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Julia Jouan, Matthieu Carof, Aude Ridier

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# Upscaling bio-economic model: economic and environmental assessment of introducing legume and protein-rich crops in farming systems of western France



**J. JOUAN<sup>1</sup>, A. RIDIER<sup>1</sup>, M. CAROF<sup>2</sup>**

<sup>1</sup> SMART-LERECO, AGROCAMPUS OUEST, INRA, 35000 Rennes, France

<sup>2</sup> SAS, AGROCAMPUS OUEST, INRA, 35000 Rennes, France

julia.jouan@agrocampus-ouest.fr



**TERUnic Project**  
*« Territory Economical, the Right Understanding »*



## Introduction

The European Union supports planting more legume and protein-rich crops in order to increase autonomy for protein in livestock feed

## Objective

To build an upscaling bio-economic model **assessing environmental and economic impacts** of increasing legume and protein-rich crop supply

## Distinctive features

- Explicit partial equilibrium model for local exchanges of forages, cash crops and manure (endogenous prices)
- Heterogeneous types of production, biophysical characteristics and environmental constraints
- Environmental module
- Impacts at two spatial levels: farm and territory

## Data

- “Survey of livestock management 2015” AGRESTE
- Other public statistics (2010-2016)
- Agricultural extension services

## Main hypothesis

- Complementarity among farms at the territory level represents a lever to increase protein autonomy
- Planting more legume and protein-rich crops leads to both economic and environmental benefits at the territory level

## Overview of the upscaling bio-economic model

