GenoCells

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The Seenergi Group : www.seenergi.fr

18 000
Herds

1 125 000
Dairy cows

134 000
Beef Cattle

80 000
Goats

445 000
Artificial Insemination

GROUPE Seenergi
CONSULTING & INNOVATION

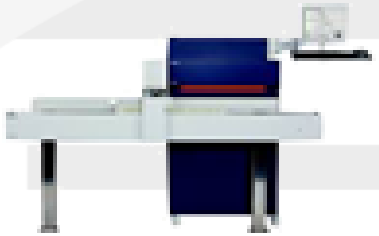
- 1500 contributors
- 400 advisors
- 1000 sample collectors
- 13 veterinary
- 30 hoof cutters
- Controle of the milking machine
- Buiding team
- Online store: www.sanelevage.fr


AND YOU ?
WHAT HEAD WILL YOU MAKE
#WhenYouKnow?

Individual somatic cell count of dairy cows by genotyping tank milk

Genomics at the service of technology

Current method of determining cell couts



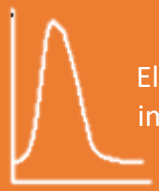
Fossomatic FC or Bentley apparatus

With 60 samples ok milk→ 60 SCC

Photomultiplier

Flow cytometry

Fluorescent signal

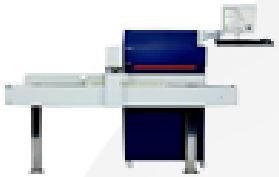


Electrical impulses

Somatic Cell Count = ∑ electrical impuses

Can we detemine individual somatic cell count in another way ?

Determination of individual cell counts by GenoCells ®



SCC

Genotype du de tank

Individual genotype

Collection of milk volumes per cow

Cell counting of tank milk

Statistical model to determine the DNA percentage of each cow in the tank

Proportion of milk contributed / cow in the tank

With 1 sample of tank milk → **SSC**
Very innovative and disruptive method

Individual Cell Count = (Cellular Responsibility / Contribution to Tank Volume) * Cell Counting Tank

DNA percentage

The first result from GenoCells® is the DNA percentage of each cow in the bulk tank.

This DNA percentage = the somatic cells responsability of the cow in the bulk tank. This result is very usefull for farmers!

Example: herd with 100 cows

Penalty threshold for payment : 250 000 cells/ml

Cellular result of a tank milk : 280 000 cells/ml

The somatic cell result is 12% (30 000 / 250 000) higher than the goal

GenoCell® result:

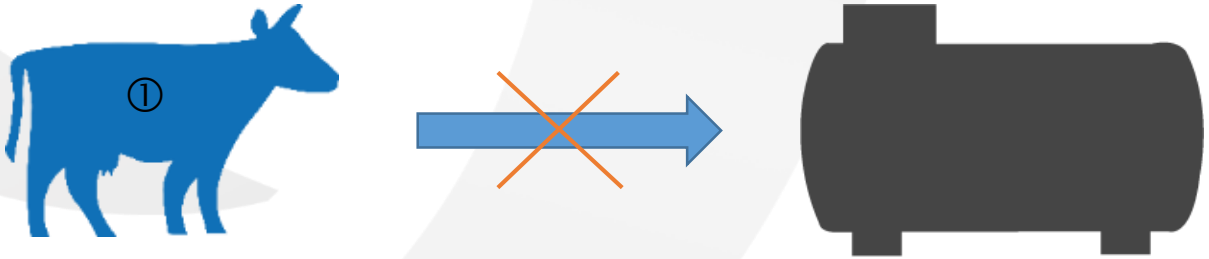
Cow 1: 15%

Cow 2: 6%

Cow 3: 1,6%

Cow 4: 1%

...



If the farmer take away the cow 1 from the tank, the SCC'll decrease 15% (280 000 * 0,15 = 42 000).

280 000 – 42 000 = 238 000 cells/ml

Somactic Cell Count

1,000 liters of milk in the tank

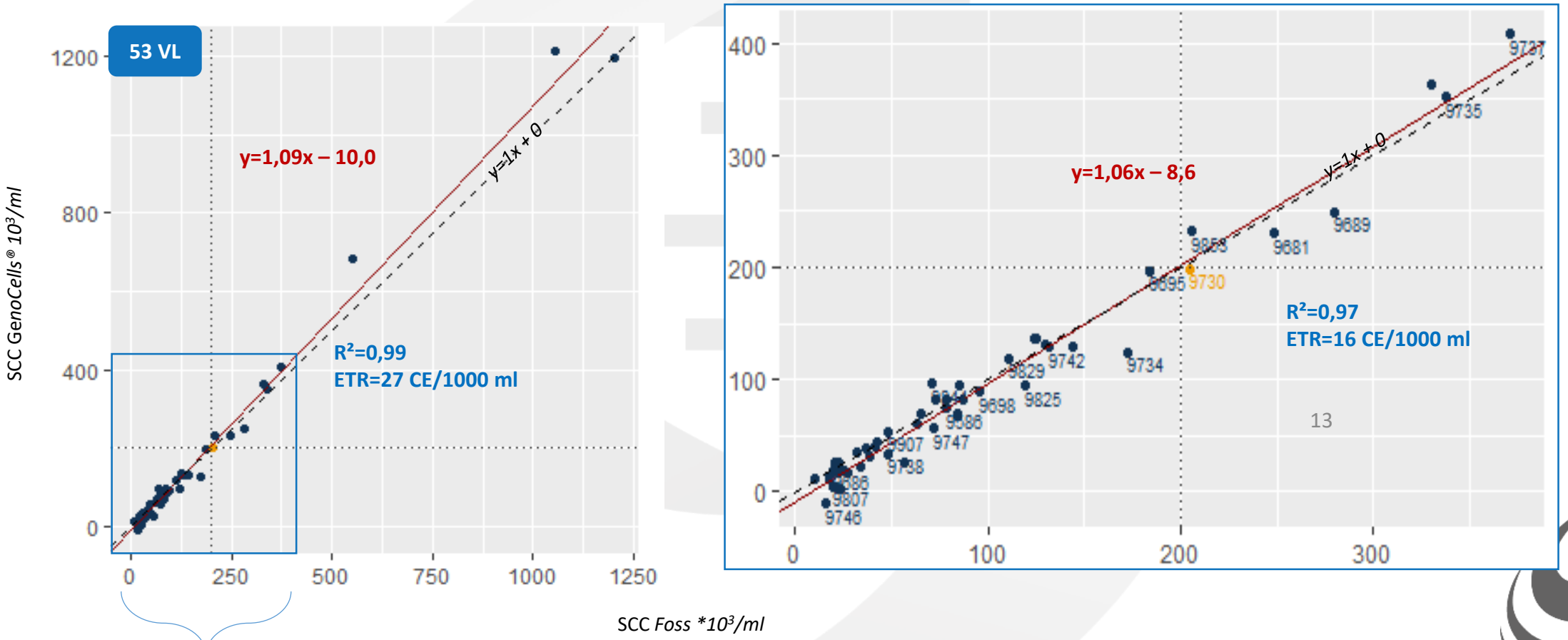
272,000 cells / ml in the tank milk

1.6% DNA of the "Flower" cow in the sample tank

25 kg of milk or 2.5% of the volume of the tank milk

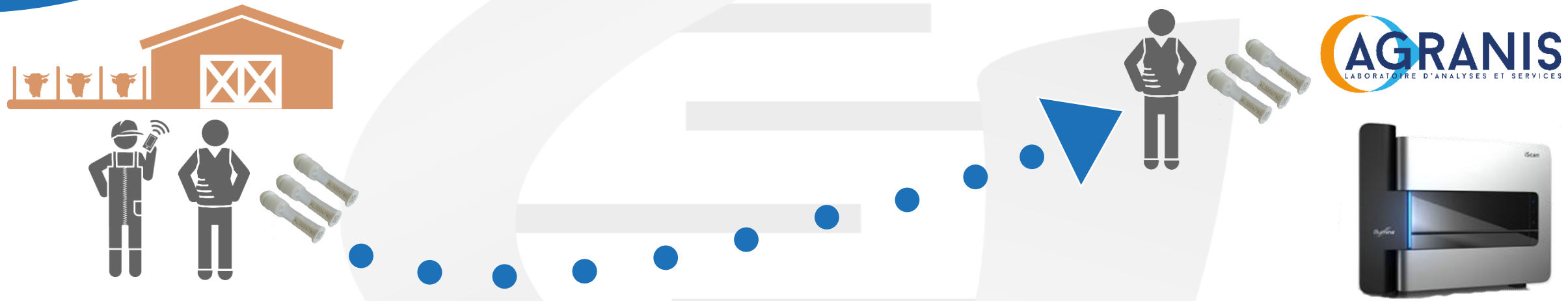
SCC : (0,016/0,025)*272 000 = 174 000 CE/ml

R & D results: A very good determination



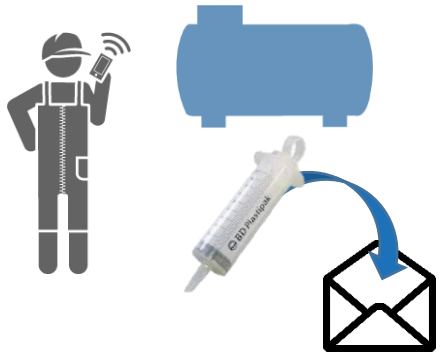
DNA doesn’t lie

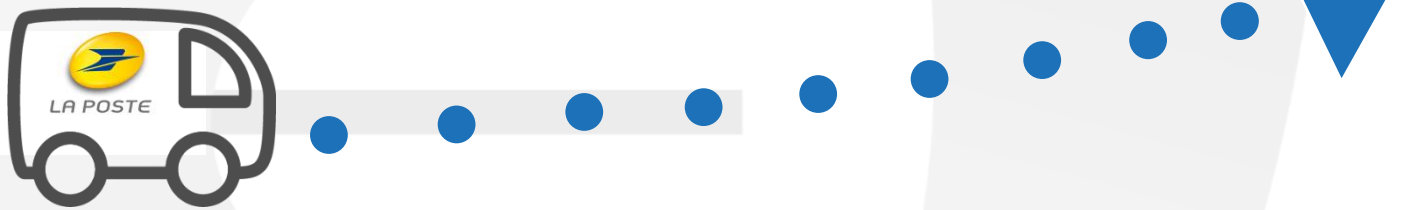
Collecting individual cartilages by an agent



iScan reader

Sending tank milk samples



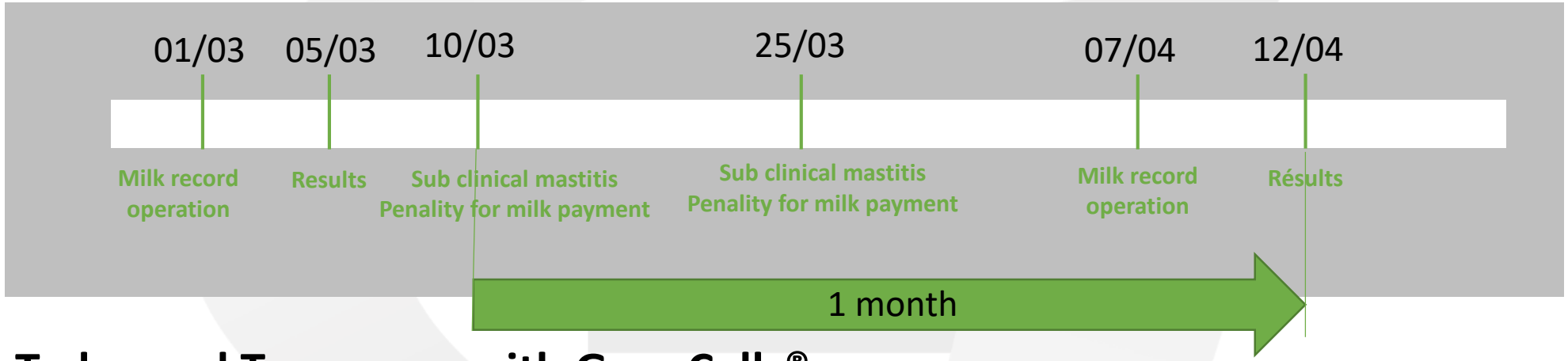


AGRANIS
LABORATOIRE D'ANALYSES ET SERVICES

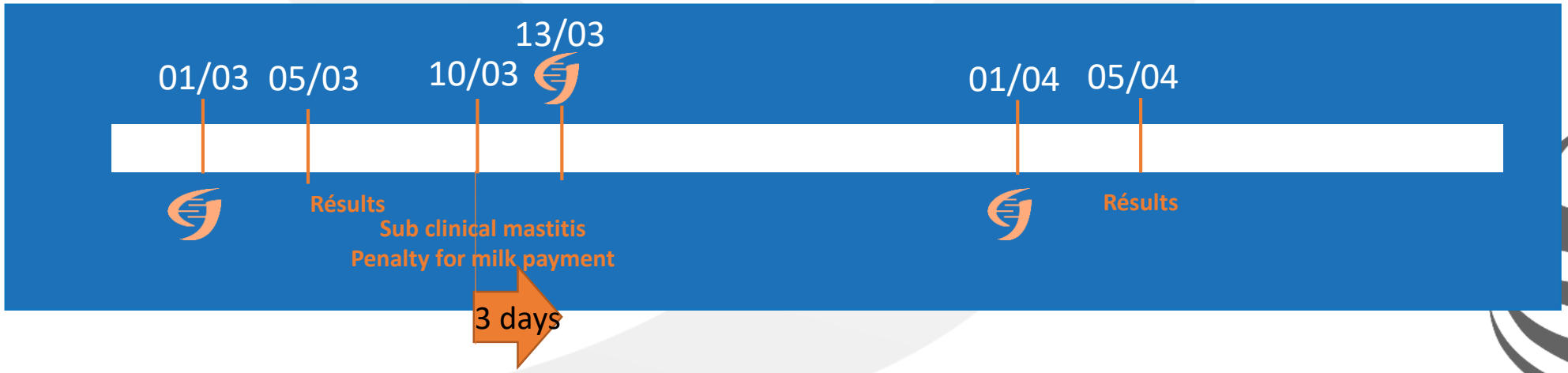
Lecteur iScan

Paradigm Shift

Yesterday and today :



Today and Tomorrow with GenoCells®:



GénoCellules®

Benefits +++

+ convenient :

The analysis is done on a single sample of tank milk.

+ frequent :

24 series of individual cell counts per year.

+ competive :

Cows with cells are identified as quickly as possible to act quickly

Commercial offer GenoCells®

Start of the offer

Start of the GenoCells® offer :

1er January 2018

Two possible offers

GenoCells® Steering

GenoCells® Premium

GenoCells® Steering

Cell count results per cow **erevy 15 days**.

The breeder selects its frequency of SCC (every 15 days or more frequently at certain times of the year if necessary)

Possible option for additional cell count results

INCLUDED :

Genotyping and genomic index of the pre-flock to sort and mate upstream of the breeding of heifers

GenoCells® Premium

Cells count results per cow **every15 days**. (or more frequently on certain periods if necessary)

6

Traditional performance checks: the farmer keeps the usual individual information and access to the additional indicators available (ketosis, pregnancy...)

Possible option for additional cell count results

INCLUDED :

Genotyping and genomic index of the pre-flock to sort and mate upstream of the breeding of heifers

Thank you for your attention