An on-farm experiment to assess new phenotypes: how to involve farmers?

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Agathe Cheype, Institut de l’Elevage
Flavie Tortereau, INRA
Jean-Marc Gautier, Institut de l’Elevage
Why a French lamb vigor project?

In France current selection deals with 2 main difficulties:
- Lack of mortality data and poor quality
- Low heritability of mortality

Need to find others traits and to motivate people to collect

Vigor genetic selection starts developing in Scotland
- Scoring system to evaluate lamb vigor exists
- Genetic selection possible

Introduction of vigor in selection depends on feasibility and farmers’ willingness to register such data
What about the project?

- Based on a farmers’ group
- 3 successive tests to record lamb vigor on commercial farms

6 farmers
- Lambings: oct-nov 2015
- Test the collect’s method

20 farmers
- Lambings: dec-apr 2016
- Succeed to a definite method

30 farmers
- Lambings: may-apr 2017
- Collect enough data for genetic analyses

The aim: to result in a data recording protocol

Bottom-Up approach based on the involvement of farmers and technicians
An on-farm experiment to assess new phenotypes: how to involve farmers?

- A. Different data registered
- B. Conditions that lead to success
An evolutionary protocol

- An initial method of registration recommended
- Test of data recording on farms
- After each test, changes on protocol and on scoring system motivated by farmers’ experience discussed

- Meetings and surveys
- Discussion and experience sharing used to find the right way to register data

Without to forget keeping the course: collect data for a genetic use!
New phenotypes: how to involve farmers?

**The initial recording protocol**

<table>
<thead>
<tr>
<th>Phenotype</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamb birth weight (kg)</td>
</tr>
<tr>
<td>Precision on mortality (date, reason)</td>
</tr>
<tr>
<td>Birth assistance</td>
</tr>
<tr>
<td>Lamb activity for 5 min after birth</td>
</tr>
<tr>
<td>Suckling ability</td>
</tr>
<tr>
<td>Rectal birth temperature</td>
</tr>
<tr>
<td>Coloration of the lamb</td>
</tr>
<tr>
<td>Stimulation at birth or not</td>
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</tbody>
</table>

- on wet lambs
### Changes on the criteria level of birth assistance

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Next Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Lambing <strong>not seen</strong></td>
<td>Lambing <strong>not seen, or no help</strong></td>
</tr>
<tr>
<td>1</td>
<td>Lambing <strong>seen, no help</strong></td>
<td><strong>Minor help, without position correction</strong></td>
</tr>
<tr>
<td>2</td>
<td>Minor birth assistance, <strong>position correction</strong>, few efforts</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Essential birth assistance, <strong>jammed lambs, major effort</strong></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><strong>Major consequences</strong> for the ewe</td>
<td></td>
</tr>
</tbody>
</table>
New phenotypes: how to involve farmers?

An on-farm experiment to assess new phenotypes: how to involve farmers?

A. Data registered

B. Conditions that lead to success
1. A strong network

- A limited region
- Farmers and technicians familiar with data collection
- Well motivated to progress on lamb mortality
- A gradual involvement

1st data collection: 6 farmers
2nd data collection: 20 farmers
3rd data collection: 30 farmers
2. Integrate recording in farmers’ habits

- Study breeders habits by visiting farms
- Adapt the record means: find the most convenient and the closest to usual farmers’ practices
- Use an evolutionary protocol: to take account of constraints
3. Be receptive and to keep motivation

- Keep in touch with farmers: the best person is the usual technician
- Enquire to highlight the needs
- Lean on breeders testify that ever collect the data to convince new farmers to join the group
- Produce feedbacks
Participative approach suitable to involve farmers

Thank you!