ANIMAL-FUTURE
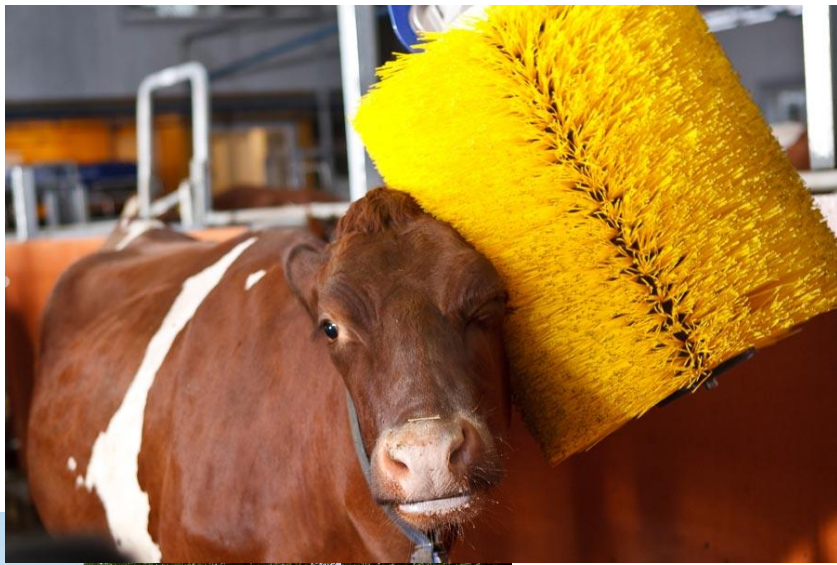## STEERING ANIMAL PRODUCTION SYSTEMS TOWARDS SUSTAINABLE FUTURE

Dr Muriel TICHIT INRA

1ST SusAn COFUNDED Projects Seminar
23-24 November 2017, Bilboa (BC, ES)

EUROPEAN RESEARCH AREA ON SUSTAINABLE ANIMAL PRODUCTION

Many innovations

Challenge (1/3)

- No silver bullet ➔ APS are heterogeneous

Livestock density
LU / ha UAA

		% permanent grass-land in agricult area
■	> 1.2	< 40 %
◆◆	> 1.2	> 40 %
■	] 0.4 – 1.2[	> 40 %
◆◆	< 0.4	> 40 %
■	] 0.4 – 1.2[	> 40 %
■	< 0.4	< 40 %
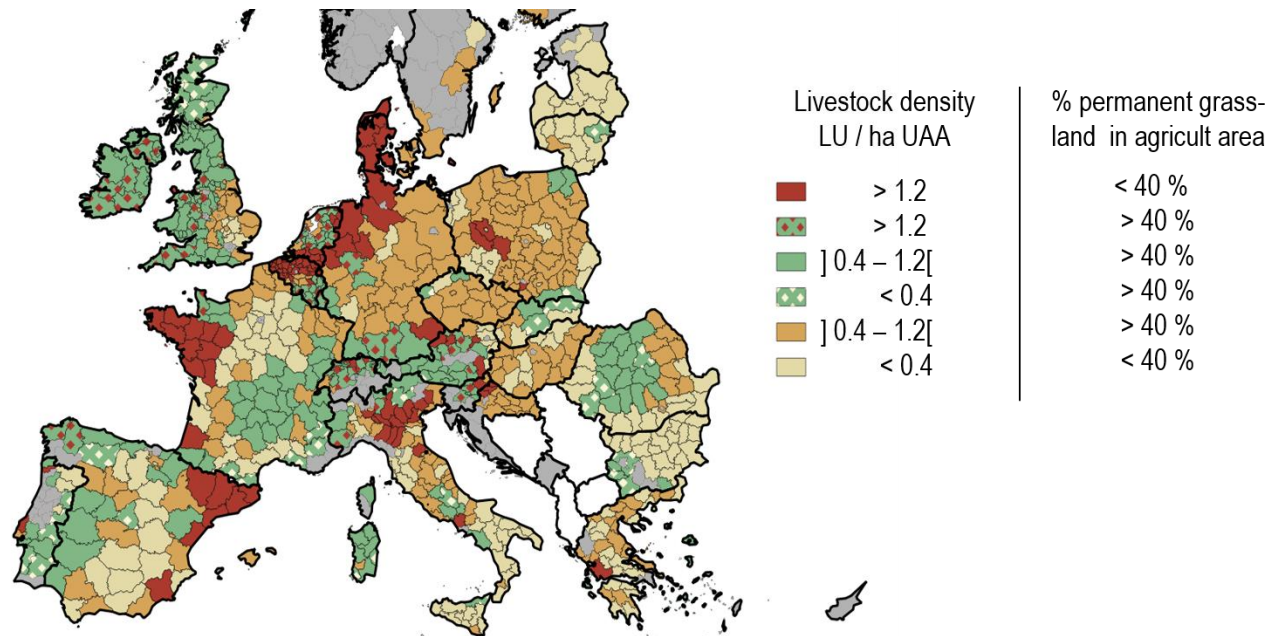
(after Dumont et al. 2017)
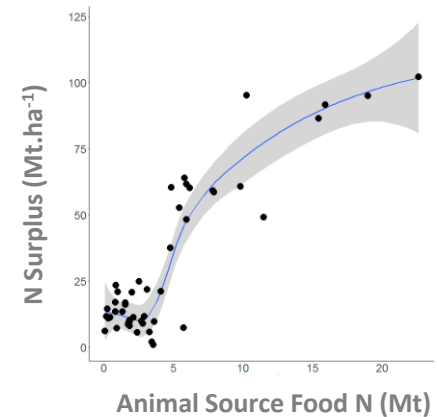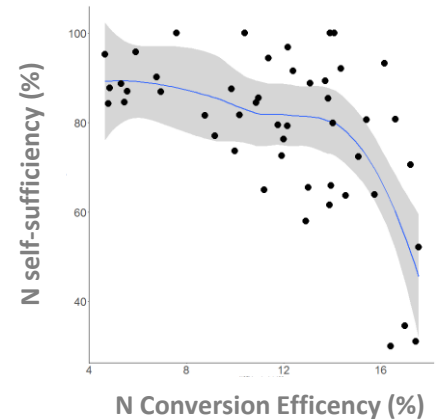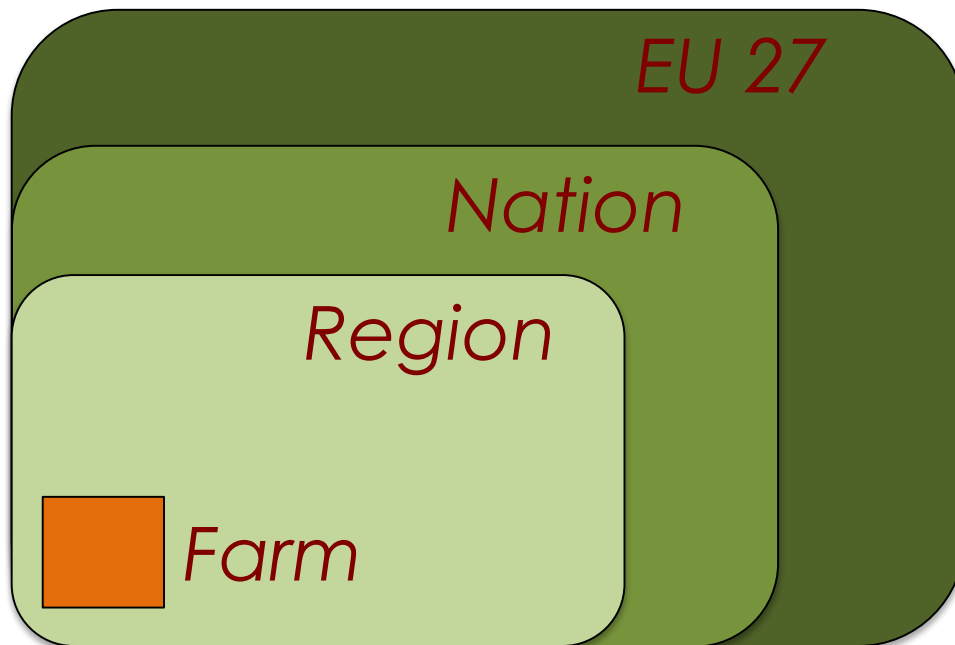
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Challenge (2/3)

- Multi-dimensional consequences of innovations are unknown

Challenges (3/3)

- What works at a given level may not work at another level

Current needs ?

- Tool for comprehensive sustainability assessment of innovations from the ground

- Spotting '**where**' innovations will be more effective

- Innovations based on combination of solutions across levels

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Project goal

Design effective strategies for assessing and enhancing the sustainability of animal production systems
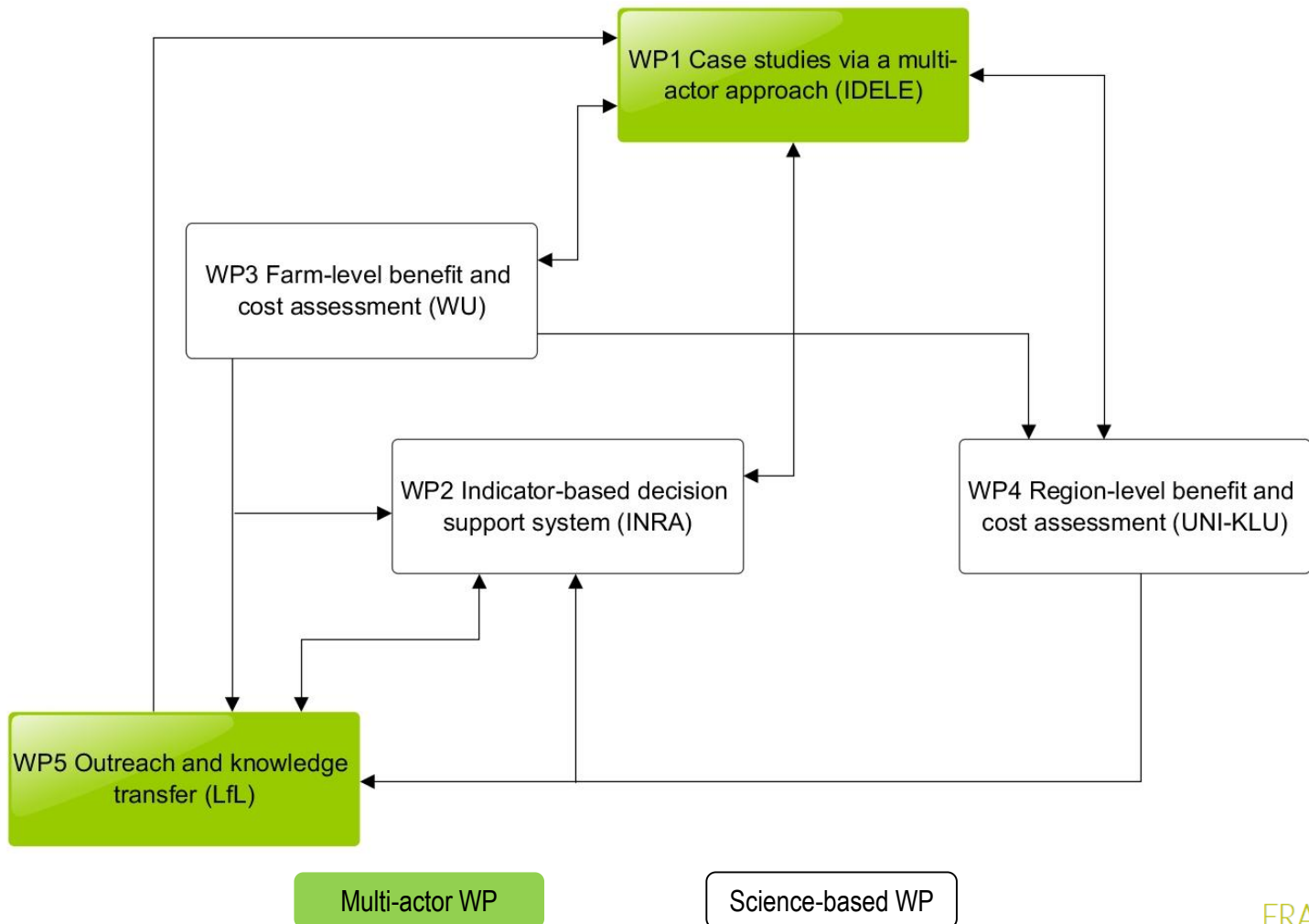
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Objectives

- To define with case study actors innovative practices and their potential benefits and costs (WP1)

- To quantify the impact of these innovative practices on the benefit-cost portfolio at farm – regional – national – EU level (WP3 – WP4)

- To develop an evidence-based and easy-to-use tool enabling animal production actors to select the most appropriate innovative practices (WP2)

- To promote sustainable practices amongst animal production actors (WP5)

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Project structure

WP1 Case studies via a multi-actor approach (IDELE)

WP3 Farm-level benefit and cost assessment (WU)

WP2 Indicator-based decision support system (INRA)

WP4 Region-level benefit and cost assessment (UNI-KLU)

WP5 Outreach and knowledge transfer (LfL)
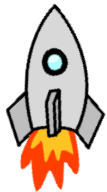
Multi-actor WP
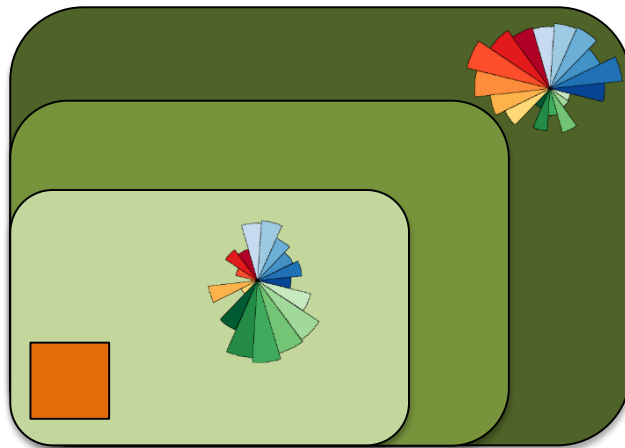
Science-based WP

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The solution we are proposing
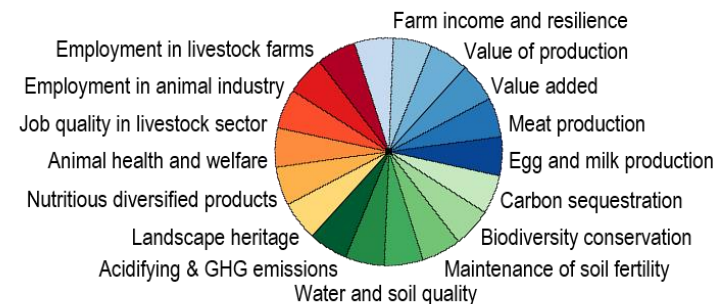## Main project deliverable / result

A DSS **decision support system** that enables a science-based evaluation of **innovations from the ground**

Indicator-based DSS

A set of indicators measuring **benefit-cost portfolios** provided by APS

Farm income and resilience
Value of production
Value added
Meat production
Egg and milk production
Carbon sequestration
Biodiversity conservation
Maintenance of soil fertility
Water and soil quality
Acidifying & GHG emissions
Landscape heritage
Nutritious diversified products
Animal health and welfare
Job quality in livestock sector
Employment in animal industry
Employment in livestock farms

(Ryschawy et al. 2017)

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Who will this solution benefit ?
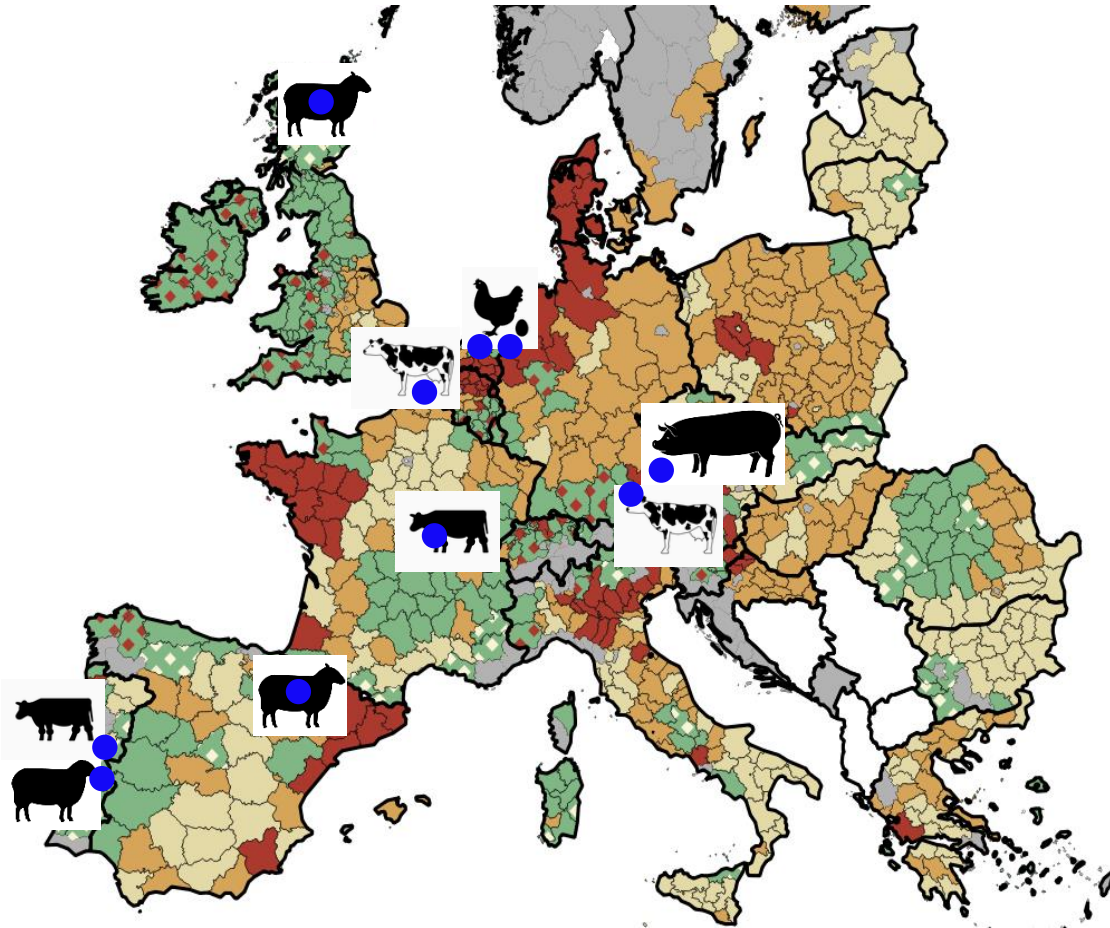
Who will this solution benefit ?

Through the case study network we involve target users and other stakeholders in the project and post project impacts

- 200 livestock farms in 10 European regions
- 7 farmers organizations
- 5 cooperatives
- 2 Industry meat or dairy processors
- 1 retailer
- 1 breeding industry
- 5 advisory organizations
- 2 welfare / environment NGO

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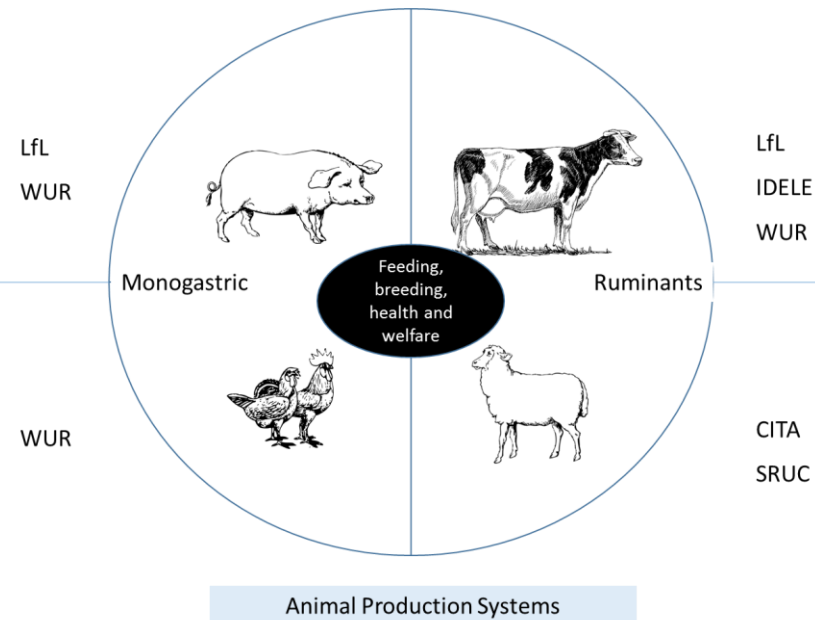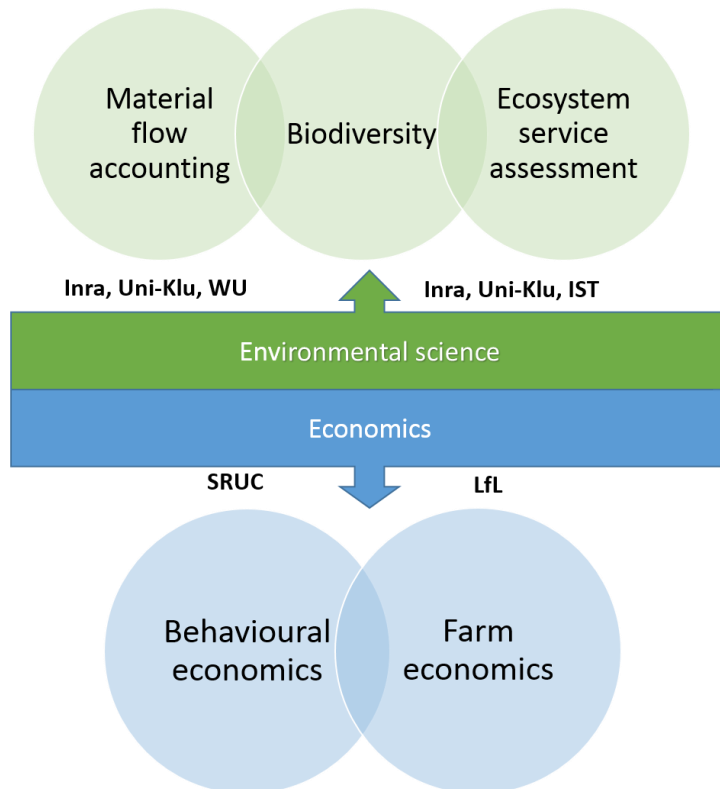# How will it benefit target users and other stakeholders
Potential impacts

- **At case study level** = empowering the innovation potential of livestock actors by a correct understanding of benefit-cost portfolios

- **At farm level** = Moving farm management closer to the production frontier while considering tradeoffs

- **At regional, national and EU levels** = Enabling regions to better understand the impacts of APS on the environment

- **Across levels** = Better and more informed decision making thanks to the DSS which presents the cross-scale consequences of different innovations

- **Among actors** = Raising actors' awareness on the benefits and costs of different innovations; improved self-image of farmers; improved societal image of APS

Consortium

- Material flow accounting
- Biodiversity
- Ecosystem service assessment

Inra, Uni-Klu, WU   **Inra, Uni-Klu, IST**

Environmental science

Economics

SRUC   **LfL**

- Behavioural economics
- Farm economics

Monogastric — Feeding, breeding, health and welfare — Ruminants

LfL
WUR

LfL
IDELE
WUR

WUR

CITA
SRUC

Animal Production Systems

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Thank you !