

# Argentina



**POPULATION: 40 million** 

TERRITORY: almost 3 times Spain

LIVESTOCK: 55 million heads

PRODUCTION: 3 million tonnes

Meat Consumption: Kg 110 per capita

Beef Consumption: Kg 70 per capita

Total DOMESTIC CONSUMPTION: 2,5 million tonnes

EXPORT: 550,000 tonnes

### NANOTRACK Work Programme.

To test the use of various forms of electronic identification in extensive farming conditions.

- Intraruminal boluses (52 gr) in calves implanted within 15 days from birth.
- Loss levels measurement in the various forms of presentations: tags and boluses
- Reading capacity in both solutions

### NANOTRACK Work Programme.

# To automate the beef farm management by the use of Low Frequency Nanotechnologies.

- Adapt the work protocol to the local conditions of extensive farming.
- No electricity supply was available at the farm, which used car batteries as electric power source
- Wireless Connections of the various reading devices.
- Specific breeding and management software was developed for on field data capture and key data querying





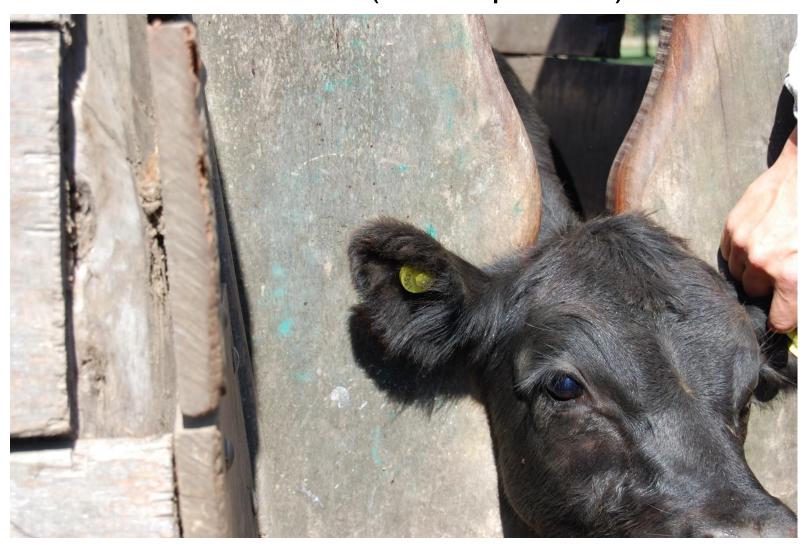
# **RFiD-** Intraruminal bolus implantation in Angus calves

heads	Age at implantation		
17	More than 20 days		
19	between 11 - 20 days		
27	between 2 - 10 days		
39	First day		

No problems during implantation.

No losses

# Electronic ear tags. No Losses (248 implanted)

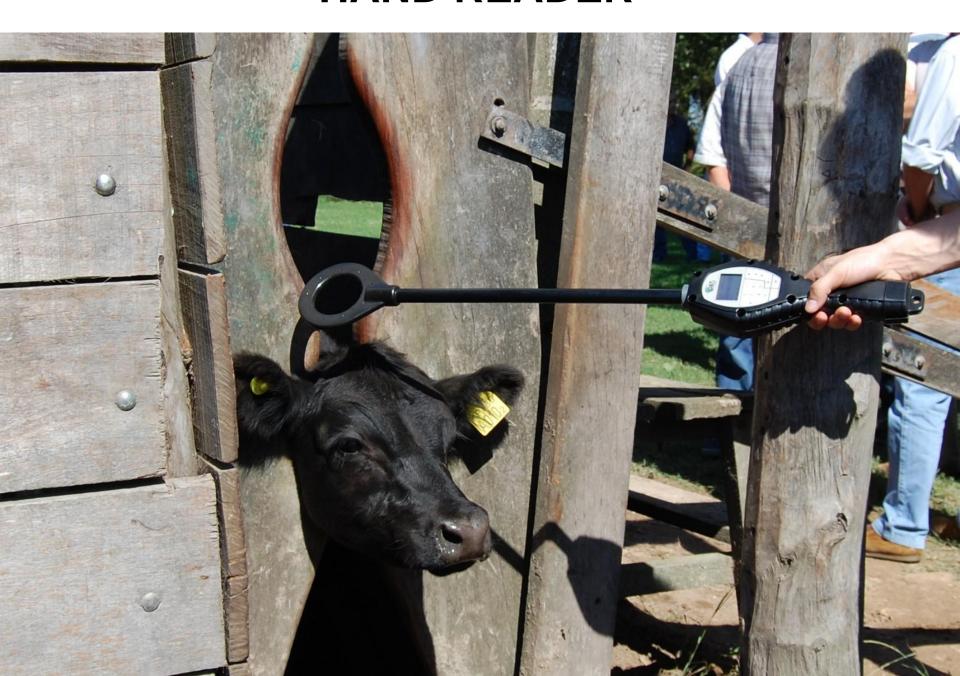


# FIXED READER Connection with weighing system Automatic data transmission via bluetooth





### **HAND READER**



#### Hand reader... no more need for pen and paper



#### Able to record and keep data of:

Deliveries/Births/Aborts/Entries/Exits/Deaths/Medical Treatments



# COSTS of IDENTIFICATION SYSTEM

Fixed costs for RFID hardware		Depre ciation	Annual cost
Hand reader	850	5	170
Fixed reader	1950	10	195
Scale	1450	15	97
total Fixed costs / year			462

Single Identification
1 electronic ear tag Eur 1.5 euro + 1 visual ear tag Eur 0.8

# COSTS of IDENTIFICATION SYSTEM

Average size farm in Argentina: 210 heads heard

Weaning/year: 85% - new cattle making/year: 20%

Calf Weaning weight at sale: Kg 160

Per cow average calf production: Kg 136/year

Calf live weight sale price: US\$ 1/Kg.

SINGLE COW TOTAL COST/year equals Kg 5.93 of calf = 4.37% of cow's production

Cost of electronic identification for an average heard of 1,000 heads

#### **COST** per cow

Kg 3.76 kg of calf = 2.77% of annual per cow production

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## CONCLUSIONS

- RFID based livestock management and identification is now ready for farming situation in extreme rural conditions.
- It is possible to full automate the data management of heard, farm and land.
- The RFID based system can make available a large and precise data base for:
  - Farm management
  - Livestock traceability

### **PARTNERS**

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