



SESSION 43

Electronic identification of Manchega dairy sheep: A balance after 10 yrs of implementation (1999-2009)

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**ASOCIACION NACIONAL DE CRIADORES DE GANADO
OVINO SELECTO DE RAZA MANCHEGA**

SUMMARY

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AGRAMA AND MANCHEGA DAIRY SHEEP

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INTRODUCTION

AGRAMA AND MANCHEGA DAIRY SHEEP

AGRAMA:

=Manchega Sheep Breeders National Association

- Since 1964
- Manchega sheep flock-book
- 150 000 mother breeds



- DOQM(Regulation Council of PDO Manchego Cheese): 13-15% Manchega farmers, 25-28% mother breeds, 40-50% Manchega milk production
- Principal activities (2008):
 - AI (35 764)
 - Milk recordings (89 200 initiated)
 - Electronic identification (38 332)
 - Genotyping (40 739)

MANCHEGA SHEEP:

- >95% exploited in Castilla-La Mancha
- Mother breed census: 1.350.000
- Main production:

- Milk : 48 millions litres/ year (DOQM-;2008) (589 600 Manchega ewes, 1028 farms)

Destination: PDO (protected designation of origin) Manchego cheese: 8800Tm (45% whole spanish

→ PDO (protected designation of origin) cheese market/ 90 millions of euros)

- Meat: PGI (Protected Geographical Indication) lamb



I-TECHNOLOGY OF ELECTRONIC IDENTIFICATION (e-ID)

DEVELOPMENT OF THE ELECTRONIC IDENTIFICATION OF MANCHEGA DAIRY SHEEP IN AGRAMA

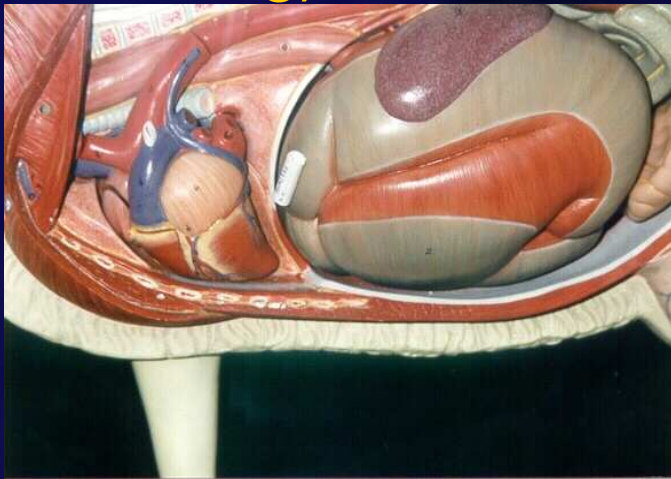
- First use of the e-ID: 1999
 - I.D.E.A. project (AGRAMA: 1999 -2001)
- Collaboration in e-ID research development projects : 2002
- Introduction of the e-ID for the National Scrapie program: 2003
- Flock-book official ID: 2004



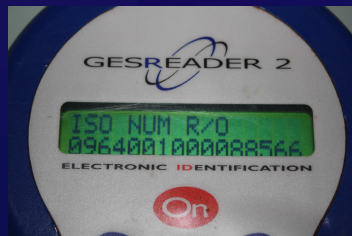
Technology: ELECTRONIC BOLUS

ELECTRONIC IDENTIFICATION OF MANCHEGA DAIRY SHEEP: HOW DOES IT WORK?

- Electronic bolus (transponder):
 - placed into the body of the sheep (reticulum) (10kg; 35-40kg)



- E-ID Reader Unit (transceiver):
 - reads the number on the bolus (Radio-frequency)



ELECTRONIC IDENTIFICATION OF MANCHEGA DAIRY SHEEP: DATA READING AND PROCESSING

Once the reader receives the number:

- Associates it immediately with an information: loaded-up beforehand and/or written on site (ex. Liters of milk)
- Stores it in memory
- Sends it to another storage device
 - computer or pda.



II-COMPUTING TOOLS DEVELOPPED IN THE LAST 10 YEARS BY AGRAMA

COMPUTING TOOLS: A NECESSITY

1. e-ID = automatization
2. great number of activities :
 - **performance recording**: milk recording, registration, artificial insemination, morphological evaluation
 - **management purposes**: farm inventory, lambing recording, scrapie genotyping, health programs

Each activity needs

1. Data capture (transceiver)
2. Data computerization
(Data purification, analysis and updating)
3. Data processing
Animal and / or lots consultation, genetic index, production, genealogy

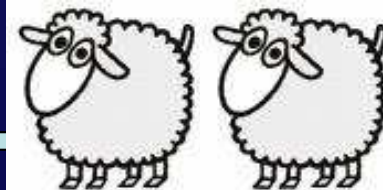
→ a great quantity of information

Different levels of information management (AGRAMA's main office, veterinarians, technicians and breeders)

Hardware

Software

**STATIC
Reading**



**DYNAMIC
Reading**

**Portable
Readers**



PDA

**Dynamic
Reading Unit**

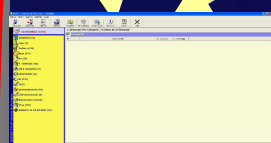
**Milking Room
System**

**Milking Room
Automatic
Measurement**

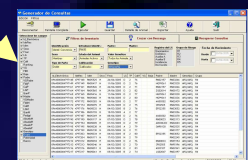
**Sheep Separate
Door**



Alpro System Processor

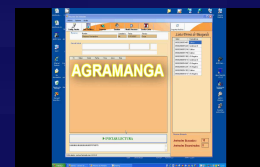


IDETEC and Pocket IDETEC
(Downloading and Processing Data)



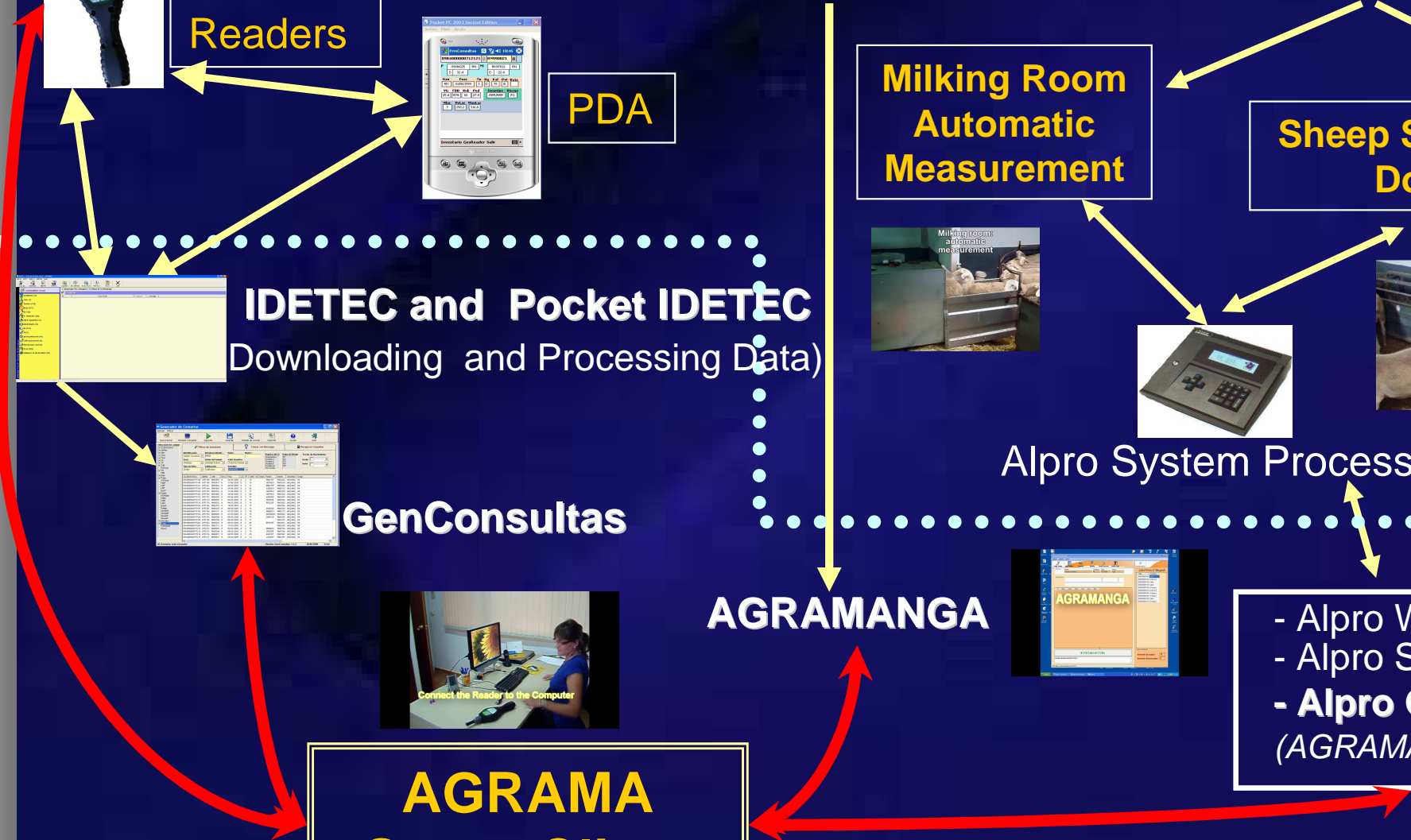
GenConsultas

AGRAMANGA



- Alpro Windows
- Alpro Sync
- **Alpro Generator**
(AGRAMA's Plugin)

**AGRAMA
Smart Client**



III-RESULTS OBTAINED AFTER 10 YEARS OF ELECTRONIC IDENTIFICATION IN AGRAMA

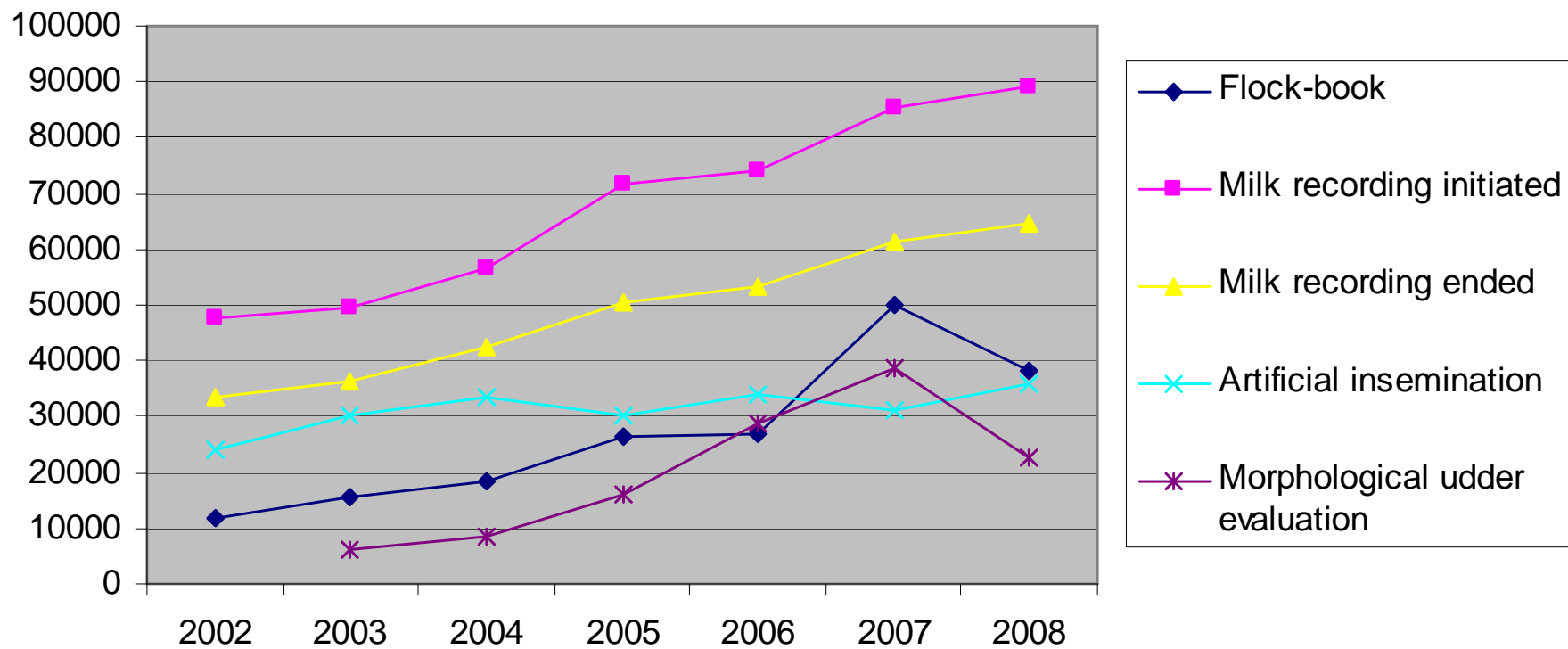
IMPLEMENTATION RESULTS

- **Work and time reduction**
 - **Milk recording:** Loss of production in (3-5%)-traditional system
 - Improving time of milking: 25-30% (* 40-50%-Tattoo)
 - Separation of control batches not required
 - Data processing:
 - Before: 50-60 samples / hour
 - Now: immediate
 - **Inventory (search for animals, etc. ..):**
 - Before: 400 sheep / 6 hours / 2 people
 - Now: 400 sheep / 20 minutes
 - **Lambing data acquisition**
- **Instant information** (reposition, sacrifice, etc...)
 - Before: note-book, transfer, processing, Excel .
 - Now: immediate-automated

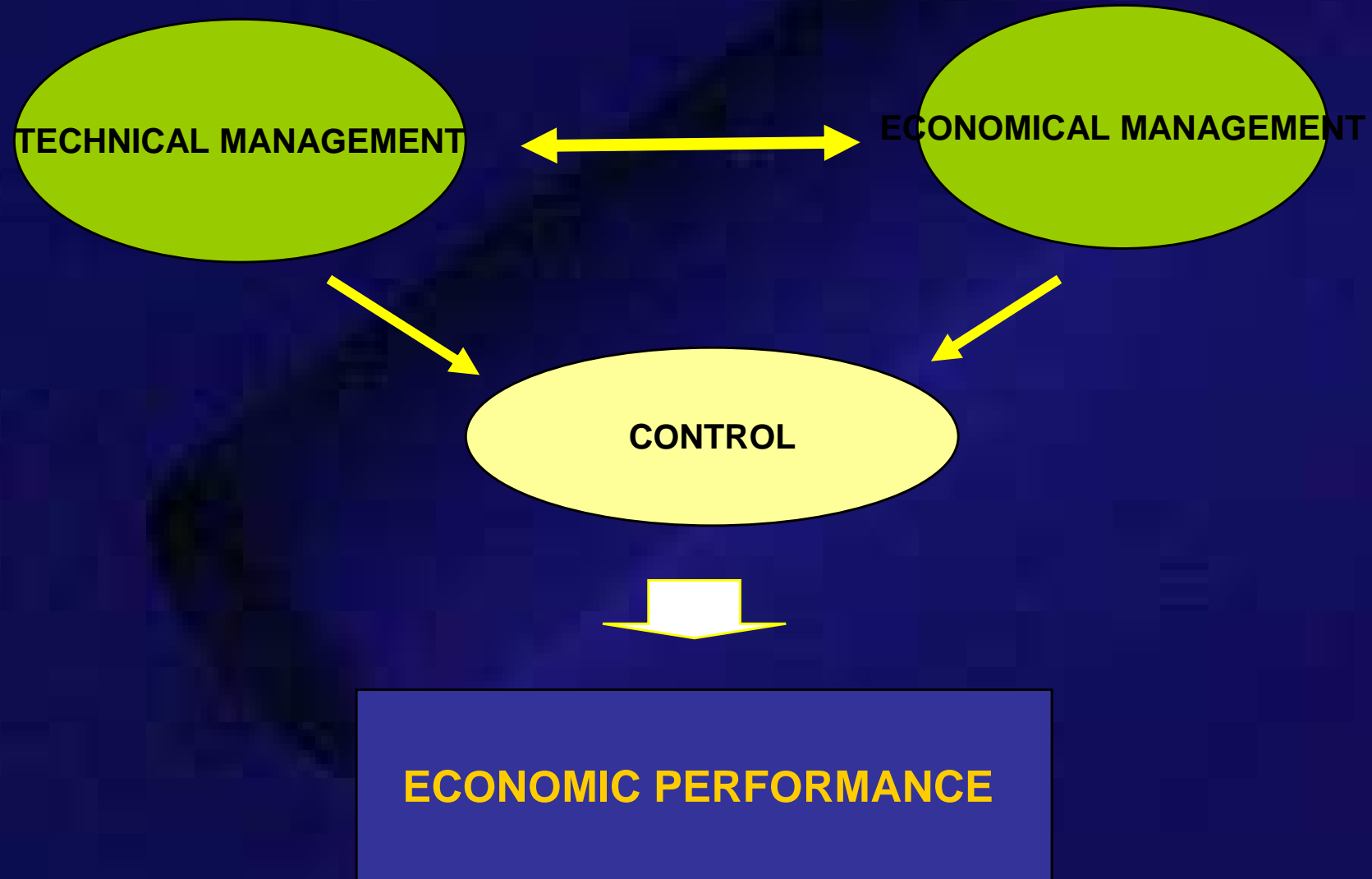
IMPLEMENTATION RESULTS

- 290.000 sheep bolused (since 1999)
- Nowadays AGRAMA works with 300 transceivers distributed among veterinarians, technicians and breeders
- data errors insignificant
- EASY / PRACTICAL / FAST / RELIABLE
Automatization
- Data management
- Cost of e-ID is estimated <2% milk yield

TECHNICAL MANAGEMENT AND GENETIC IMPROVEMENT (AGRAMA)



PROFITABILITY IMPROVEMENT



CONCLUSION

Electronic identification is today an irreplaceable tool for performance recording and data management in the Manchega dairy sheep