PARABOV & GénoPedix

Registration on hoof disorders in France

May 2014

Gilles Thomas
Hélène Leclerc

May 2014
2 projects since 3 years …

Years 2011 and 2012: PARABOV Project.
- Define and test a **method to collect** data in cattle herds, **simple and efficient**,
- Define a **data system**.

Since 2013: GenoPedix Project
- Genetic evaluation,
- Develop the advice to breeders.
**PARABOV : Method.**

Defined and tested by a working group of 14 members.

- Collect 12 lesions and their severity degrees;
- 2 types of intervention: Curative or preventive;
- Hoof trimmers trained to collect;
- Completed by information known in national data base: Birth date, sex, breed…
PARABOV : Method.

Claw lesions collected:

- Digital Dermatitis
- Sole Ulcer
- Keloid (ulcer with protruding mass of granulation tissue)
- White line disease
- Double sole
- Diffuse sole haemorrhage
- Limited sole haemorrhage
- Heel horn erosion
- Interdigital hyperplasia
- Screw claw (rotation)
- Toe necrosis
- Horizontal or vertical wall fissure

4 stages: M1 = Early stage, M2 = Acute stage, M3 = Healing stage, M4 = Chronic stage.

3 gravity degrees: 1 = benign, 2 = moderate, 3 = severe
**PARABOV : results.**

Lesion frequency - Hind legs

| Test phase : 12458 cows | Cows with at least 1 lesion - number and %.
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lésion</strong></td>
<td><strong>Number</strong></td>
</tr>
<tr>
<td>Double sole</td>
<td>910</td>
</tr>
<tr>
<td>White line disease</td>
<td>2522</td>
</tr>
<tr>
<td>Diffuse sole haemorrhage</td>
<td>4243</td>
</tr>
<tr>
<td>Limited sole haemorrhage</td>
<td>1770</td>
</tr>
<tr>
<td>Sole ulcer</td>
<td>605</td>
</tr>
<tr>
<td>Keloid</td>
<td>759</td>
</tr>
<tr>
<td>Heel horn erosion</td>
<td>4246</td>
</tr>
<tr>
<td>Interdigital hyperplasia</td>
<td>1001</td>
</tr>
<tr>
<td>Horizontal or vertical wall fissure</td>
<td>572</td>
</tr>
<tr>
<td>Toe necrosis</td>
<td>93</td>
</tr>
<tr>
<td>Screw claw (rotation)</td>
<td>512</td>
</tr>
<tr>
<td>Digital dermatitis</td>
<td>2005</td>
</tr>
</tbody>
</table>

- **Subacute laminitis - Typical lesions.**
- **Lesions linked at subacute laminitis or at interdigital dermatitis.**
- **Interdigital dermatitis - Typical lesions.**
PARABOV : Results.

Lesion frequency and severity degrees - Hind legs - Digital dermatitis lesions.

Test phase: 12458 cows

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Cows with at least 1 lesion - number and %</th>
<th>Lesion percentage by development stage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Digital Dermatitis</td>
<td>2005</td>
<td>16,1</td>
</tr>
</tbody>
</table>

M1 : Early lesion
M2 : Classical ulcer
M3 : Scab formation after topical treatment
M4 : Dyskeratosis and proliferation

70 % cows with at least 1 of those 12 lesions on hind legs. Cows with lesions have in average 2 different lesions.
GenoPedix Project

- Genetic evaluation on hoof health with 5 genetic assessment organizations and the 3 main breeds (Holstein, Montbéliarde, Normande).
- Improve advice on claw health: Statistical references, Typological study in some farms...
- A network with a great number of agents to collect information on claw health.
- Harmonize the detection of lesions: training agents
Genopedix Project: 123,000 cows/year

- 57,000 cows/year
  - 1,500 Montbéliarde
  - 8,500 Normande
  - 47,000 Holstein

- 16,000 cows/year
  - 100 Montbéliarde
  - 6,000 Normande
  - 9,900 Holstein

- 8,000 cows/year
  - 7,900 Montbéliarde
  - 100 Holstein

- 23,000 cows/year
  - 3,400 Montbéliarde
  - 2,00 Holande
  - 19,400 Holstein

- 19,000 cows/year
  - 15,000 Montbéliarde
  - 4,000 Holstein

Legend:
- Umotest - 6 hoof trimmers
- Jura-Betal - 2 hoof trimmers
- Midatest - 6 hoof trimmers
- Evolution - 15 hoof trimmers
- Origen+ - 4 hoof trimmers
French registration on hoof disorders – May 2014