Information Solutions to Support Dairy Cattle Production in Slovenian Cattle Population

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Outline

- *Cattle in Slovenia*
- *Recording Data Management*
- *Cattle Information System (CIS)*
- *Farm Identity Card*

Cattle in Slovenia

450,000 cattle
166,000 cows

103,000 dairy cows

84,000 dairy cows in recording scheme (81%)
19 cows/herd

63,000 suckling cows

4,000 animals in beef recording

Recording Data Management

- *Dairy recording since the beginning of the 20th century*

  ⇓ *Different systems of recording data collection and processing*

- *In the 1990s, development of the new Cattle Information System (CIS) started*
  - *CIS caters for most information requirements in the Slovenian cattle breeding scheme*
  - *Web portal Cattle - special emphasis on applications for breeders*

Aim

To introduce the web portal Cattle as a tool for supporting cattle production in Slovenia

- special emphasis on Application modules for breeders - ‘Farm Identity Card’ application

Agricultural Institute of Slovenia

CATTLE INFORMATION SYSTEM

www.cattle.si

USER GROUPS

- Central and local cattle breeding services
- Insemination centers
- Test stations
- Breeding organisation
- Breeders
- Extension service
- Veterinarians
- Other services and organisations
- ...

APPLICATIONS

HTML, Oracle forms applications

HTML applications

Authorisation

insert
update
select

DATABASE

Central Database (ORACLE)

- Herdbook keeping
- Milk and beef recording
- Type classification
- Zootechnical certificates
- Parentage control
- Registry of breeding bulls, bull dams
- Reproduction data
- Data for reports
- EUROP data
- Pedigree and performance data for national BVE
- Data for Slovenian Tracing System and other services
- ...

Role and purpose

Farm Identity Card

User DEMO...

DEMO breeder | Extend | Last visit of Farm identity card: 16.05.12

Summary of last TD, at:03.05.2012; 15 cows in MR

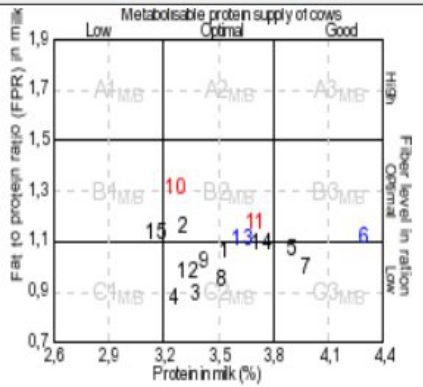
Milk yied on TD

Milk, kg	300
Fat, %	3.72
Protein, %	3.51
SCC (x1000)	159

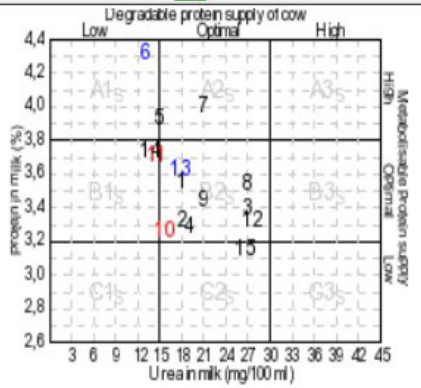
Exploting of milk potential

Tendency	No. (%)
Increasing	6 (40.0%)
Stagnant	3 (20.0%)
Decreasing	6 (40.0%)

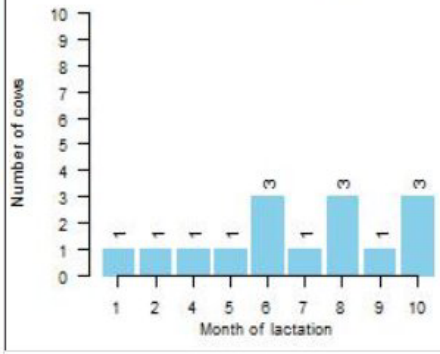
Fat to protein ration



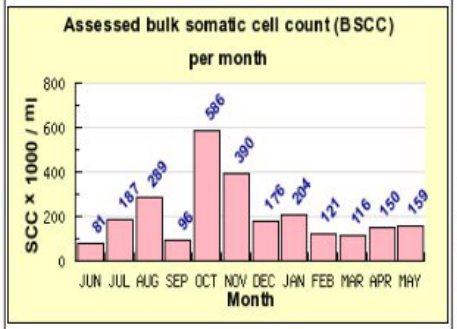
Urea



Months after calving



Bulk SSC per month



Inseminations/ *Expected calvings*

1. Inseminated cows: 17 (73.9%)
2. Open cows: 3 (13.0%)
3. Heifers, older than 1 year: 3 (13.0%)

Insemination service in last 365 days

	All AI	With young bulls
All cows	48	8
Primiparous cows	14	8
Bulls out of BP	0	

Heat Stress Risk

Temperature humidity index between 68 and 71	Ventilation systems and housing	Hydrometeorological data
 No risk of heat stress	Mechanical ventilation system Natural ventilation system Inappropriate ventilation system Pasture during the daytime and barns with free exit to outside lot during the nighttime The nearest weather station LJUBL-ANA_BRNIK **Recommendations for reduction of heat stress effect for dairy cows** - Cooling and ventilation of barns - Cooling of animals - Feedstuff and feeding - Watering of animals	HMWS:LET. J. PUCNIKA LJ. Date:25.05.2012 at 12:00 Moisture 39% Temperature 21.1°C Pressure 1018 hPa Wind - speed and orientation 0 km/h

Farm General Data and Longevity

DEMO breeder Last visit of Farm identity card: 16.05.12

General data

Housing	
Cows	**Young cattle**
Milking system	
pipeline milking	

Manure storage	
farmyard manure (uncovered) + liquid manure	
Nitrogen loss	***Emisions of GHG****
622 kg/year	0.79 kg CO_2/kg milk
*GHG - Green house gases	

Arable land	
grassland	8.54
arable land	9.06

- for fertilization plans
- estimation of the burden on arable land

Category	No.
Calves	1 M, 5 F
Heifers	6
Cows	17
Total	29

Breed	No.
SM	10
HF	14
MX	5

Longevity	No. of calvings	
Breed	**Herd**	**Slovenia**
SM	**3.0**	3.3
MX	**2.7**	2.9
HF	**2.0**	2.5

Culling reasons 2011	No. (%)
Reproductive disorders	3 (50.0%)
Milk fever	1 (16.7%)
Pneumonia	1 (16.7%)
Udder illnesses	1 (16.7%)

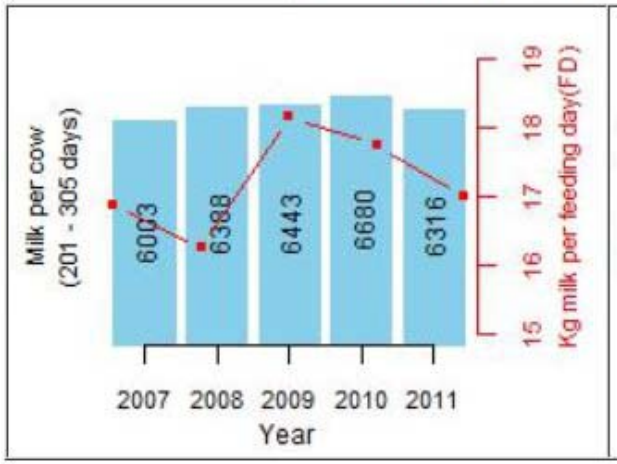
Yearly Reports

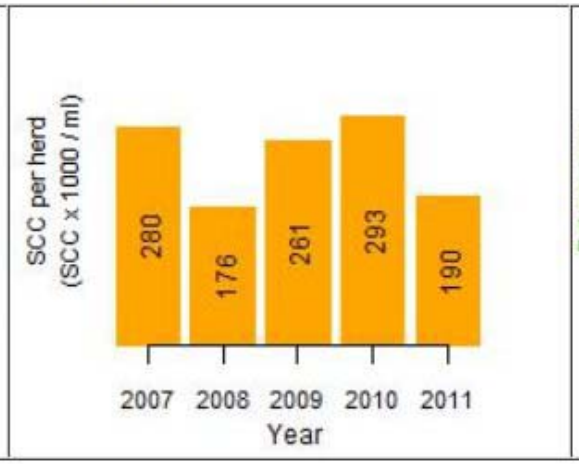
Data summary for the past period

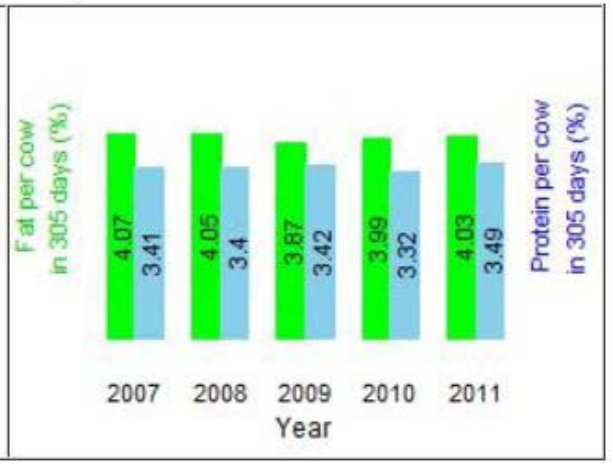
Milk yield in 2011 at farm		Cows	Ml (kg)	Fat (kg, %)	Protein (kg, %)	Ml/FD[a]	Ml/MD[b]
		16	101215	4360 (4.31%)	3602 (3.56%)	17	18.32
By breeds in 305-d	**Breed**	**Lact.**	**Ml (kg)**	**Fat, %**	**Protein, %**		
	MX	2	5630	4.13	3.45		
	SM	5	5784	3.84	3.52		
	HF	8	6821	4.12	3.47		

[a]kg milk per feeding day; [b]kg milk per milking day

Reproduction 2011 (n = 14)	
Age at 1st calv. (YY.MM)	02.03
Calving interval (days)	414
Insemination index	2.4
Calving to 1st insem. (days)	117

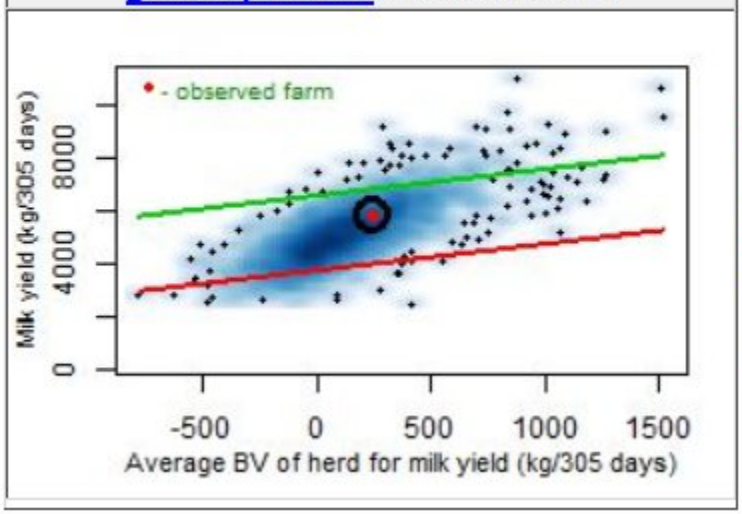






Genetic Potential and Beef Production Data

The use of the herd's genetic potential, 2011, SM breed



Beef production		Herd average					
		Num-ber	Age	Carcass w.[a]		Class	
Category	Breed		YY.MM	kg	g/day	Fat.[b]	Conf.[c]
2012							
Heifers, <30 months	RH	1	2.06	322	320	2+	R
2011							
Cows, <30 month	HF	1	2.05	166		2-	P
Cows	HF	1	4.02	367		4+	O+

[a]Carcass weight; [b]Fatness; [c]Conformation

- trial

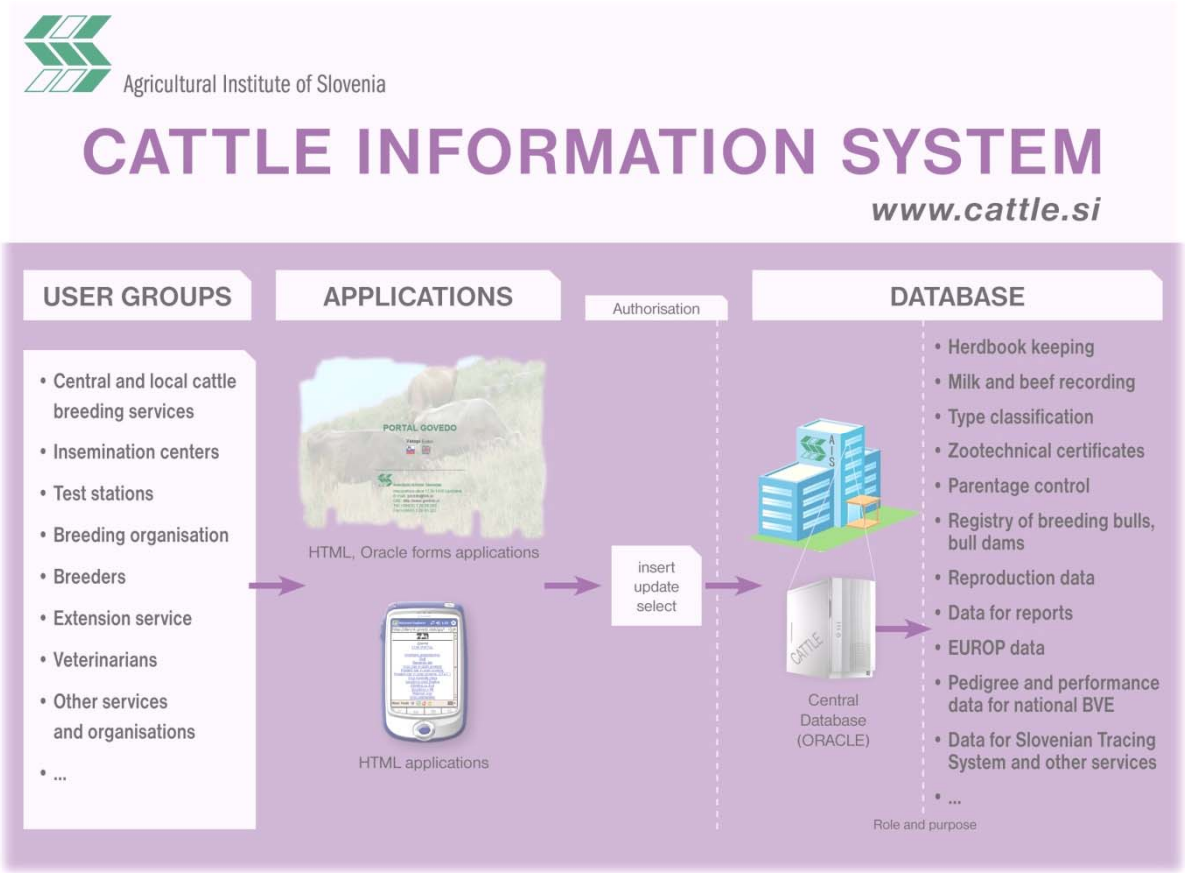
More Information on the Web Portal Cattle

- Different views and modules
  - animals data (pedig., breed fraction)
  - tools to avoid inbreeding, papering of mating plans
  - farms using services of agrochemical labs can access results of soil and manure analyses
  - …

Conclusion

- ‘Farm Identity Card’:
  - great volume of data to effectively manage cattle production, particularly in dairy herds
  - concise overview of the situation at a farm, with links to further, more detailed information
  - user-friendly tool which helps the breeders to manage their herds and, consequently, supports the Slovenian cattle production

Thank You for your attention!



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