CREATION OF A NATIONAL STRUCTURE USING THE INTERNATIONAL ANIMAL ID NETWORK

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HOW THE SYSTEM WORKS IDEALLY

- Standards and guidelines
  - Developed by technical experts in formal organisations
  - Supporting decision making by authorities
- Referenced in local legislation
- Local users and authorities report problems
- Non compliance strongly policeable locally
- Local cases can be reported on ICAR web site
THE INTERNATIONAL ANIMAL ID NETWORK

- This is NOT yet another organisation
- This is the informal cooperation between players
- Formal organisations have clearly specified tasks
- Formal organisations set up standards, guidelines, certification systems etc.
- The network is people working with and using animal ID
DANISH HISTORY

- 1895: World's first milk recording society
- 1920: First national identification scheme
  - Ear notch with mother's number, new ID in new farm
- 1956: EDP in milk recording
- 1982: New identification system, Herd and Cattle
  - National unique lifetime ID-numbers (ICAR and ISO compliant)
  - Eartags (first metal tags, since 1991 plastic tags)
- 1995: Farmers organisations ask for complete registration of all cattle in one central database (disease eradication: IBR)
IMPLEMENTATION OF EU LEGISLATION

- June 1997: EU legislation on registration of all cattle
- July 1997: Danish legislation adapted
  - 70% of all cattle already registered in cattle database
  - Numbering systems for herds and for animals adopted by authorities
  - Cattle database serves as registration point for everybody
  - Barn registration books of the cattle database adopted by authorities
  - Data for animal movement database (AMD, government) to be collected through the cattle database
- February 1998: All cattle registered in AMD
REGISTRATION, NO UNIQUE LIFETIME ID

ID #1
(Heifer)
- Earnoich (Mothers number)
- Birth
- Insemination
- Veterinary treatment

ID #2
(Cow)
- Cow number
  (no relation to earnoich)
- Calving
- Milk production
- Insemination
- Veterinary treatment
- Classification

ID #3
(New herd)
- New cow number
  (no relation to previous)
- Calving
- Milk production
- Insemination
- Veterinary treatment
- Classification
- Dead - Slaughter
REGISTRATION, UNIQUE LIFETIME ID

Lifetime ID number

- Birth
- Veterinary treatments
- Movements
- Inseminations
- Calvings
- Milk yields
- Classifications
- Dead
<table>
<thead>
<tr>
<th>Bit no.</th>
<th>Information</th>
<th>Combinations</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Flag for animal (1) or non-animal (0) application</td>
<td>2</td>
</tr>
<tr>
<td>2 – 4</td>
<td>Retagging counter</td>
<td>8</td>
</tr>
<tr>
<td>5 – 9</td>
<td>User defined code</td>
<td>32</td>
</tr>
<tr>
<td>10 – 15</td>
<td>Reserved field</td>
<td>64</td>
</tr>
<tr>
<td>16</td>
<td>Data Block Flag</td>
<td>2</td>
</tr>
<tr>
<td>17 – 26</td>
<td>ISO 3166 numeric-3 country code</td>
<td>1.024</td>
</tr>
<tr>
<td>27 – 64</td>
<td>National identification code</td>
<td>274.877.906.944</td>
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</tbody>
</table>
GENERAL ISSUES ABOUT ID NUMBERS

- Country code (on visual tags normally alpha)
- 11 digits available for animal number
  - Highest code: 274.877.906.944
- Preferably NOT to include other codes in the animal number
  - Farm code
  - Region code
  - Etc, etc….
- Will limit number of available codes considerably
- Animals numbers unique across all species (pets included). Competent authority neccessary
IDENTIFICATION STANDARDS

- **Voluntary use:**
  - Stand alone systems: OK if they work where installed
  - Standards applied: Manufacturers decision
  - Minimum performance criteria is a matter between user and manufacturer

- **Mandatory use:**
  - Universal systems: Most work everywhere
  - Must work also when animals move
  - Standards applied: Authority decision
  - Minimum performance criteria is a matter between authority and manufacturer
ISO and ICAR network

- ISO and ICAR together setting up standards for Low Frequency electronic identification of animals.
- Starting with the ISO 11784 code structure
- Continuing with ICAR test protocols
- Later transformed to ISO standard 24631, 1-4

- ISO sets standards, ICAR tests
- Who can monitor the market?
- Who can be the policeman in case of problems?
AMENDMENTS OF STANDARDS

- EU discussion about electronic identification of sheep and goat
  - EU: Replacement tag with same animal ID number
  - ISO: No duplication of transponder number
  - EU: Species code

- Joint workshop EU-ISO-ICAR to provide a solution

- Solution found and ISO 11784 code approved for EID in EU countries
REQUIREMENTS FOR IDENTIFICATION DEVICES

- Identification devices must:
  - Be easy applicable
  - Stay in the animal
  - Be easy to read (clear figures, high quality printing)
  - Be robust (last for the entire lifetime of the animal)
  - Not be reuseable once closed
  - Not harm animal welfare

- Make sure that you ask for all requirements
- Make sure you receive documentation from manufacturers
- ICAR can help you
ICAR TESTED DEVICES

- ICAR test covers most of what any user might want to know about tags

- Plastic tags passing ICAR’s test can be found on: http://www.icar.org/pages/approved_eartags.htm

- Electronic tags passing ICAR’s test can be found on http://www.service-icar.com/manufacturer.php

- Always ask also for ISO 24631-3 performance test on electronic tags
PERFORMANCE CRITERIA

- Read distance of a tag is an important criteria
- User would like to know it in centimeters
- Same tag has different read distance with different readers
- Original EU criteria for sheep and goat expressed in centimeters
- ISO working group made recommendation based on electronic requirements to approx. match the metric requirements
- Recommendation also in pipeline for cattle tags
VIOLATION OF STANDARDS

- Unauthorised use of country code
- Duplicate codes
- Will be discovered locally
- Standard setting organisations will support with technical information and create awareness
  - but they have week possibilities for sanctions
- Powerful policing can be done locally when referring to standards in local legislation
BAD PERFORMANCE

- Certification tests done in laboratory
- Unexpected bad field performance discovered locally
- Products sold as certified??
- Bad performing products same as originally tested?
- Local authorities can test product from the market
- Local authorities can report to ICAR
- ICAR can withdraw certification and put report on web site
- Powerful policing can be done locally when referring to standards and certifications in local legislation
CATTLE DATABASE STATISTICS

At 2. June 2014
- 1,580,000 live cattle
- 665,000 cows
- 19,600 cattle herds

Incidents per year (approx.)
- 2,400,000 Movements
- 680,000 Calvings
- 1,150,000 AI services
- 5,500,000 Milk recording information
- 1,200,000 Health information
AUTOMATIC SURVEILLANCE SYSTEMS

- Control at data entry (logic errors)
- Sequence of movements / Sequence of reports
- At the end of the day all information must comply

Surveillance System
- Finds data not complying / missing reports / late reports
- System finds errors and report these to the veterinary authorities
- Automatic letter with reminder procedure 2 weeks later
- Not corrected errors are automatically reported for authority intervention 4 weeks after first letter.
DATA ENTRY AND SURVEILLANCE

Cattle-database → AMD

Registration office → Farmer

Abattoir, Market, Renderer

Surveillance system
EAR TAGS

- Ordering by Internet, Animal Registration, at registration office or through manufacturer
- All orders can be handled only through Cattle Database
- Farmers choice from more than one supplier
- Tags delivered within 3 – 5 days after ordering
- "Rush tags" delivered on the day after ordering
- Replacement tags
ORDERING OF EARTAGS

- Cattle-database
- AMD
- Eartag suppliers
- Farmer
- Registration office
- Eartags
- Numbers
- Orders
VISUAL FLAG TAG AND EID BUTTON TAG
VISUAL FLAG TAG AND EID FLAG TAG
ANIMAL PASSPORTS

- An animal moving to other farm had to be accompanied by a document
- An animal moving to other countries still must be accompanied by a document
- Document must be ordered for each movement
  - Not valid after 14 days
  - Valid for one movement only
  - Farmer confirms information by his signature
  - (Health document for movements inside Denmark)
  - Cattle passports for cross border movements
Validity

Herd, Animal, Owner

Movements
(Farm and date of departure)

Health Status
- BVD, Salmonella, Leucose, IBR,
- Restriction etc.
- 7/30 Day rule

Confirmation / Signature
ORDERING OF DOCUMENT/PASSPORT

Cattle-database → Transfer of orders → AMD

Registration office

Ordering

Farmer

Document/Passport

Letter of explanation
AMD CONTROL (CHR-KONTROL)

- Slaughtering without document/passport
- Information is verified on line in AMD
  - Identity
  - Herd
  - BSE test
  - Blood sampling (Surveillance: IBR, BVD, Leucosis)
- GREEN, YELLOW or RED light for slaughter
- Immidiate reporting from slaughterhouse possible
HEALTH SURVEILLANCE

- Leucosis, IBR and BVD
- Dairy herds are checked through milk samples
- Beef producing herds are checked through blood samples
- The AMD control selects the sufficient number of animals from beef producing herds for blood sampling
- Aimed selection facilitates the optimum effort
LIVESTOCK STATISTICS

- National and EU requirements

- Until 2001:
  - Statistics Denmark made written surveys
  - Farmers filling in forms
  - 2 surveys per year
  - Spot checks extrapolated (10 – 15%)

- As of 2001:
  - Statistics Denmark collects information through AMD
  - No surveys on herd and cattle to the farmer
  - Number of involved herds now much larger (80 – 90%)
  - 4 surveys per year
REGISTRATION AND USE OF DATA

- AMD is a legal requirement
- Once registered data should, when possible, be reutilised in other applications
- Coordination of requested data necessary
- Less bother – More precision
- Open minds on all sides (Authorities, Farmers, Industry)
THE IMPORTANCE OF THE INTERNATIONAL ANIMAL ID NETWORK

- Each party can do something
- No party can do everything
- Together we can do more
- Networking between organisations, authorities, manufacturers and users gives us the full picture
- Join the network, for your own sake and our sake
Thank you for attention