

Health information in cattle in Denmark

Ole Klejs Hansen

- Senior advisor at Danish Cattle Federation / RYK
- ICAR Subcommittee for Animal Identification
- ISO Working group for Electronic Identification



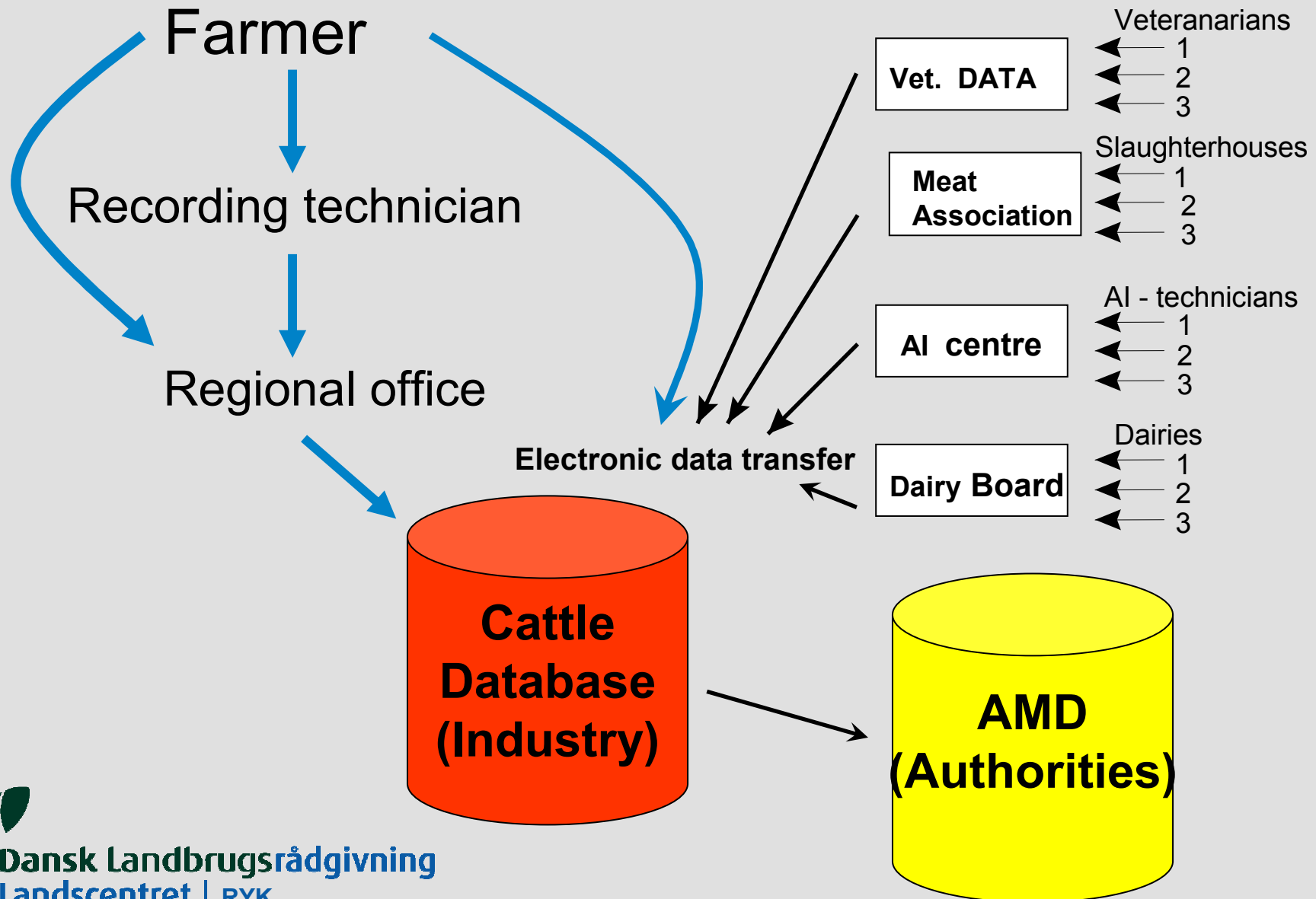
Dansk Landbrugsrådgivning
Landscentret | RYK

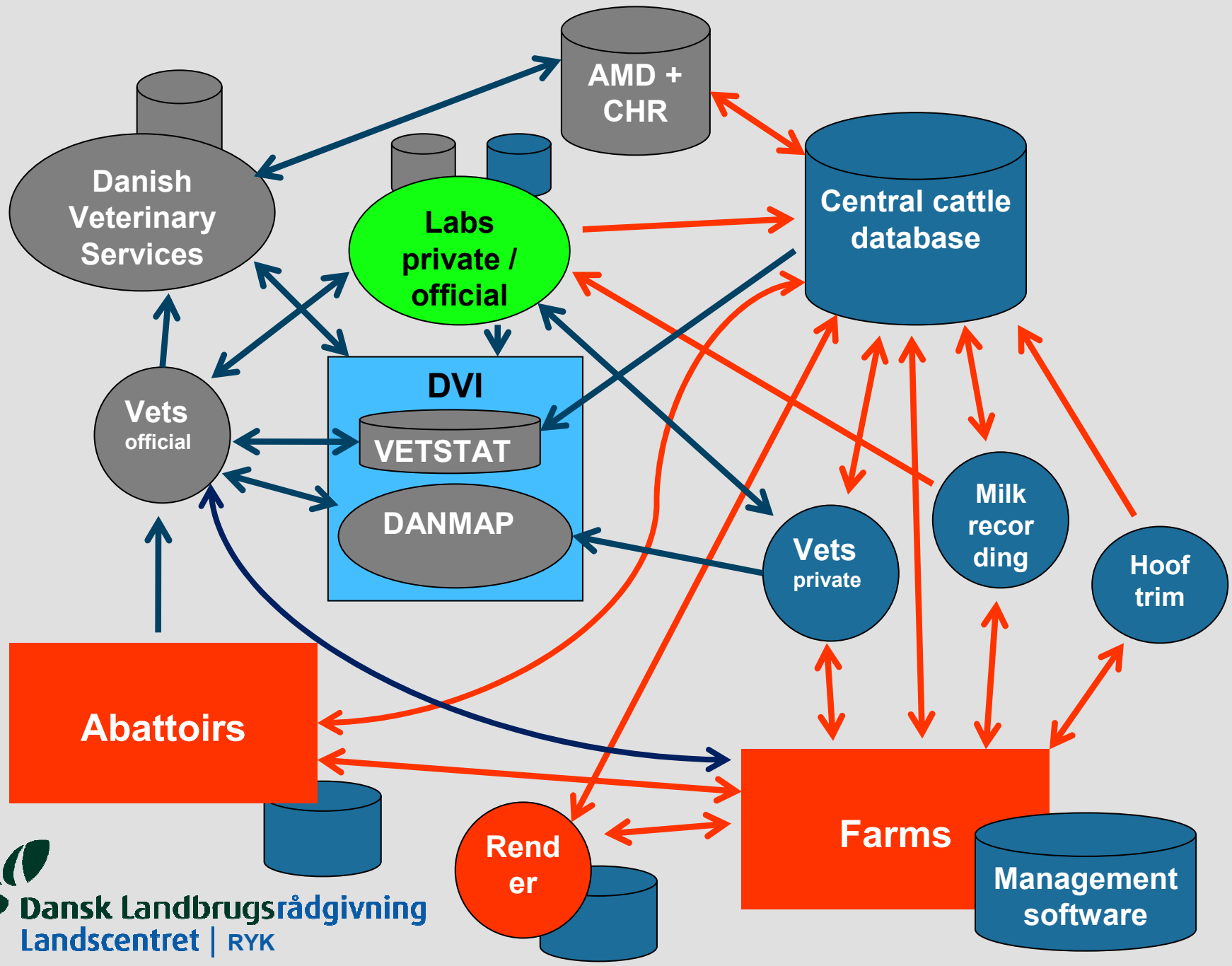
Animal health data types

- International legal consequences:
 - Foot and Mouth, BSE, Leucosis, Bluetongue, Swine fever, Avian Influenza
- National legal consequences:
 - IBR, BVD, Johnes Disease, Morbus Aujeszky, B-streptococ mastitis, Salmonella Dublin etc.
- Other:
 - Mastitis, Feet and legs, Metabolic / Digestion diseases, Pneumonia etc.



Data Flow – Incoming animal data





Surveillance and herd health status

- Milk samples (dairy herds)
- Blood samples at slaughter (all other herds)
- Data base assisted
- Which herds are milk producing
 - Information from dairies
- Animals to be blood sampled at slaughter
 - Animals from non milk producing herds
 - Number of tested animals and test intervals
- Animals to be blood sampled live
 - No milk production and few/no slaughtered animals



✓ CHR kontrol - server version.
Funktioner Opsætning

Slakteri Marked

CKR-dyrnummer - Besætning/ejendom

Fri tekst til log

Køn Aktuel besætning

Alder, mdr Navn

Race Adresse

Fødselsdato Postnummer og by

Dyret må slagtes, og skal ikke testes



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Fri tekst til log

Køn Aktuell besætning

Alder, mdr Navn

Race Adresse


Fødselsdato Postnummer og by

Dyret må slagtes, men skal testes. Dyret er over 48 måneder gammelt.



✓ CHR kontrol - server version.

Funktioner Opsætning



Slagteri	<input type="text"/>	Marked	<input type="text"/>
CKR-dyrnummer	<input type="text" value="32359"/> - <input type="text" value="1660"/>	Besætning/ejendom	<input type="text" value="32359"/>
Fri tekst til log	<input type="text"/>		

Køn	<input type="text"/>	Aktuel besætning	<input type="text"/>
Alder, mdr	<input type="text"/>	Navn	<input type="text"/>
Race	<input type="text" value="SDM"/>	Adresse	<input type="text"/>
Fødselsdato	<input type="text" value="13-06-05"/>	Postnummer og by	<input type="text"/> <input type="text"/>

Dyret må ikke slagtes. Dyret er ikke registreret i besætningen eller på ejendommen



Resultat af søgning

Ved valg af et Besætningsnummer / dyreart vises detailoplysninger vedrørende besætningen i højre side af billedet.

Besætningsnummer	Dyreart	Ophørt
32359	Kvæg	

Post 1

Antal

Forespørgsel

Hovedmenu

CHR-søgning

Besætnings-søgning

Dyresøgning

Udskriftsmenu

Besætningens stamdata

Besætnings nummer: 32359
Virksomhedsart: 12 14 Malkekvægsbesætning
CHR-nummer: 32359
Ophørsdato:
Besætningens størrelse pr.: 20-05-2009
Handyr: 10
Kvier: 19
Køer: 188
Veterinære problemer: Nej
Salmonella Dublin niveau: 06-05-2009 Niveau 1a, Sandsynligvis salmonella dublin fri, på basis af tankmælksprøver
Ejeroplysninger:
Navn: Hans Christian Klejs Hansen
Vejnavn og bynavn: Risgårdevej 16, Strandby
Postnr og by: 9640 Farsø
Ejerskifte: 10-05-2004
Samdrift med CHR-nummer: 32438



Dyreoplysninger:

Ved valg af et CKR-dyrnummer vises detailoplysninger vedrørende dyret i højre side af billedet.

CKR-dyrnummer

[1184202291](#)

[2349701504](#)

[2349701527](#)

[2349701577](#)

[2349701595](#)

[2371401461](#)

[2678801900](#)

[2805801961](#)

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> >> Antal

Dyrets stamdata

CKR-dyrnummer:	1184202291
Køn:	Kø
Race:	SDM, SDM - Dansk Holstein
Fødselsdato:	26-04-2004
Moders CKR-dyrnummer:	1184201873
Recipientmoders CKR-dyrnummer:	
Nationalitet:	DK, DANMARK
Udenlandsk nummer:	
Omsætning af dyret:	Dyret må omsættes
Besætningsnummer:	32359
Virksomhedsart:	12 14 Malkekvægsbesætning
Bluetongue basis vaccination:	1. vaccination 06-04-2009 2. vaccination
Seneste vaccination for bluetongue:	06-04-2009
Salmonella Dublin niveau:	06-05-2009 Niveau 1a, Sandsynligvis salmonella dublin fri, på basis af tankmælksprøver
CHR-nummer:	32359
Besætningsbruger:	
Navn:	Hans Christian Klejs Hansen
Vejnavn og bynavn:	Risgårdevej 16, Strandby
Postnr. og by:	9640 Farsø



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Dyrets flytninger

Dato	CHR-nr.	Bes. nr.	Årsag	CHR til/fra	Nat. til/fra
28-06-2006	32359	32359	1, Indgang	53584	
28-06-2006	53584	53584	16, Afgang levebrug	32359	
03-04-2006	53584	53584	1, Indgang	11842	
03-04-2006	11842	11842	16, Afgang levebrug	53584	
26-04-2004	11842	11842	3, Fødsel		

Dyrets udenlandske flytninger

Ingen poster blev returneret

Afkom hvortil dyret er biologisk mor

Fødselsdato	Donor	CKRdyrn.	Klv. nr.	Køn	Tilstand	Nuv. CHR	Nuv. Bes.
12-09-2008		3235901954	3	Tyr	Levende kalv	26031	26031
25-08-2007		3235901809	2	Tyr	Levende kalv		
14-06-2006		5358402326	1	Kvie	Levende kalv	59077	59077



Data reported by farmer

- Calving, Willingness to drink, Milkability, Temperament, Disease, Culling
- Data useful for the farmer
 - Choice of cows to breed
 - Herd management
- Veterinarians and advisers/extension services
 - Overview
 - Problem solving



Information from others

- Data from abattoirs
- Data from veterinarians
- Data from AI services
- Data from hoof trimmers
- How can the farmer relate to data reported ??
- Data from his own herd
- Background well known from herd management
- Farmer can access data from own herd



Data recording

- Information must be of relevance for the farmer.
- The code description must with simple words provide complete understanding of the content.
- Required information must be easy to evaluate or classify
- Simple recording system needed (paper or electronic)
- When using classes avoid "average" or "normal" as options.
- The farmer must be able to access own data.
- Information to be treated as confidential.



MOVEMENTS, REPRODUCTION, HEALTH AND WEIGHING

ANIMAL ID-CODE	DATE	DRY OFF / REPRODUCTION								MOVEMENT / WEIGHING								CULLING REASON (CODES)	REP / DIS CODE	TO / FROM HERD OR OTHER NOTES	TEXT CODE	
		5	4	10	13	20	21	22	26	BULL ID	1	7	9	18	18	24	50					51
FOR ANIMALS BORN IN OTHER HERDS PRINT THE FULL IDENTITY CODE (All figures)	OF INCIDENT	DRY OFF / REPRODUCTION								MOVEMENT / WEIGHING								REASON FOR CULLING AT DEAD / KILLED / SLAUGHTER / PLANNED CULLING (max 2 reasons per animal)	REPRODUCTION / DISEASE CODE	AT ENTERING / LEAVING REPORT THE NUMBER OF THAT HERD / FROM WHERE / TO WHERE THE ANIMAL WAS SENT	BY DIRECT IMPORT / EXPORT REPORT THE NAME OF THE COUNTRY	THIS FIELD MAY ALSO BE USED FOR NOTES ON OTHER INCIDENTS
FOR ANIMALS BORN IN THIS HERD PRINT JUST THE ANIMALS SERIAL NUMBER (last figures)		5 DRIED OFF	4 INSEMINATED	10 PREGNANT	13 NOT PREGNANT	20 NATURAL MATING	21 START MATING PERIOD	22 END OF MATING PERIOD	26 CHANGE OF STATUS (BULL/LOCK)	HERD BOOK NUMBER OR ANIMAL ID-CODE OF BULL USED	1 ENTERING HERD	7 LEAVING HERD, SLAUGHTER	9 LEAVING HERD, DEAD	18 LEAVING HERD, KILLED	18 LEAVING HERD, BREEDING	24 WEIGHING	50 LEAVE FOR TEMP. STATION **					

Information in fields with black bar are mandatory by law and will be transmitted to the Cattle Movement Register (register of the Ministry).
 ** Codes 50 and 51 are applicable only for temporary stationing on officially approved pastures with other runnethers, animal hospitals or shows

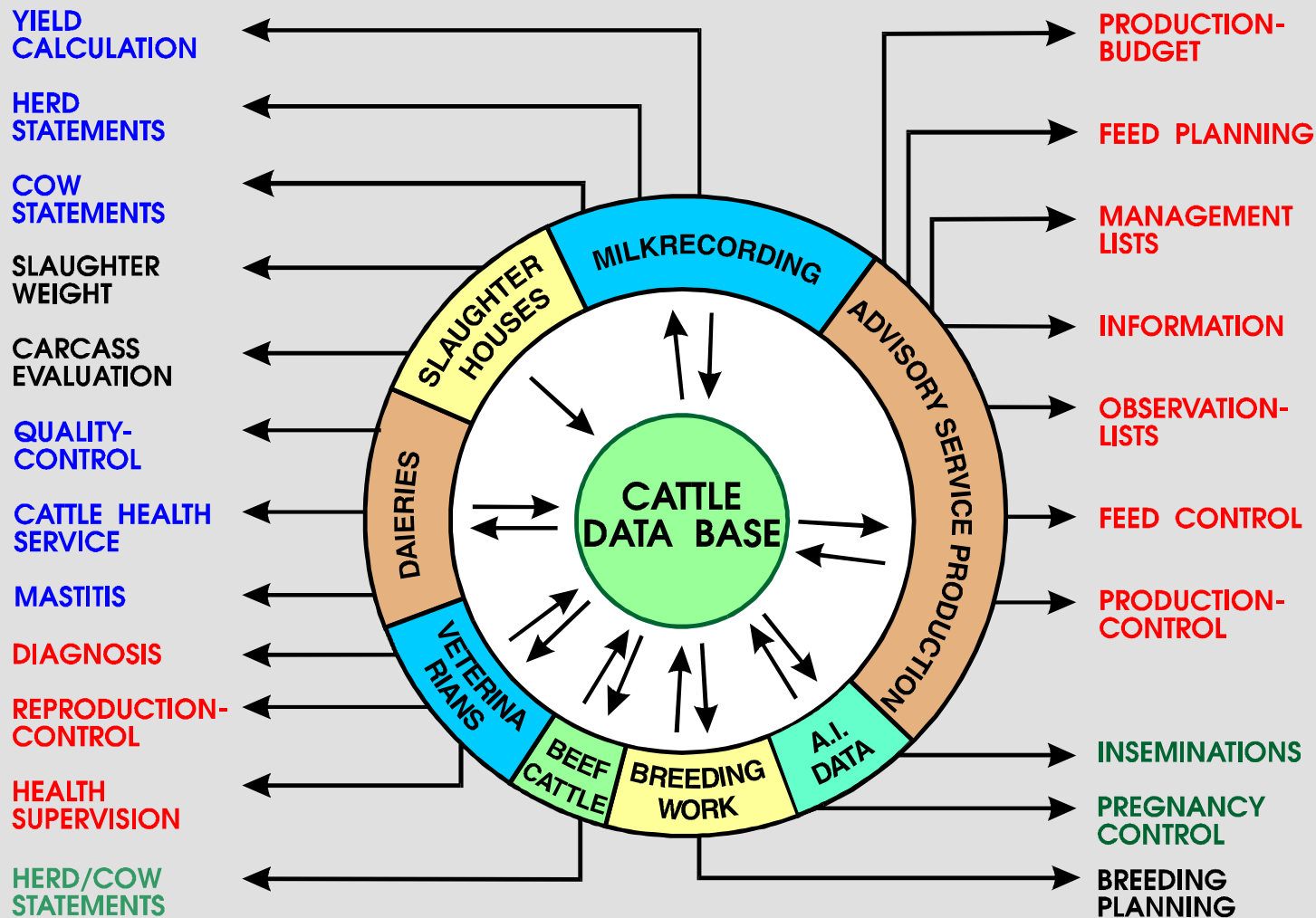
- Dry off
- Insemination
- Natural mating
- Pregnant
- Start mating period
- End of mating period
- Bullock (remember code 3)
- Buying
- Slaughter
- Dead
- Killed
- Sold for breeding
- Weighing
- Send to temp. Station
- Return from temp. Station
- Planned culling
- Disease
- Polled
- New body score
- Move to new group
- Note

FØDVARERESTYRELSEN / RYK

	ANIMAL ID-CODE	DATE	DRY OFF / REPRODUCTION								MOVEMENT / WEIGHING								CULLING REASON (CODES)	REP / DIS CODE	TO / FROM HERD OR OTHER NOTES	TEXT		
			5	4	10	13	20	21	22	26	BULL ID	1	7	9	18	18	24	50					51	WEIGHT
Dry off	1216	15.07	X																					
Insemination	1159	16.07		X						293256														
Natural mating	1180	16.07				X				113967-01113														
Pregnant	1184	16.07		X																				
Start mating period	1175	10.06				X				113967-01113														
End of mating period	1175	14.07					X																	
Bullock (remember code 3)	1267	15.07						X															3	
Buying	99316-01639	17.07									X								311	3500			13619	
Slaughter	1016	17.07										X							517	4965	8	2	77787	
Dead	1310	17.07											X						75		12		71930	
Killed	1217	16.07												X					400		17		71930	
Sold for breeding	1225	17.07													X				300	4000			42410	
Weighing	1250	20.07														X			275					
Send to temp. Station	1200	01.06															X						66450	
Return from temp. Station	1200	15.07															X						66450	
Planned culling	1167	18.07																			2	60		
Disease	1170	18.07																				21		
Polled	1230	19.07																					Polled	
New body score	1219	19.07																					Score 2,5	
Move to new group	1219	19.07																					Group nr. 2	
Note	1210	20.07																					3 functional teats	1

In case you do the reporting yourself for your own convenience put check marks for what you have reported

CATTLE DATABASE - THE BASIS OF ADVICE AND SERVICE TO THE CATTLE FARMERS



Mandatory, Condition of calf born

- Live born
- Live born, short pregnancy
- Still born
- Died within 24 hours
- Died 2. – 6. day
- Killed immediately after birth
- Abortion
- Abnormal



Voluntary Information, Calving

Calving ease

- Easy, no assistance
- Easy, assistance
- Difficult, no vet. assist.
- Difficult, vet. assist.
- Caesarian

Size of calf

- Small
- Below medium
- Above medium
- Big
- Optional: Weight



Information on calvings

	RDM	Holstein	Jersey	Holstein Red	Other	Total
% calvings with calf condition	100	100	100	100	100	100
% calvings with calving ease	93,2	91,3	86,8	93,6	85,8	90,6
% calvings with size of calf	90,6	88,8	80,1	92,6	81,7	87,5



EBV's

- Vitality of calf
- Calving ease
- Size of calf
- First calvers / Later calvings
- Father of the calf / Father of the cow
- EBV Calving
- EBV Calving performance



Data on diseases

- Data reported from veterinarians
- Also possible for farmers to report
- Farmers have reduced number of diagnoses
 - 20 Reproduction
 - 13 Udder
 - 14 Metabolism/Digestion
 - 12 Feet and legs
 - 7 Other
 - 4 Willingness to drink



Information reported by veterinarians

- Treatment, individual
 - Animal identity
 - Date
 - Diagnosis
 - Medicine (legal requirement if antibiotic or hormone)
 - Dose
- Treatment, Group
 - Date
 - Diagnosis
 - Medicine (legal requirement if antibiotic or hormone)



Disease recording: Registration density

- Diagnoses and calvings
 - Last 4 Months (> 7 calvings)
 - Last 9 Months (> 10 calvings)
- Minimum 0,3 Diagnoses per cow with calving
- No 3 Months period without diagnoses



Disease data, cows

	RDM	Holstein	Jersey	Holstein Red	Other	Total
% herds with disease data	87,4	90,8	87,4	96,7	85,4	88,3
Diseases Per cow and year	0,93	1,00	0,90	0,97	0,91	0,98
Mastitis Per cow and year	0,51	0,52	0,59	0,54	0,51	0,53



Diseases

4 groups

- **Udder**
 - Mastitis, Teat injuries, Dermatitis, Udder injuries etc.
- **Fertility**
 - Endometritis, Retained placenta, Ovarian cysts, Inactive Ovaries etc.
- **Metabolism / Digestion**
 - Diarrhea, Indigestion, Ketosis, Displaced abomasums, Milk fever, Tinpanytes, Grass tetany etc.
- **Feet and legs**
 - Hoof diseases, Hoof trimming, Laminitis, Lameness, Hock injuries and swellings etc.



EBV Udder health

- First mastitis diagnoses only
- Time frame of the diagnoses
 - 10 days before until 50 days post partum, 1. lactation
 - 10 days before until 305 days post partum, 1. lactation
 - 10 days before until 100 days post partum, 2. lactation
 - 10 days before until 100 days post partum, 3. lactation
- Average somatic cell count 10 – 180 days in lactation
- Correlated Information
 - Dairy form, Fore udder attachment, Udder depth



EBV Other diseases

- Diseases included
 - Reproduction, Metabolism/Digestion, Feet and legs
- Time frame of the diagnoses
 - 10 days before until 100 days post partum, 1. lactation
 - 10 days before until 100 days post partum, 2. lactation
 - 10 days before until 100 days post partum, 3. lactation
- Correlated Information
 - Udder health 1. lactation



Fertility

- Joint Nordic calculation system
- Data from AI service
- Veterinary fertility treatments
 - Endometritis, Ovarian cysts etc.
 - Retained placenta not included



EBV Fertility of daughters

- 5 traits:
 - **Non return rate**, 56 days
 - **Days, first insemination until conception**
 - **Days, calving to first insemination ***
 - **Conception rate** (AI services per pregnancy)
 - **Veterinary treatments** concerning fertility *
 - (In Sweden also information on **heat intensity**)
- Heifers and cows (*: Only cows 1 – 3 lactation)
- Traits used in calculation of EBV on Fertility of daughters



Culling reasons

- High somatic cell count
- Mastitis
- Feet and legs
- Temperament
- Milkability
- Reproduction
- Low milk yield
- Udder
- Accidents / mishaps

- Metabolism / Digestion
- Age
- Other diseases
- Miscellaneous / Not known

Special for calves:

- Diarrhea
- Pneumonia
- Other reasons



Recommendations

- Report culling reason for
 - All female animals dead or slaughtered
 - All male animals dead
- Option to report reasons for live sale
 - New owner has access to information
- Information campaign from all breeds
 - Recording is easy
 - Useful for farmer
 - Useful for breed organisations



Dead or killed ?

- Circumstances when the animal died?
 - Dead or killed?
- Treatment expensive
- Prognosis doubtful
- Treat or kill diseased animal?
- Introducing new movement code: Killed
- Record culling reason



EBV Milkability

- Questionnaire by all classifications of cows in first lactation
 - Farmer scores the cow in comparison to his other cows
- Many herds with AMS (robotic milking)
 - Only cows with extremely long milking times known
 - Milk flow information available in the robot??
 - Different numbers of milkings per cow and day
- Electronic milk meters in milk recording
 - Cups on – Cups up
 - Milk flow information available in the milk meter??
 - Test all cows – not just one cow



EBV Temperament

- Questionnaire by all classifications of cows in first lactation
 - Farmer scores the cow in comparison to his other cows
- Bigger herds > Less knowledge by farmers of individual cows
- Automated milking and feeding systems makes it ever more difficult



Heritability

Milk, Fat, Protein:	0,30
Weight gain:	0,16
Conformation:	0,29
Reproduction:	0,03

	<u>Cow</u> / <u>Calf</u>
Size of calf:	0,04 / 0,20
Vitality:	0,04 / 0,04
Calving ease:	0,07 / 0,10

Diseases, Udder:	0,05
Diseases, Reproduction:	0,03
Diseases, Metabolism:	0,01
Diseases, Feet and legs:	0,01
Milkability:	0,26
Temperament:	0,13



Percent cows with mastitis diagnose

10 days before until 100 days after calving

EBV Udder health of the bull	First lactation	Third lactation
< 86	21,6 %	28,9 %
86 – 95	18,3 %	26,0 %
96 – 105	15,3 %	23,9 %
106 -113	13,9 %	21,0 %
> 113	10,7 %	17,0 %



How to use EBV's for functional traits

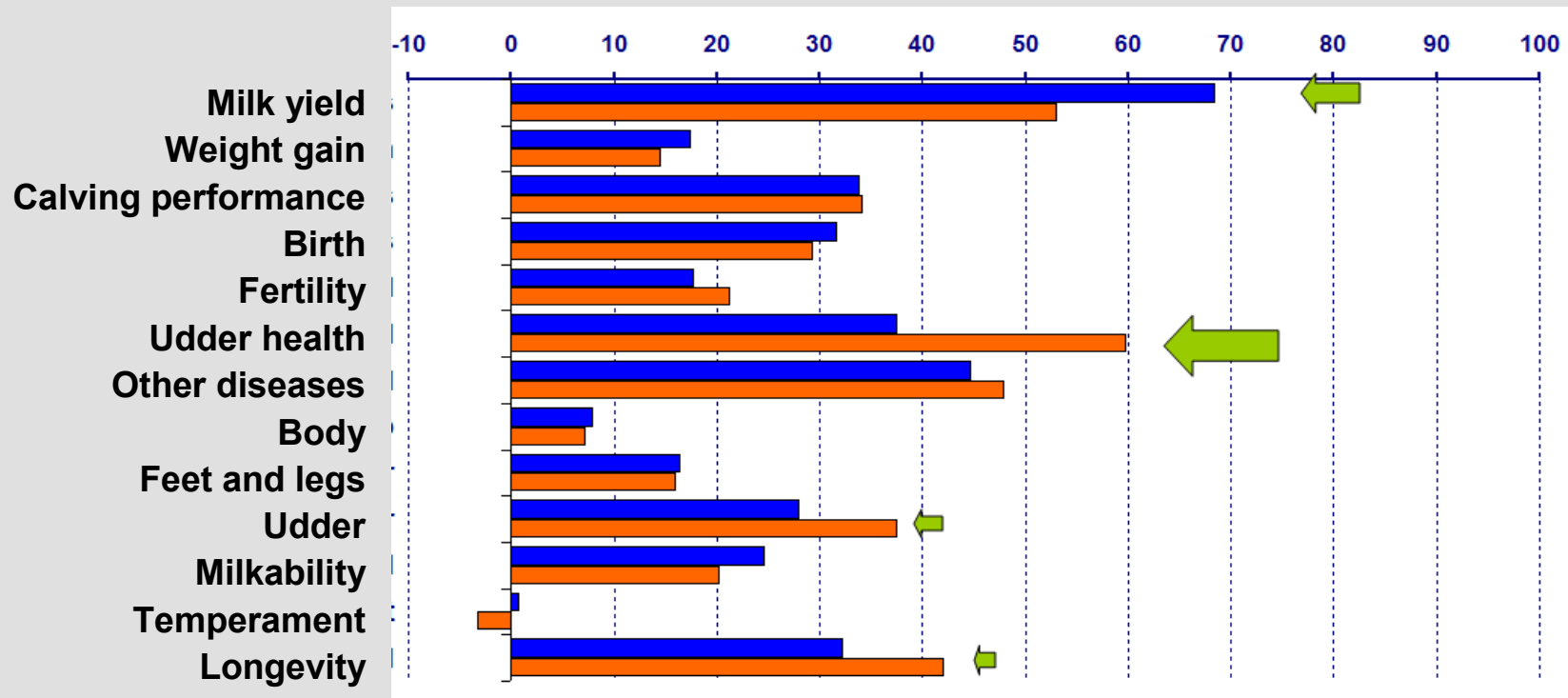
- EBV's available
- Weight factors in Total Merit Index determining
- Use of TMI may lead to negative developments in some traits
- EBV's on specific traits will prevent use of bulls that are strongly negative for one trait.



Percent achieved of maximum gain

Current Situation

Double weight on udder health



(Jørn Pedersen, Danish Cattle Federation, 2006)

Slaughter data, Bull calves

	Red Danish	Holstein	Jersey	Red Holstein	Other	Total
% with Slaughter data	98,1	97,3	84,7	96,7	94,9	96,3
EUROP-conformation average	4,4	3,6	2,2	4,1	4,1	3,7
Live weight, Kg	442	447	275	449	424	434
Daily weight gain, Gram	1069	988	614	1071	875	967



Slaughter data, Cows

	Danish Red	Holstein	Jersey	Holstein Red	Other	Total
% with Slaughter data	99,5	99,2	99,3	99,1	99,2	99,2
EUROP-conformation average	3,3	2,5	1,8	3,1	2,7	2,6
Days post partum, average	255	291	250	263	263	281



Data on beef production

- Data automatically transferred from abattoirs to CDB
- Data selection:
 - Carcass weight (140-320 kg)
 - Age when slaughtered (210 – 540 days)
 - Animal not moved after 90 days of age
- Sub indexes:
 - EBV weight gain
 - EBV conformation
- Main index:
 - EBV Beef production
- Useful information also for beef breeds



Thank you for attention



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