

Are low carbon farms sustainable in sheep production across Europe?

Castellan E., Bragina L., Buckley C., Keady T.W.J., Ruiz R., Del Hierro O. ,
Dragomir C., Acciaro M., Serra G., Throude S.



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Context

Simplified sustainability assessment associated to a carbon diagnosis

LIFE GREEN SHEEP IS:



5 years

European project,
from October 2020
to September 2025

€ **4,6 M**
budget



40 partners from
5 European countries

Reduce by **12 %**
GHG emissions while
maintaining farms' sustainability



1 355
demonstrative farms involved

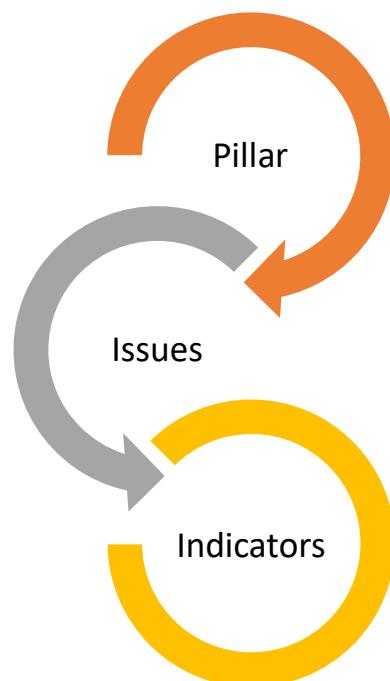


282
innovative farms
involved in the
implementation of
action levers



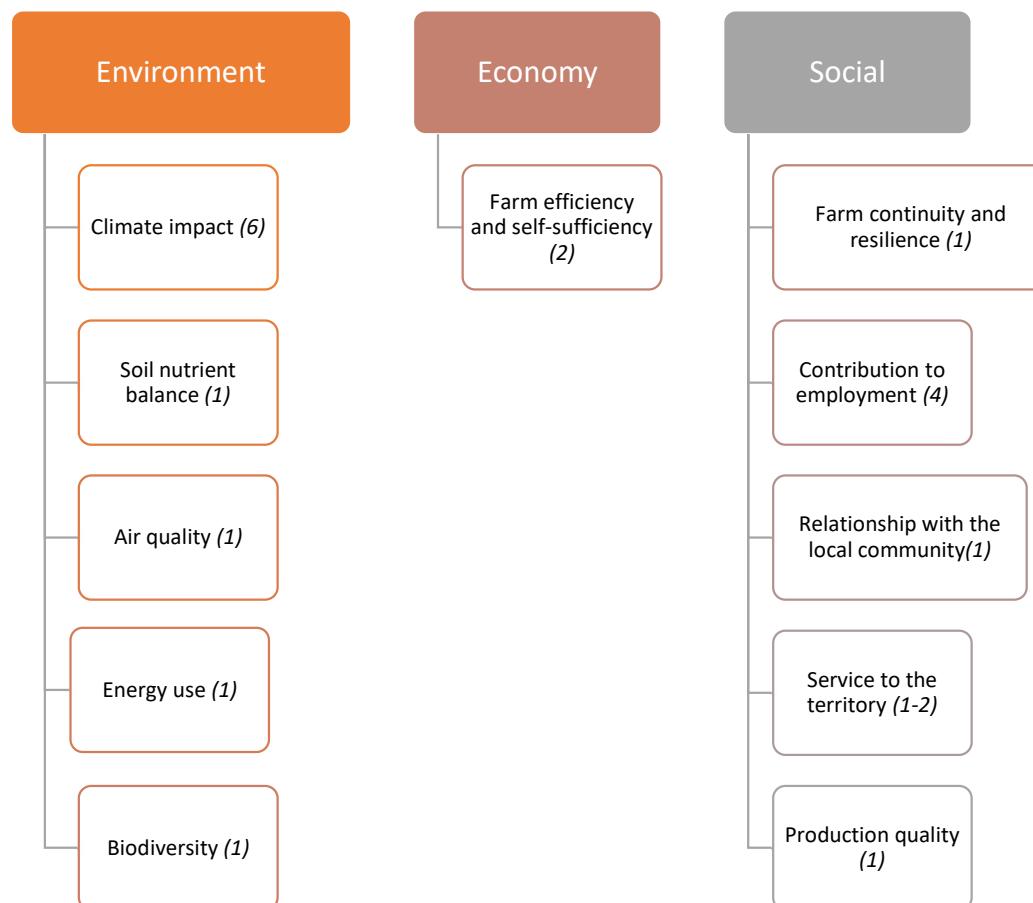
Methodology

Data collection



Built from existing tools (DEO in France)

List of issues (nb indicators) in demonstrative farms



Methodology

Scoring

- Use of national references to build the ranking (database sorted out by decile)

- Example:

| | | | | | | | | | | | | |
|------------------------------------|---|------|------|--|----|----|----|----|------|------|------|------|
| Indicator : | GHG emissions/FU - gross emissions | | | | | | | | | | | |
| Farm result : | 2,5 | | | | | | | | | | | |
| Deciles from references database : | <table border="1"> <tr> <td>D2</td><td>D4</td><td>D6</td><td>D8</td></tr> <tr> <td>2,30</td><td>2,60</td><td>3,07</td><td>3,67</td></tr> </table> | | | | D2 | D4 | D6 | D8 | 2,30 | 2,60 | 3,07 | 3,67 |
| D2 | D4 | D6 | D8 | | | | | | | | | |
| 2,30 | 2,60 | 3,07 | 3,67 | | | | | | | | | |
| Rank : | 4 | | | | | | | | | | | |

- Each indicator is scored between 1 and 5
- Equal weight for each indicator
- Aggregation of indicators into each issue

- Example :

| Economic viability and financial independence | Score |
|---|-------|
| Gross margin/labour unit | 3 |
| Gross margin/kg milk (or meat) produced | 3 |
| Dependencies on subsidies | 4 |
| Annuity | 2 |

The score of the issue « Economic viability and financial indépendance » is equal to 3
 $(3 + 3 + 4 + 2) / 4$

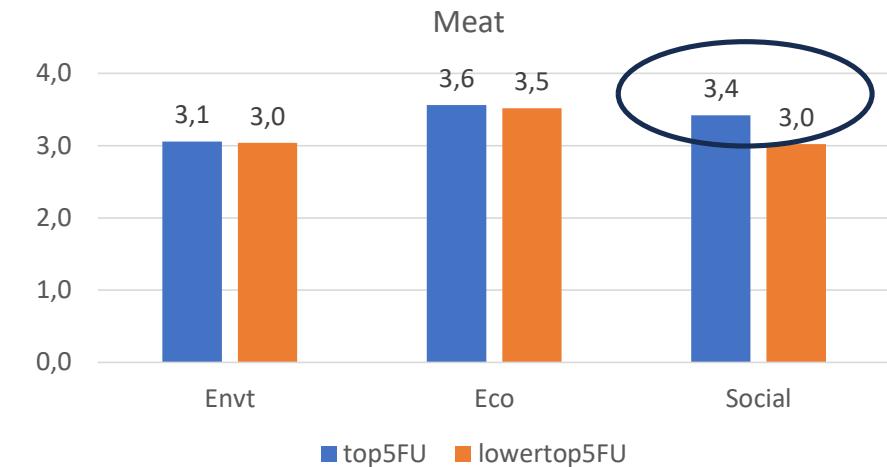
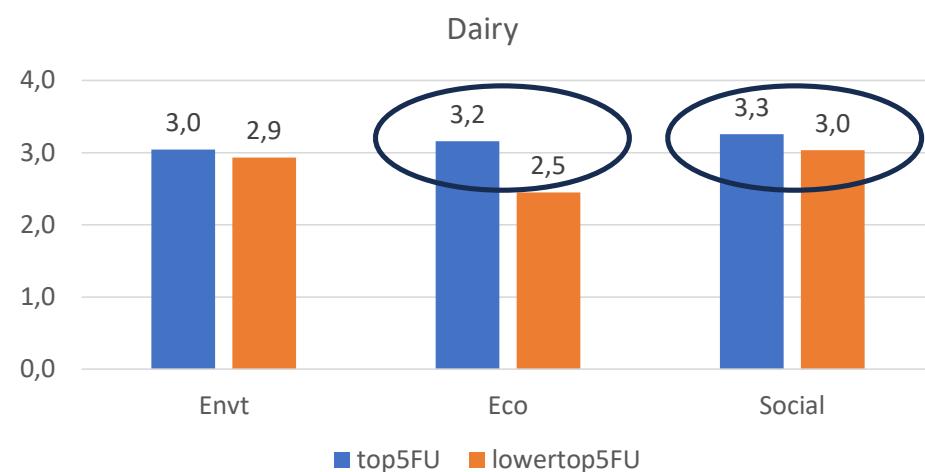
Methodology Analysis

- Question: Are the low carbon farms sustainable?
- To answer it, comparison of:
 - Top5= which have a ranking of 5 (the best) on GHG/FU.
 - LowerTop5 = farms that have a rating of less than 5

Results

Pillar scale

Legend
Significant difference



- Are these farms more sustainable?
 - Inconclusive for the environmental pillar whatever the productions!
 - Yes for the economic pillar in dairy sheep
 - Yes for the social pillar in the 2 productions

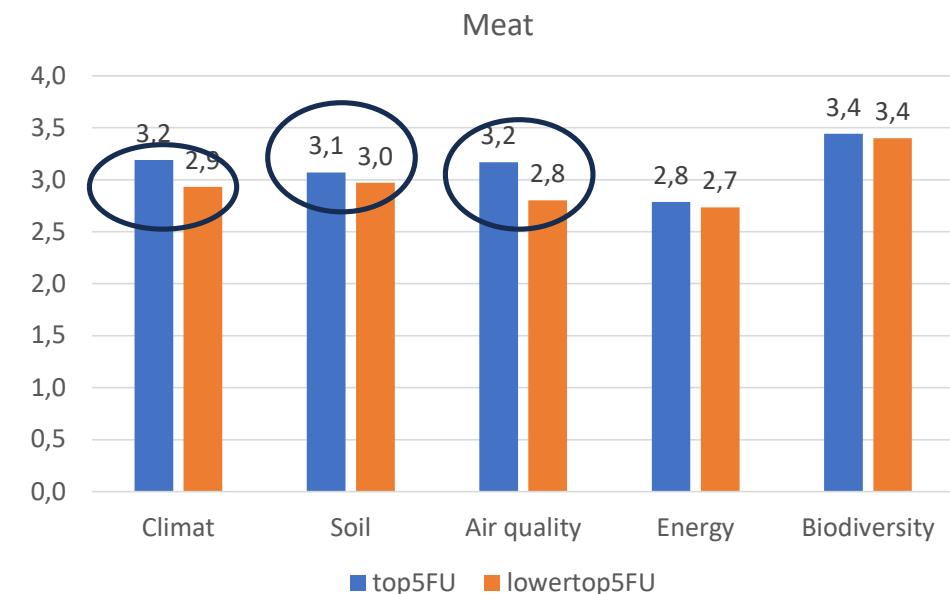
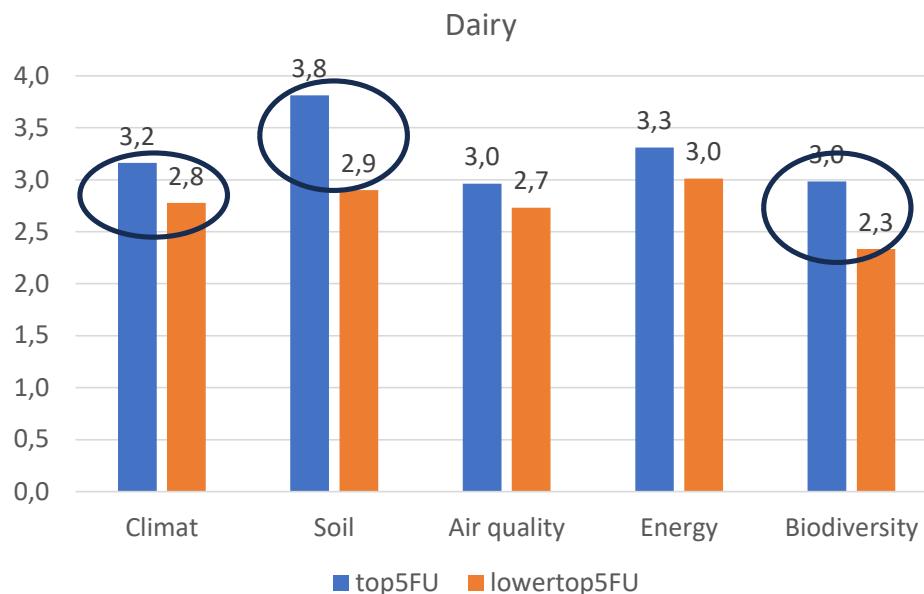
EU: 1169 – top 5 : 259

Results

Issues scales

Legend
Significant difference

Environment pillar



Significant effect of climate and soil in the 2 productions
Biodiversity in dairy, air quality in meat

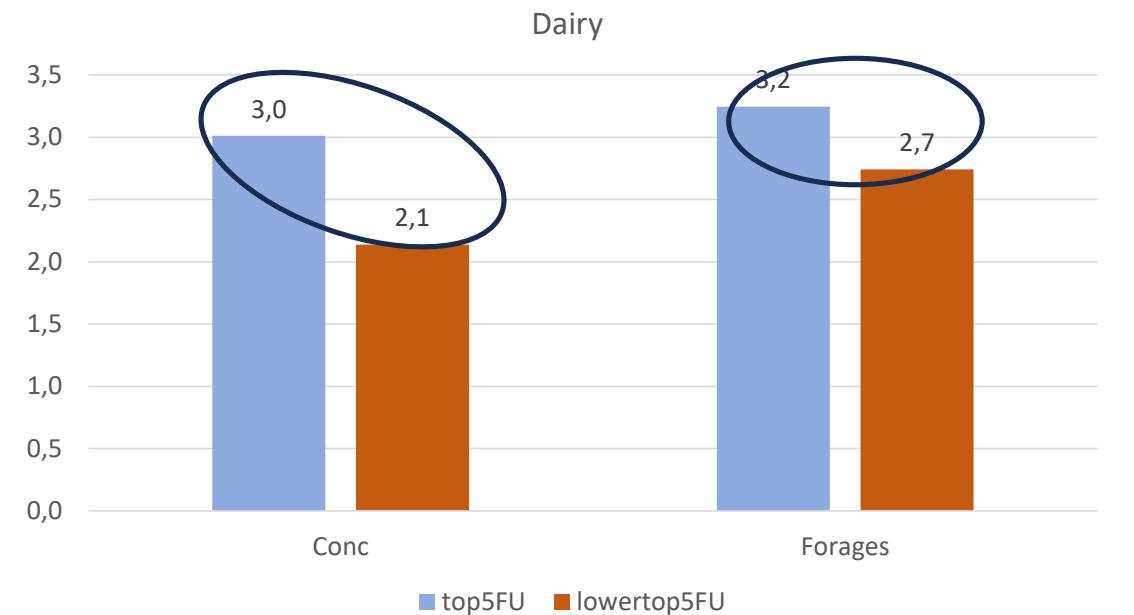
Results

Issues scales

Legend
Significant difference

Eco pillar

Significant effect of the 2 indicators

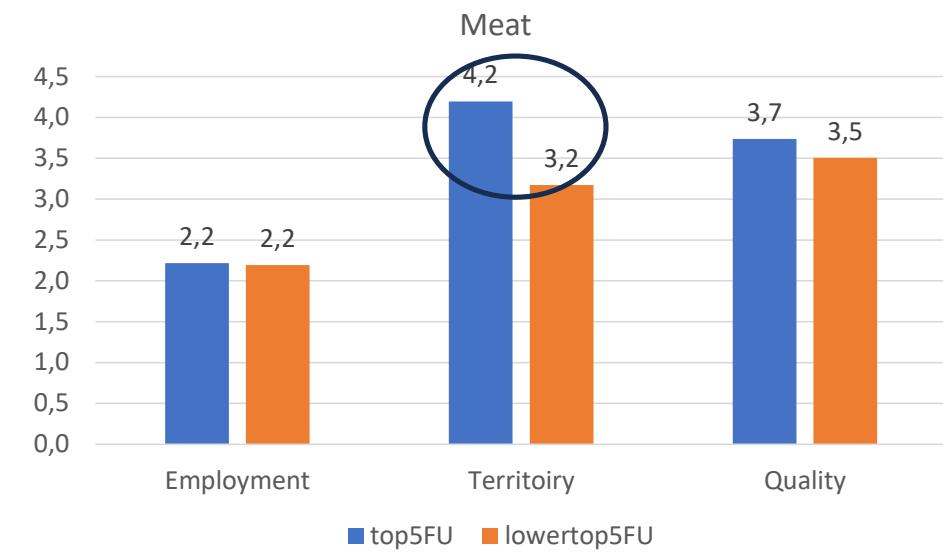


Results

Issues scales

Legend
Significant difference

Social pillar



Significant effect of the territorial issue

Discussion

- At the level of the pillars: marked effect only for the social component, and eco in dairy → **At large scale low carbon farm are as sustainable as others.**
- At the scale of the issues:
 - Environment: climate, soil in all types of production
 - Eco: only in dairy with autonomy in concentrates and fodder
 - Social : territorial issue.
- Question of the number of collected data: ongoing analysis between demonstrative (19 indicators) and innovative (33 indicators) farms to see if there are differences.



Thank you for your attention



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For more information on LIFE Greensheep project:

life-green-sheep.eu



Thanks to all partners for their involvement in the project

