Task 4.2 Innovation case study report

Individual data collected from EID
for several purposes
(Use of EID and prospects)

iSAGE Training Course and Workshop

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. **Electronic identification of small ruminants is mandatory since 2010 in Europe (EC n° 21/2004)**

. **EID :**

    . Quick and short distance reading
    . The basis for developing tools to help breeders
    to manage the flock

. **A wide interest of these tools :**

    . EID reader + flock software management
    . Automatic sorting
    . Automatic reading during weighing
    . Automatic feeder
    . ...

. **The way of Precision livestock Farming (PLF)**

    . Improve efficiency, economic results
    . Better management
    . Be more technological

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EID offers **many possibilities** to facilitate the management of goat and sheep flocks

New tools are being developed

But, it seems that the implementation of these technologies among sheep and goat farmers was **relatively limited**

Main objectives of the case study :
      1. Make a picture of the use in France
      2. Linked to the H2020 SheepNet project, broaden the picture to Europe
      3. Show the interests or the limits

1. On line survey in France :

Questionnaire with **29 questions** :
general information about the farm and farmer,
use of electronic identification (EID reader type, reader trademark, EID connected tool, flock management software, valorization),
opinion on EID (opportunity, constraints and limitations)

Questionnaire **sent by email** through different networks:
farmer's trade union, cooperatives, technical organizations, breeding associations etc…

631 answers retained (total of answers 1 088) :
     . 295 from meat sheep farmers,
     . 182 from dairy sheep
     . 107 from dairy goat.

2. Interviews in France

23 farmers : 16 sheep breeders (8 dairy, 8 meat), 7 goat breeders

Surveys in EUROPE

Precision Sheep Farming: a slight start

Little less than 10 years after the introduction of electronic identification in sheep farming: how is it valued?

For **France :**
489 responses from sheep farms (62 % in dairy, 38 % in meat) has been selected from the online survey
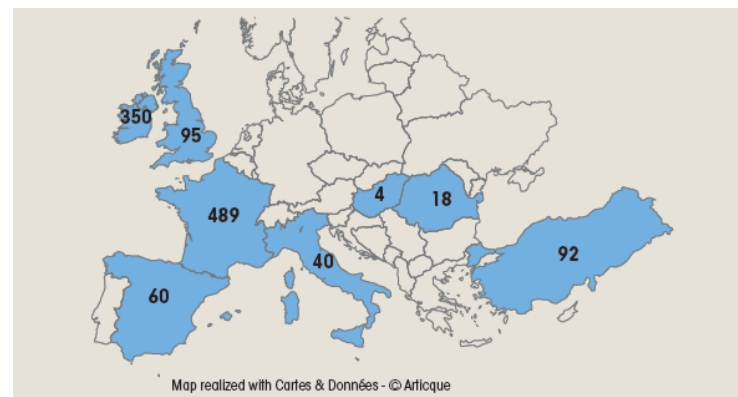
In addition within the SheepNet network :
http://sheepnet.network/
the **same survey** was extended to the various partners of SheepNet (Ireland, United-Kingdom, Turkey, Spain, Italy, Romania and Hungary)
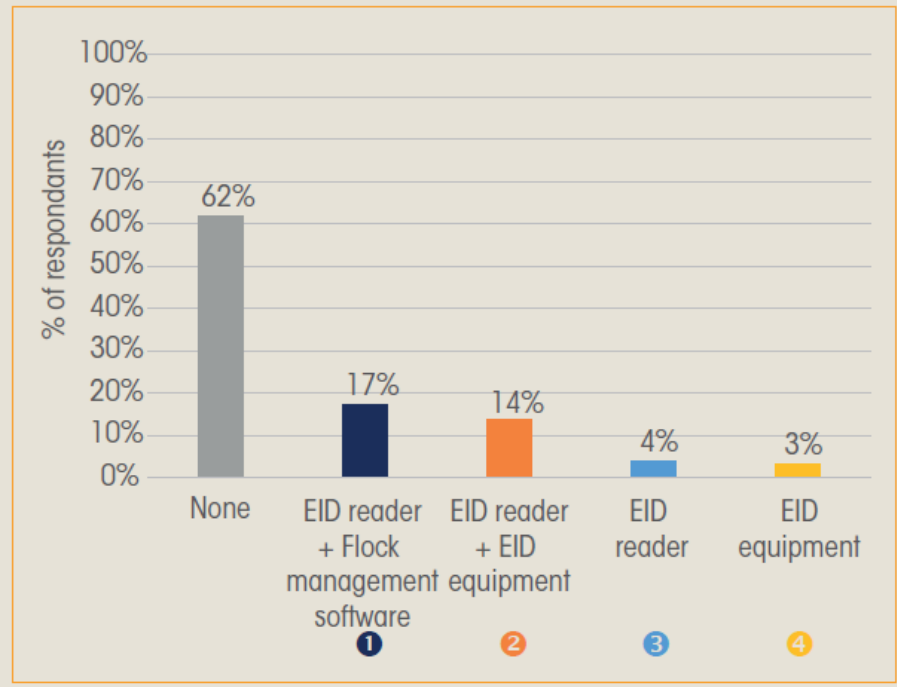+ results of a survey conducted by the SRUC in 2015 and 2016 was integrated

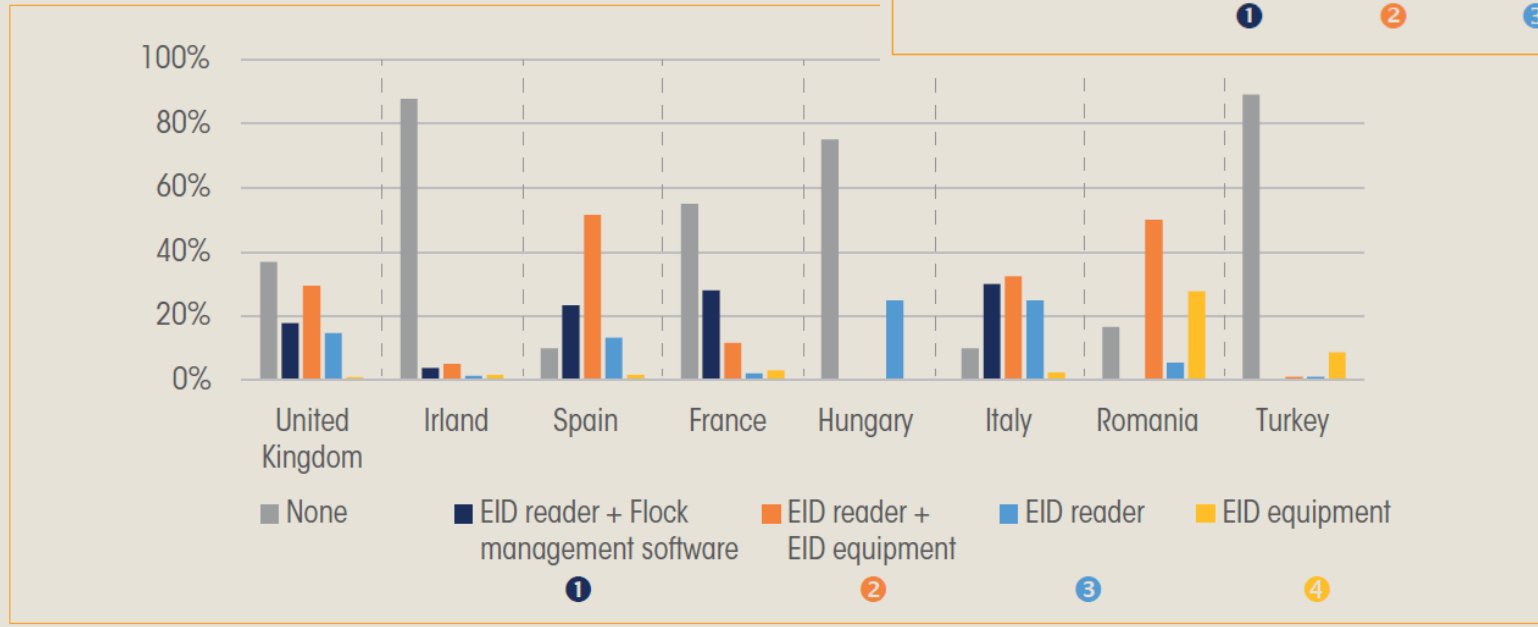**Total of 1148 responses across 8 countries**

Map realized with Cartes & Données - © Articque

38% of the European sheep farmers equipped with EID tools

French sheep farmers ~ 40 %
French goat farmers ~ 20 %
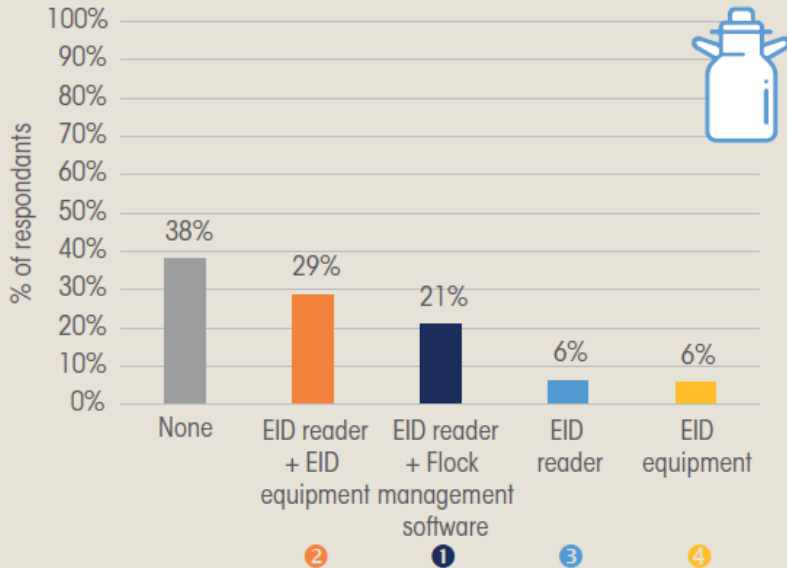
LEVEL OF EQUIPMENT OF THE FARMS SURVEYED

DIFFERENCE IN EQUIPMENT LEVEL OF FARMS SURVEYED BETWEEN COUNTRIES
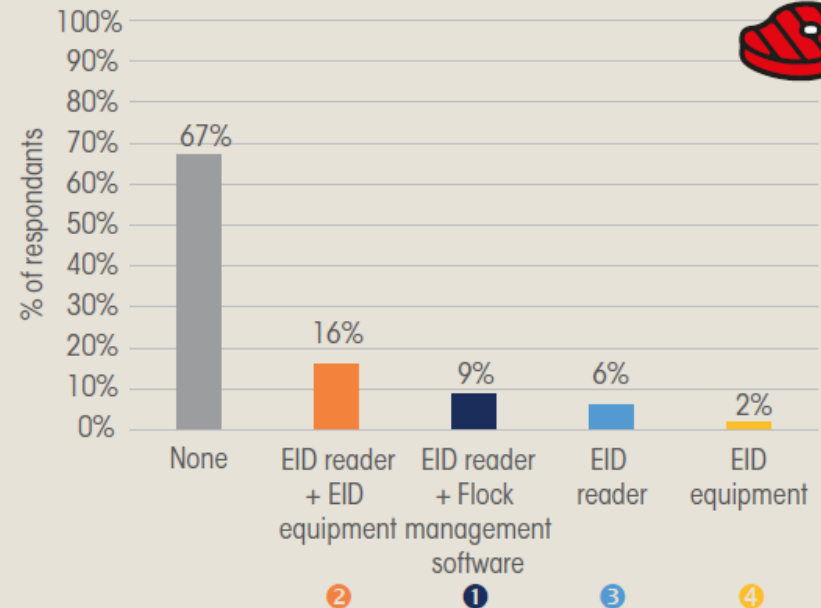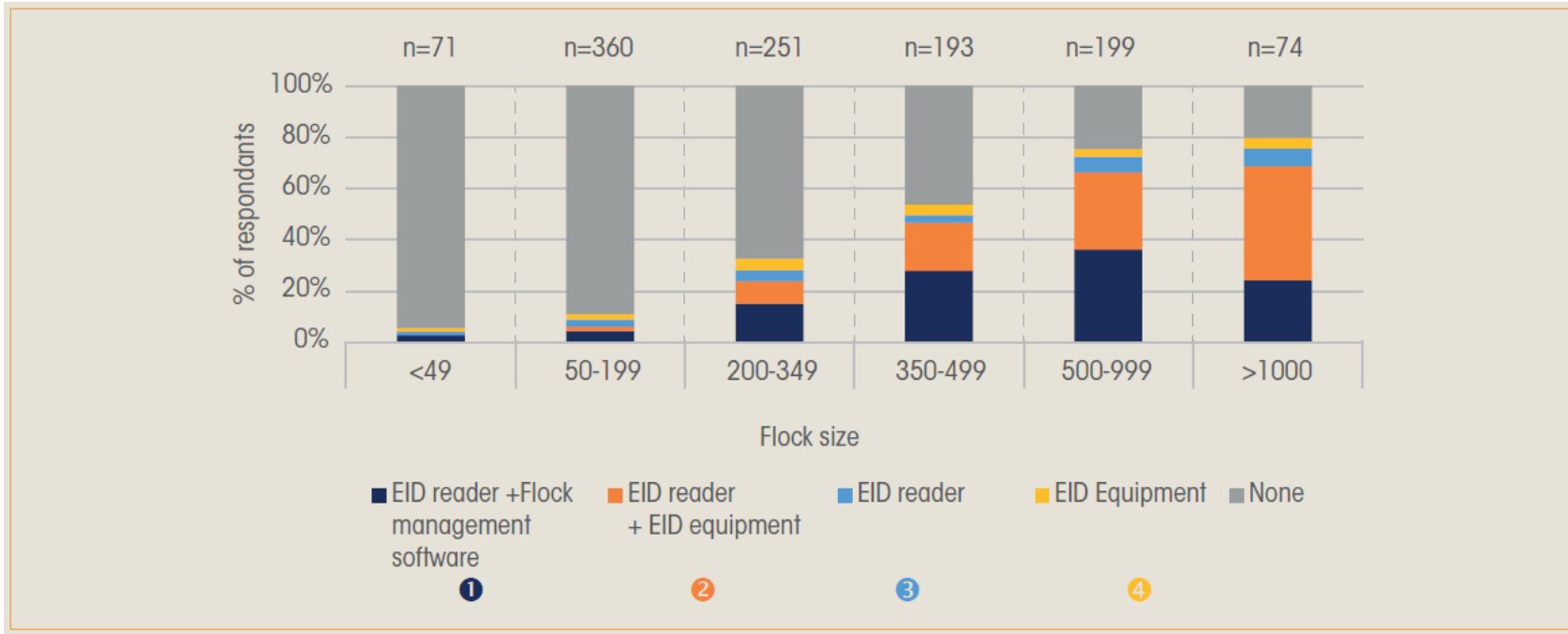

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Dairy sheep farms are better equipped than meat one
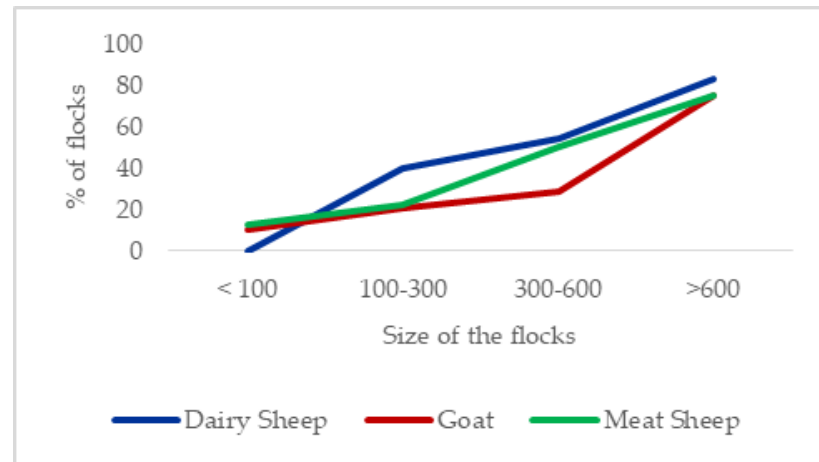
LEVEL OF EQUIPMENT OF THE DAIRY FARMS SURVEYED (n = 299)

LEVEL OF EQUIPMENT OF THE MEAT FARMS SURVEYED (n=693)

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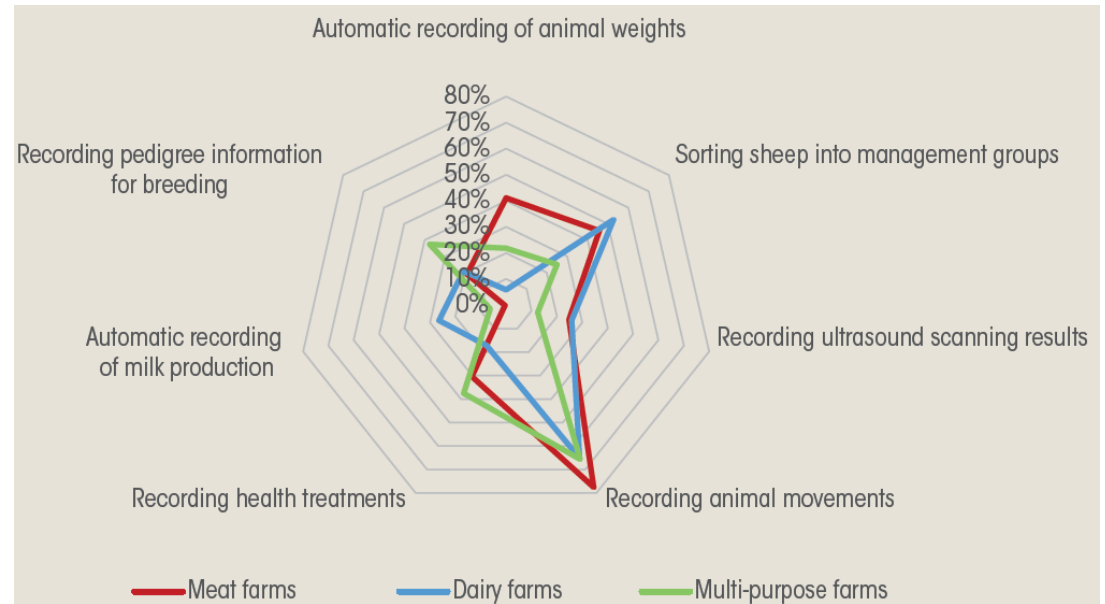
Flock size: the first factor linked to PLF

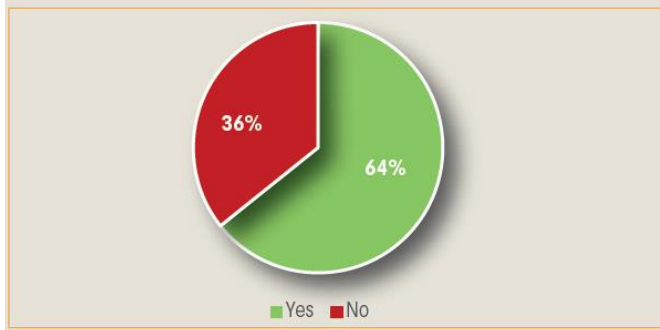An almost linear relationship between equipment level and flock size (ex. French survey)
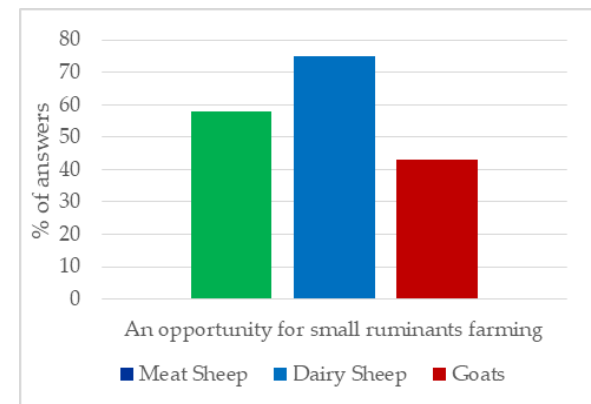
EID mainly used for recording animal movements

An opportunity for 2/3 of the European sheep breeders

French survey :

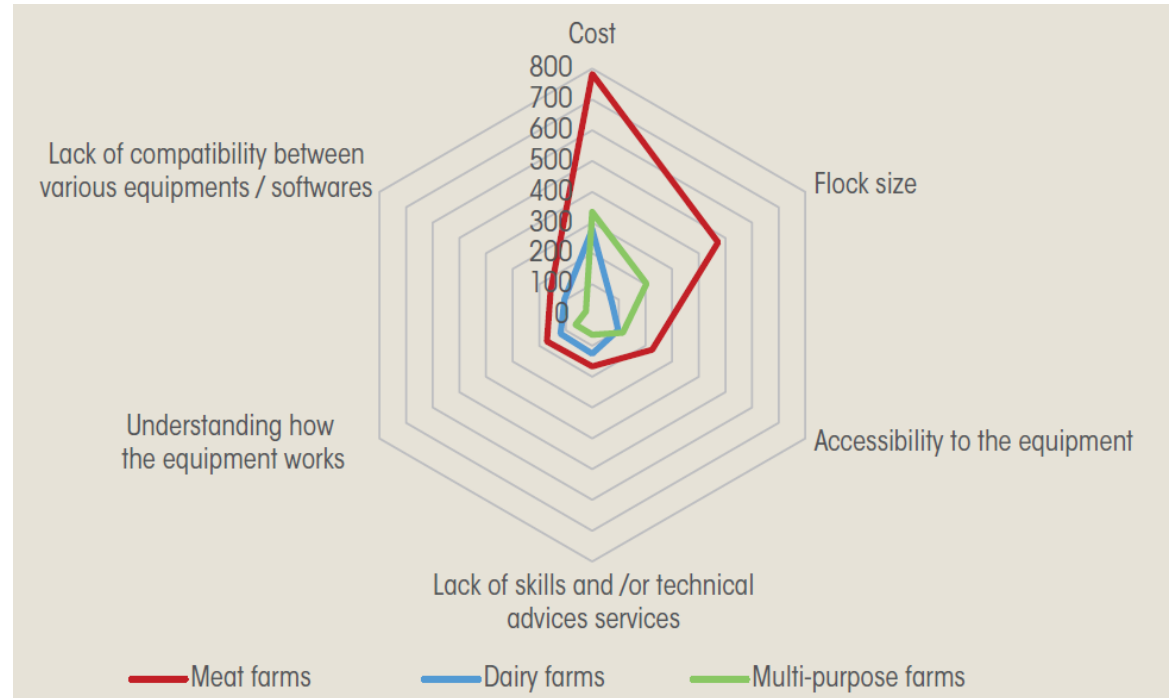# The main constraint : cost

The others :
Flock size (cost/benefit)
Type of equipment
Compatibility between
equipments
Lack of skills,
Lack of advice services

A reluctance to use the EID technology for less than 10 % of the answers
Few sanitary problems, losses... reported

Some illustrations of PLF benefits

**EID reader
+ flock management software**

" *A simplification of my work on many points: lambing, health records, animal movements, genetic values, milk recording, genealogies... »*"
"*I have increased my percentage of labelled lambs by 10% since I started using EID tools with, in particular, a better monitoring of the daily gain*"

INDIVIDUAL DATA COLLECTION TECHNOLOGIES

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THE ESKARDILLO TOOL
How individual animal data recording and interpretation can improve management of dairy goat farms

Automatic feeder in milking parlour

"*By having ewes in better body condition, not too thin nor too fat, we aim to improve all our reproductive performances and consequently our financial results.*"

"*Quick return on investment by improving reproductive performances*"

"*Specific alerts during milking : mastitis, lamness ...*"

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Some illustrations of EID use

Automatic weighing

Walk Over Weigh (WOW)

Automatic milk recording

Health : EID weigh crate with autoshedder for targeted selective treatment

EID worming gun (with weigh crate/panel)

Reproduction : electronic Alpha-Detector (detection of mounting activity) Alpha®

…

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For the future...

The potential of the EID technology is now well established.

Need to develop efforts in terms of communication, information :
. About the different technologies,
. To choose the better equipment regarding the objectives of the breeder,
. To demonstrate through concrete examples, to show cost / benefit,
. To work with the breeders to develop specifications to define tools that meet their expectations and with a "price " compatible with sheep and goat farming.

EU approach regarding funding for innovative technologies research and transfer, to motivate companies to invest in the small ruminant sector (/ cost)

Promote R&D programs to develop PLF in small ruminants

Explore technologies : UHF technology, latest knowledge...

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Partners : IDELE, CNBL, CAPGENES, INRA

Thank you for your attention

Thank to the breeders who accept to answer to the questionnaire