

Utilization of bar code of trace semen from bulls to straws

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Collection room



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IMV system

COLLECTION TRACEABILITY

- Electronic identification of the sire with wireless reader (gun) (1)
- Multiple database entry
 - Collector
 - Handler
 - Three fields to record collection events of interest (2)
- Transfer of database info to main computer
- Barcode label production used to identify the semen collection throughout the process (3).
- Sample data sent to laboratory regardless of distance.



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Laboratory



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IMV system

LABORATORY

- Linked to various equipment by an RS 232 connection, the data is automatically stored in the database. The database is an accurate and precise tool used by the lab staff and management to make knowledgeable decisions (1).
- After semen evaluation (2) (3), the quality assessment may be displayed on a large screen in the collection room (5).
- Each collection may be assigned its own unique batch code for further traceability.
- The sire collection decisions can be pre-determined by management based on the powerful database available in SMILE (4).



Filling sealing



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IMV system

SEMEN PACKAGING TRACEABILITY

- Integrated with the IS4, a state of the art machine for filling, sealing and printing of the IMV Technologies straw, SMILE further traces your collected semen. A barcode can be printed on the straws for further identification. When the semen packaging process is completed, the IS4 automatically sends the number of straws per sample back to the database [2].
- Human error is eliminated through automatic data collection [3].



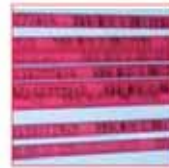
1



2



3



4



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IMV system

Integrated system

- IS4 0.25 ml with Jet Printer LINX (1) 019792
- IS4 0.5 ml with Jet Printer LINX 019794
- IS4 0.25 ml without Jet Printer 017402
- IS4 0.5 ml without Jet Printer 017405

Computer to be supplied locally by customer



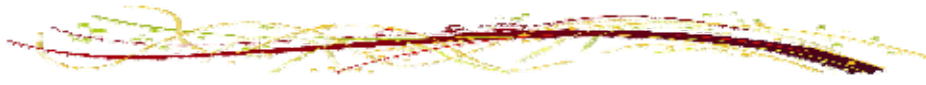
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Integrated system to fill, seal and print IMV Technologies' straws at a speed of 14,400 per hour

Computer controlled, its advanced printing system enables bar codes to be printed along with other standard information, guaranteeing traceability of all processed ejaculates. User friendly, the IS4 is completely enclosed and its design sets new standards for user comfort with very little noise.

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French current system



- Code 128: easier, safer, universal and self controlled
- 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 1st 2002;

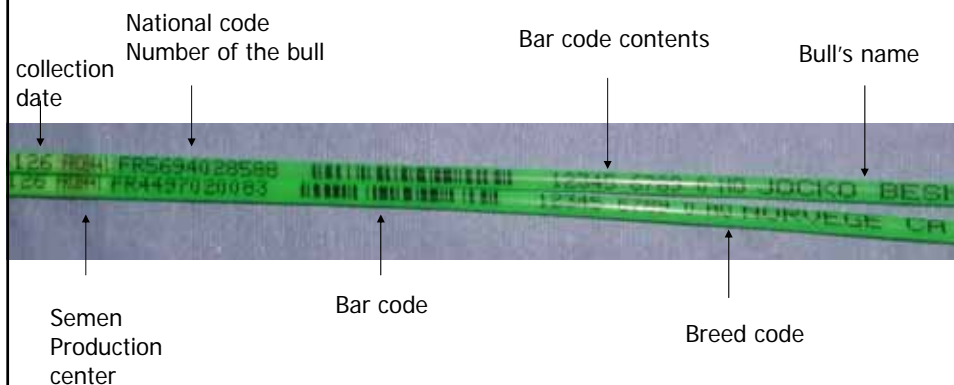
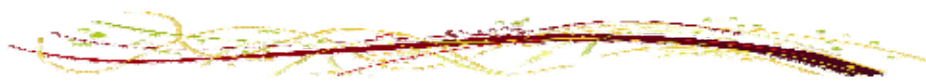
9999 days = 27,3 years

May, 18th, 2006 = 1599

Batch number: 10 possibilities (from 0 to 9)

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Solutions



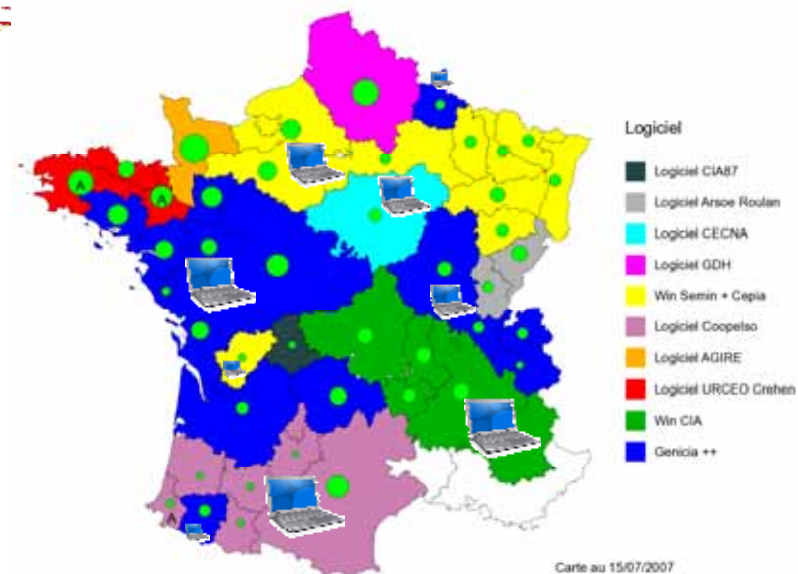
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Today's French situation

- **Printing:**
 - two suppliers (IMV,Biovet):Lynx
 - 100% of the production labs are equipped
- **Reading in the fields:**
 - Two major AI cooperatives since 2006
 - URCEO and GENOE
 - Two different but compatible readers
 - 1 million first AI
 - Others AI cooperatives on progress :
 - 2 to 3 millions of 1st AI read in 2008

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Towards generalisation



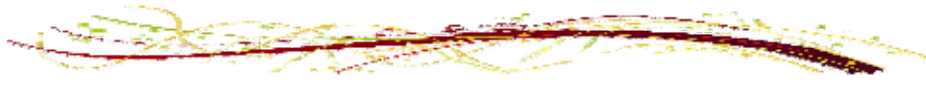
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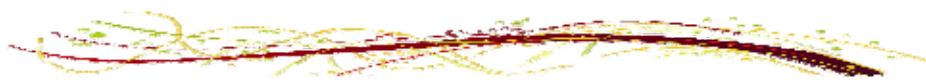
Results and potential evolution



- More than 95% reliability
- NRR calculated on routine basis
- Bar code allows to save time and to secure the data

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Conclusions



- It took around 8 years
 - to implement the system
 - for all semen production centers
 - for all AI centers
- Today the system is
 - Simple
 - Efficient
 - Reliable

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