Why a bar coding system on straws?

3 To improve the traceability from the production to the insemination

3 To improve the reliability of the bull identification and thus of the testing procedure

3 To improve the sanitary safety of AI through the possibility of tracing any defective ejaculate
Bar coding of semen straws

How does it work in France?
Why a bar coding system on straws?

3 To improve and facilitate the recording and monitoring of breeding data
3 To facilitate the calculation of Non Return Rates per bulls, per ejaculates or per batches of semen
3 To test different semen processing methods on split ejaculates (batches)
3 To facilitate the printing of invoices and breeding documents
3 To facilitate and secure the storage of straws
- barcode: 3cm/1mm
- a straw is cylindric and must also display « conventional" information
- both clear and dark zones are important and must be distinctly printed

- Reading must be: - quick
  - reliable and repeatable
  - must not interfere with non return rates
- Must be as universal as possible
What kind of information?

3 The bull’s identity: name? Number?
   - National? International?

3 The ejaculate identification: date? Number?
   - Within the semen production center?
   - Universal through which data base?

3 What about split ejaculates?
Solutions

1. Code 128: easier, safer, universal and self-controlled

2. 10 digits: 12345   6789   0

   Bull number    date    Batch intra ejaculate

   Bull number: 99999 possibilities for 1100 bulls tested every year in France

   Date: number of days spent since January the 1rst 2002;
      9999 days = 27.3 years
   May, 18th, 2006= 1599

   Batch number: 10 possibilities (from 0 to 9)
Solutions

National code
Number of the bull

Bar code contents
Bull’s name

Semen
Production center

Bar code

Breed code

IBR Neg: discarded because of no use
Today’s French situation

3 Printing:
  - two suppliers (IMV, Biovet): Lynx
  - 80% of the production labs are equipped
  - 100% by the end of year 2006

3 Reading in the fields:
  - Two major AI unions: URCEO and OGER representing one million first AI
  - Two different but compatible readers
Results and potential evolution

- more than 80% of straws read prior to AI (others produced « outside »)
- more than 95% reliability and possibility to record manually
- NRR calculated on routine
- bar code allows to save time and to secure the data
- Adding two more digits is technically possible (printing and reading) and would permit to code for the country of production
Conclusions

- It took around 8 years to get an agreement of all semen production centers.
- Today the system is simple, efficient and reliable.
- It is transposable to other countries just by adding two more digits identifying the country of origine: (alpha numerical)
  - Ex: FR 12345 6789 0
Conclusions

3 A European data base of all European bulls could be managed by Copa Cogeca

3 Such a DB would
   - facilitate exchanges of semen between countries thanks to a better traceability
   - Allow the calculation of statistics and NRR according to the origine of semen
   - Permit international cooperation and experiments