Cattle RFID opportunities & challenges

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Animal radiofrequency identification (RFID)

- Development of the RFID technology started in the ‘80 ties
- Mainly used for identification of dairy cows:
  - process control
    - concentrate dispensing
    - milk measurement
  - farm management
- Use for national identification schemes since late ‘90 ties
  several countries have livestock RFID schemes in place:
  - cattle in Australia, Canada and Denmark;
  - sheep and goat in most EU countries and Australia.
- Schemes have positive impact on:
  - farm management
  - process control
  - exchange of information along the (food) chain
Introduction of cattle RFID in EU

- European Union study (April 2009):
  - introduction electronic identification (EID) official method to identify bovines

- Conclusion:
  - preferred option: voluntary introduction of EID in the bovine sector
  - basis harmonized standards
  - individual MS should have possibility to opt for compulsory regime

- EU Countries that have started with EID for bovines:
  - Denmark: electronic ear tagging of cattle mandatory June 2010
  - France: voluntary electronic ear tagging has been introduced (2008)
Future plans cattle RFID in the EU

- DGSanco announced on SIMA (Paris) 2011:
  - working on proposal allowing use of RFID in national cattle id schemes

- EU cattle will get / has:
  - one visual tag
  - one additional (RFID or visual) tag

- Opportunity:
  - especially for countries with a low degree of process automation RFID can speed up:
    - application of farm automation systems

- Challenge in countries with high degree of process automation implement regulations that guarantee both:
  - food safety requirements
  - requirements in relation to process automation
    - modification farm automation (e.g. use ear tags instead of neck belt RFID)
Introduction (voluntary) cattle RFID systems

- In voluntary system farmers might be faced with a mixed population
  - RFID tagged animals
  - only visually tagged animals
  - what to do if such a farmer wants to use RFID in his farm management?
  - will it be allowed to retag the animals?
    - no mark may be removed or replaced
    - without the permission of the competent authority

- In mandatory system several RFID methods might be allowed
  - how to manage if farm automation is based upon a certain RFID type (e.g. ear tag)
  - farmer is buying animals that are identified with a different type of RFID device?

- In a situation where only ear tag RFID is allowed
  - performance of tags can be insufficient to use with farm automation equipment
Aspects related to EU Cattle RFID (I)

- **RFID tags that might be allowed:**
  - ear tag transponder
  - bolus transponder
  - injectable transponder
  - leg tag transponder

- **Opportunity:**
  - discussions on the animal friendliness of visual ear tags (Netherlands)
  - RFID tags are considered as an more animal friendly alternative
  - bolus and leg tag transponders might be a further improvement

- **Problem**
  - bolus cannot be applied within 4 days after birth (applicable ~4 weeks after birth)
  - in Netherlands database recording within 3 working days after birth
  - two step approach:
    1. application of visual ear tag transponder
    2. at an age of e.g. one month application of bolus
  - risk of confusing numbers (visual number bolus number do not match)
Aspects related to EU Cattle RFID (II)

- In the Netherlands only 2 interventions allowed for identifying an animal:
  - a provision to freeze mark as third intervention
  - application of a bolus is not an intervention
  - use of bolus would allow to continue freeze marking within the legal framework

- Neck belt transponders are used for farm automation:
  - concentrate dispensing
  - milk recording
  - robotic milking
  - cow routing

- Neck belt transponders cannot simply be replaced by RFID tags:
  - ear tag transponders in most cases most appropriate replacement
  - in most cases the farm automation equipment must be adapted
  - performance of RFID tags must be sufficient, competent authority should allow
    - replacement of tags and/or
    - use of additional RFID tags (e.g. bolus RFID & ear tags based farm automation)
    - guidelines/regulations required on numbering of replacement/additional tags
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Thank you for your attention!

Questions?

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