

## ✓ **Money + Outputs** useful for herd management:

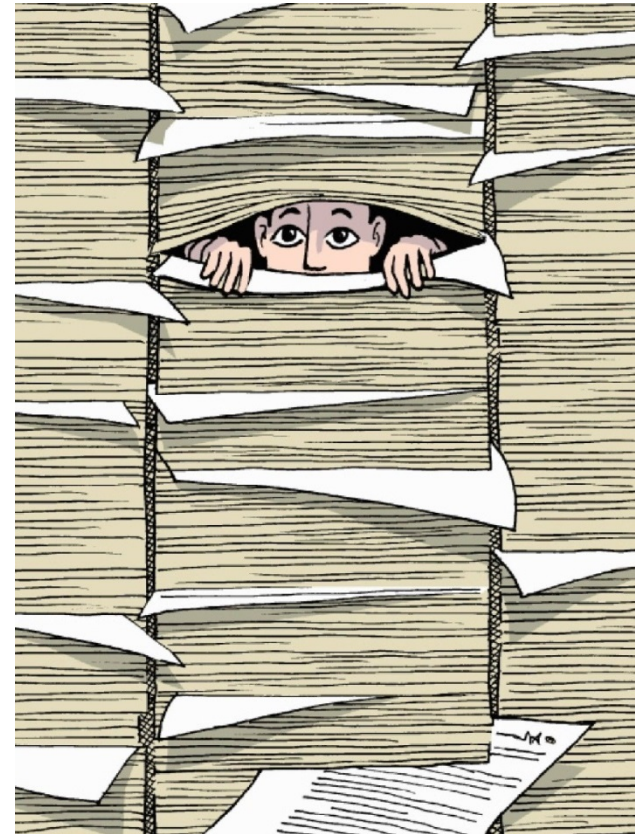
### **Lists of**

- ✓ **cows for treating** (claw, oestrus synchronization)
- ✓ **cows in withdrawal period**

### **Stats and graphs:**

- ✓ **Structure** of diseases and medication per mo / yr
- ✓ **Average medication costs** per cow /mo /yr
- ✓ **% of animals** in herd: sick, culled and dead animals
- ✓ **Systematic records keeping** (requested by law)
- ✓ **Medication stock holding** (records)

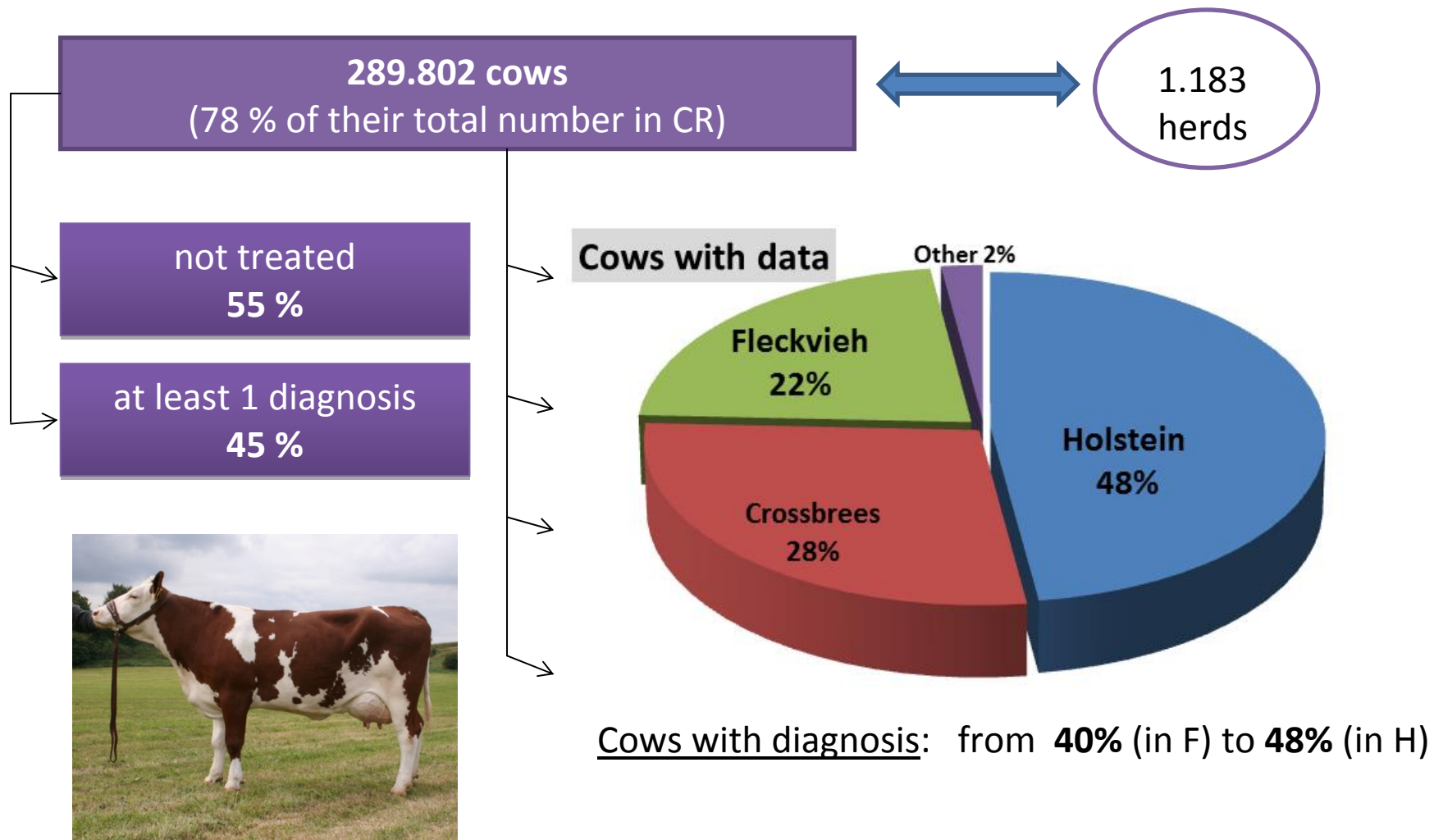
**Future: + other benefits (EBV)**



# Pilot study

- Data **collected by farmers** via **electronic survey**
- Covered **period** from **July 2015** till **June 2016**
- **Incidence of 20 common diseases**
  - **udder** disorders (1)
  - **reproduction** (5)
  - **metabolism** (5)
  - **feet & legs** (9)
- **Other data added** from database of PT  
(date of calving, parity, breed, milk yield)



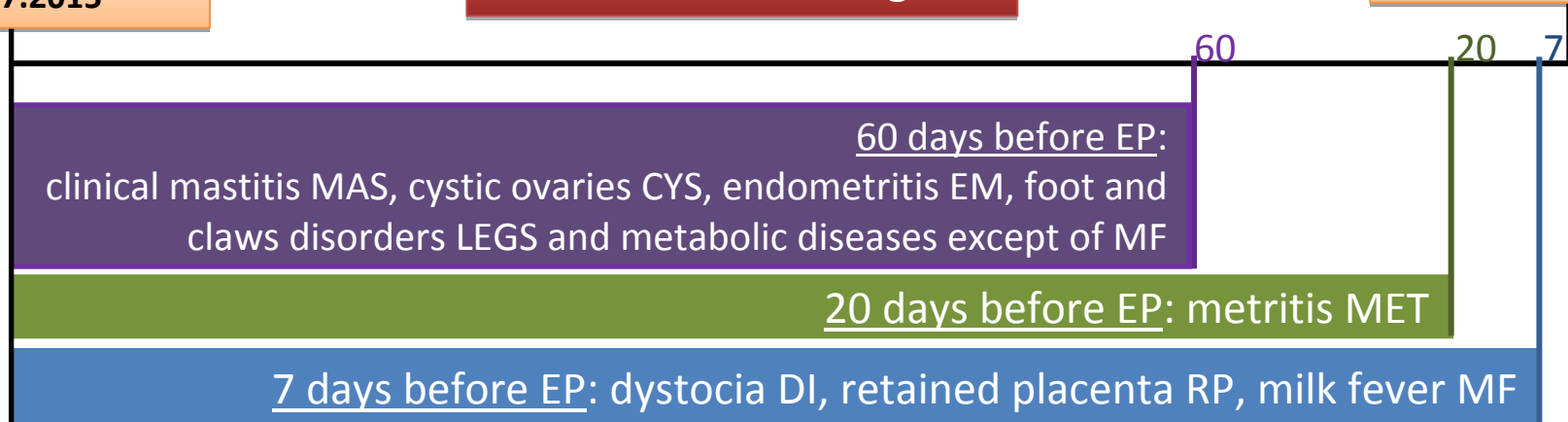


# Editing of data

Start of period:  
1.7.2015

## 1. Date of calving

End of period (EP):  
30.6.2016



## 2. Incidence of diagnosis:

herd < 20 cows	no limit for incidence/herd	Only <b>the first treatment</b>
≥ 20 cows	≥ 1 case (incidence)/herd	<b>1 incidence</b> per cow and lactation (LIR)

# Results

Disease	Herds (%)	LIR
Mastitis	87	19.8 %
DI, RP	69	5.2 %
Metritis	68	11.3 %
CYS, EM	68	10.7 %
Milk fever	49	1.7 %
Other recumbency	30	1.0 %
Primary ketosis	29	2.7 %
Subclinical ketosis	28	3.2 %
Secondary ketosis	22	1.5 %
Feet and legs	77	11.0 %

comparable  
to other studies

< than 25% of farmers  
reported metabolic  
diseases (other than MF)

might be  
underestimated  
(terminology)

# Conclusions

- ✓ **Farmers records useful for genetic evaluation**
- ✓ **Weak points** of identification
  - ✓ Described the **symptoms - not diagnosis**
  - ✓ Different **interpretation** of symptoms
  - ✓ Preference of different **health aspects** (*all farmers not reported all diagnoses*)
  - ✓ Used different **terminology** (*bad recognition → ↓ incidence of particular F&L*)
- ✓ **Clear definition** of diagnosis (*ICAR Central Health Key + Claw Health Atlas*)
- ✓ **Careful editing** (*e.g. determining the min. incidence per HY or per S*)

**Actually: finalising web application and data transfer**

developing **model for genetic evaluation**

(*preliminary results for health traits = ICAR, Paper No. 221*)



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## Thanks are:

Farmers & Czech-Moravian Breeders Corporation for providing the data

Thank you for attention

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