Interest of Electronic Identification for ruminants

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Contents

- ✓ Context
- ✓ Pilot projects for implementing RFID for animal tracing
- ✓ Main results from pilot project

RFID on Farm

For many years, RFID has been used :

- **By farmers :**
  - **For automatic devices (feeders, AMS…)**
  - **For herd management ➔ interest for RFID**
- **For performance recording**

✓ **The same device could be used successively for several animals**

✓ **A wide range of device: necklace, eartag, bolus etc..**

✓ **Correspondence between RFID and legal animal ID should be managed by software.**

✓ **Changing in equipment or / and software implies to change RFID devices**

RFID for legal animal traceability

Something rather new

New requirements :

- **A limited number of devices**
- **Compliance with ISO standards 11784 –11785**
- **One transponder one animal**

✓ **These requirements may result in cost increase but give new opportunities even in farm :**

- **No more correspondence between RFID and legal ID number**
- **Breeder may change equipments and software without changing RFID**

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Pilot project for the implementation of RFID for animal tracing

- ✓ **Interest and constraints of implementing RFID for animal tracing for :**
  - **Farmers**
  - **Performance recording**
  - **Sale yards and collecting centers**
  - **Slaughter houses**

Pilot project for the implementation of RFID for animal tracing

- ✓ **Project lead by the administration and the farmers organisations.**
- ✓ **Technical support from Institut de l'Elevage**
- ✓ **Main partners:**
  - **Chambre d'agrculture**
  - **Performance recording agencies**
  - **Manufacturers**
  - **Sale yards**
  - **Slaughter houses**

Pilot project for the implementation of RFID for animal tracing

- ✓ **Three species: cattle, sheep and cattle.**
- ✓ **Different actors from birth to slaughter:**
  - **100 sheep farmers**
  - **15 goat farmers**
  - **250 cattle farmers**
  - **7 collecting centres**
  - **15 performances recording agencies (meat and milk)**
  - **4 sale yards**
  - **20 slaughterhouses**

Pilot project for the implementation of RFID for animal tracing

- ✓ Sheep :
  - 300 000 electronic ear tags
  - 100 handheld readers
  - 50 stationary readers
- ✓ Cattle :
  - 65 000 electronic ear tags
  - 25 handheld readers
  - 25 fixed readers
- ✓ Goats :
  - 8 000 RFID pastern tags
  - 12 handheld
  - 2 stationary readers.

INSTITUT DE L'ÉLEVAGE

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On farm

Chip on the animal ⟷ **Reader** ⟷ **Computer functionalities**

Eartag

PDC or PC or intelligent reader

Reading distance

Connexion (cable and blue Tooth)
Electrical energy
Memory
Screen
Buttons

Software

On farm

- ✓ **Transponder type depends on operation:**
  - **For milking or for AI it is optimal behind the animal ➔ pastern tag**
  - **During feeding in head blocks, it is optimal on the head ➔ eartag**
- ✓ **RFID reading is not easy during birth, sanitary treatments, AI…**

Eartags are not optimal for milk recording on ewes or goats

Official RFId pastern tags can replace visual ones

Plastic pastern tags for goats bring private identifier.

Official RFID pastern tags bring national identifier.

Reading of a group of animals

A specific corridor, adapted to size of animals, permits to read with a fixed reader more than 96 % of running animals.

Not RFID reading is possible in a group of animals without an handling pen

Main interest of RFID is to collect some common data for a whole group of animals, (ex : animals ready to leave the farm together, to receive a same treatment…)

Performance recording

RFID in electronic (or not) scales for sheep or cattle

Cattle milk recording

Lactocorder

Individual antenna (**one per place**)

Truetest EMM

2 models of electronic milk measurers linked with animal RFID

On farm

- ✓ **Farms with RFID must be adapted :**
  - **Animal tags must be replaced by official ones**
  - **Readers must be in compliance with ISO standards**
  - **Software must be adapted**

In saleyards

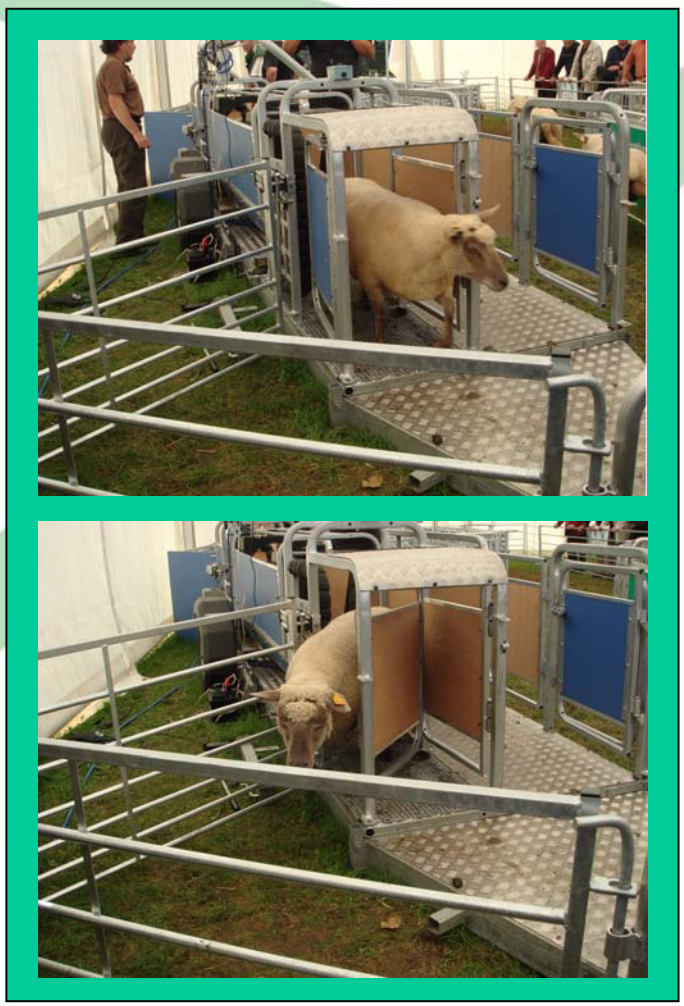
- ✓ **100 % animals must be identified**
- ✓ **Efficient automatic record of entries and exits requires:**
  - **100 % animals with RFID**
  - **100 % transponders to be read**
- ✓ **Reading ratio, will never be 100 % : special system to isolate non read animals is needed**

Automating entries recording in a market

Antennas

A corridor can be used as well for sheep with an ear tag than for goats with a pastern tag at the leg to be read with a fixed reader.

Sort out of non RFID read animals



Sheep read by RFID run straight. These not read go through the right door to be isolated and read with another handheld reader.

In slaughterhouses

- ✓ **No organisation was found to benefit from RFID if *one animal* with and without RFID or with a non raed transponder**
- ✓ **Software must be adapted.**

To check that every animal is read, they must be counted in parallel

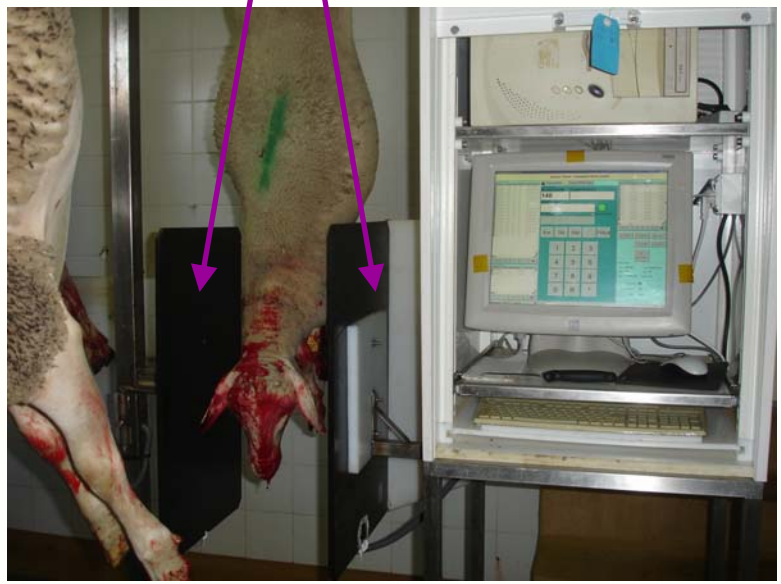
Arriving to the slaughterhouse, after unloading the truck :

A corridor with a **fixed reader** and a **counter** to check the number of the lambs in the group.

3 different solutions of fixed readers to read RFID eartags still linked to the carcass

Antennas

Antennas



Beside note the computer to record entries on the slaughtering chain.

Conclusion

- ✓ **RFID for herd management has been existing for a long time.**
- ✓ **Implementing RFID for official animal tracing means:**
  - **New actors and new reqirements**
  - **New requirements for farmers**
  - **Adaptation of existing : corridor, software, etc..**
  - **Communication and training**

Thank you for your attention !