

The link between animal production and soil management in the experience of OGs

**Carbon farming: a key
contribution to carbon
neutrality and food
security**

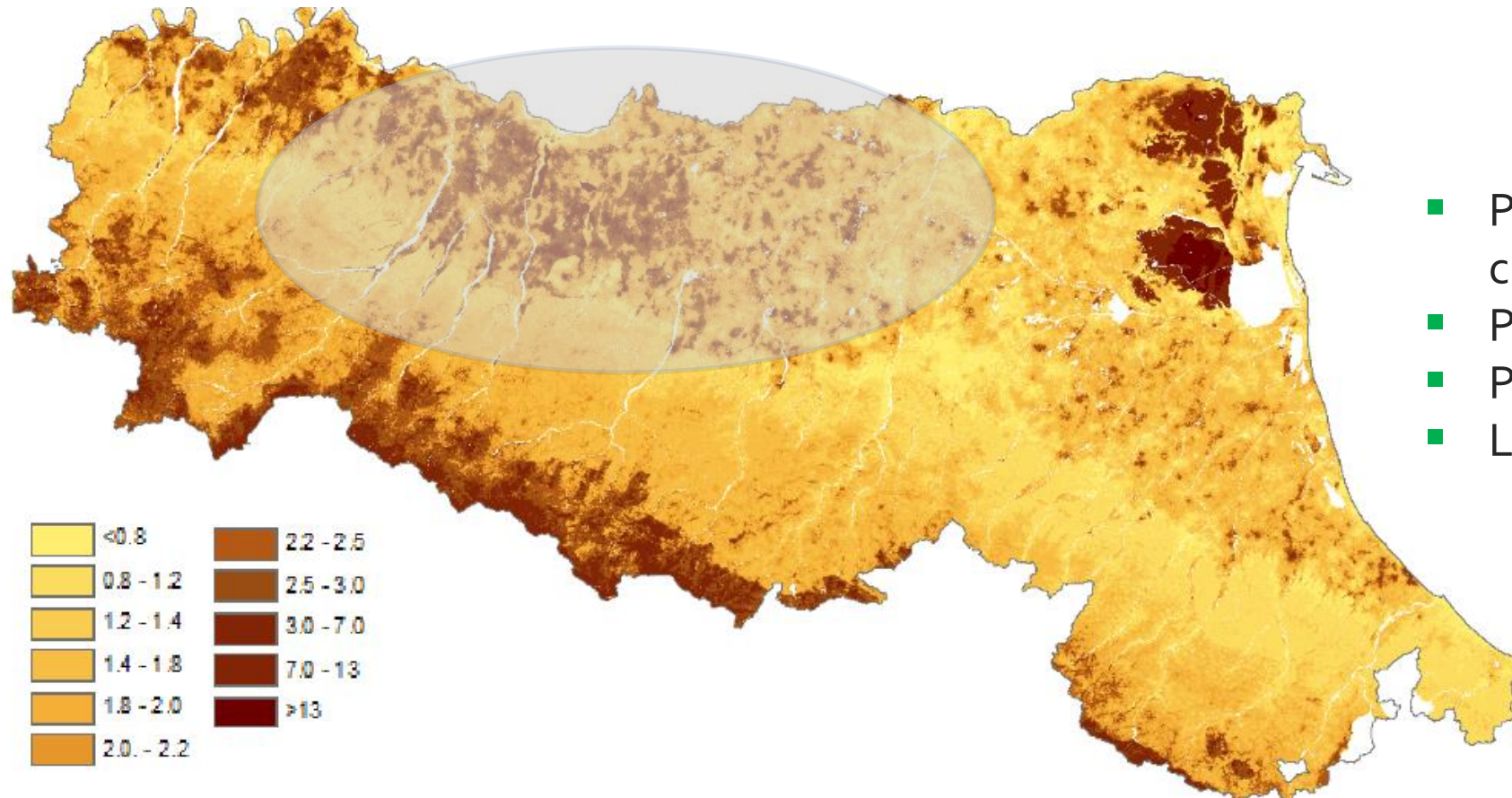
*Innovative experiences of the
Emilia-Romagna Region in the
framework of the EC regulation
proposal*

Maria Teresa Pacchioli - CRPA SCPA

31st March 2023, Brussels



Livestock and soil in Emilia-Romagna region

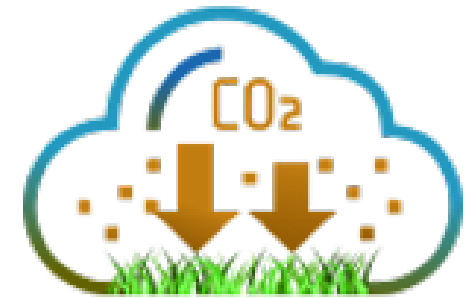


- PDO Parmigiano-Reggiano cheese
- PDO Grana Padano cheese
- Pigs for PDO hams
- Lucerne in crop rotation

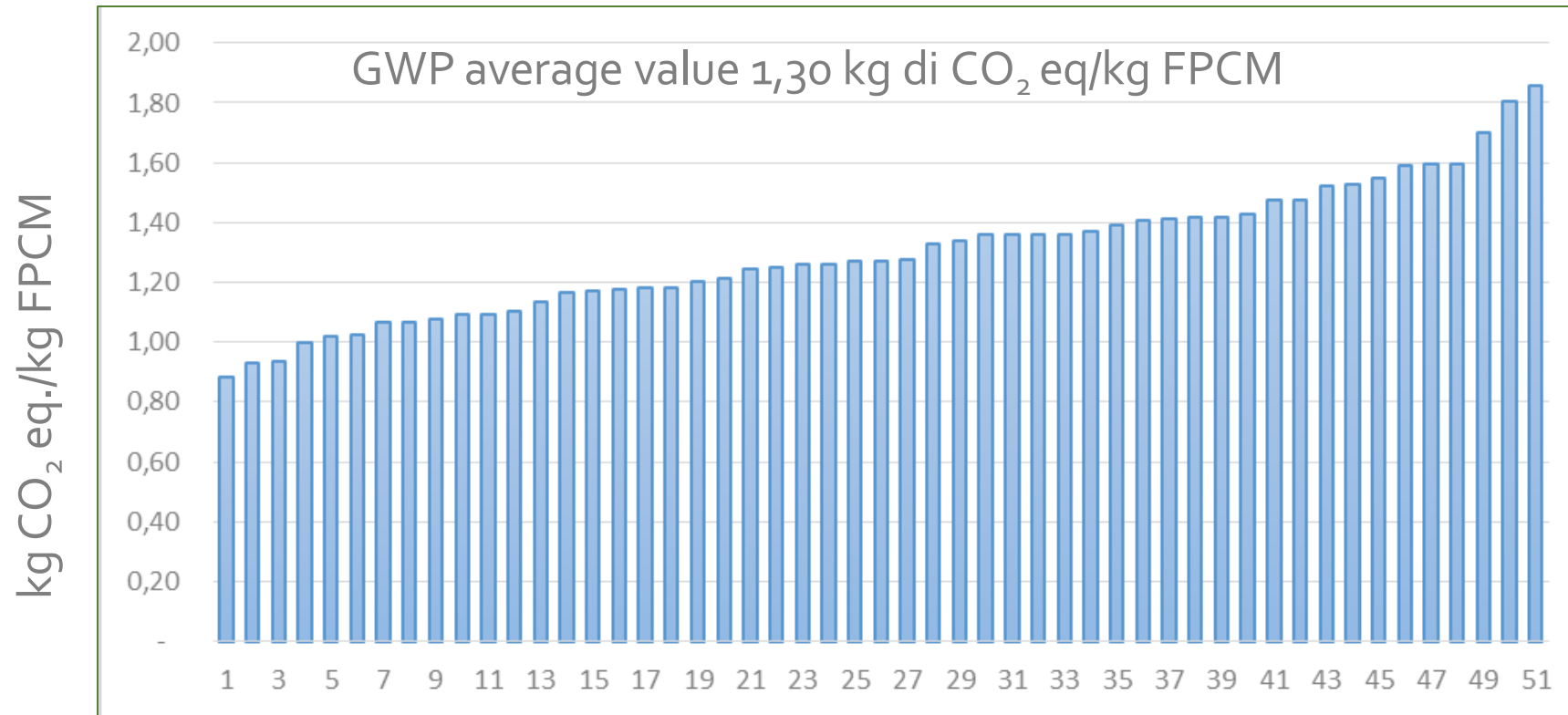
Organic Carbon Map % 0-30 cm in Emilia-Romagna soils, third edition (Ungaro, Tarocco, Aprea. 2023) -DRAFT

Livestock, forage systems and soil

- While agricultural and livestock production generates greenhouse gases, the return of manure to the soil and multiannual crops result in the sequestration of carbon in the soil in non-volatile forms
- the positive effects on carbon sequestration and its storage in the soil (presence of meadows and pastures, use of animal wastes) cannot be separated from the assessment of livestock greenhouse gas



Carbon footprint of milk for PR PDO cheese



Operational Groups

GOi Carbonio di montagna

GOi PR Green Deal

 Happy Milk

 Latteria San Giorgio

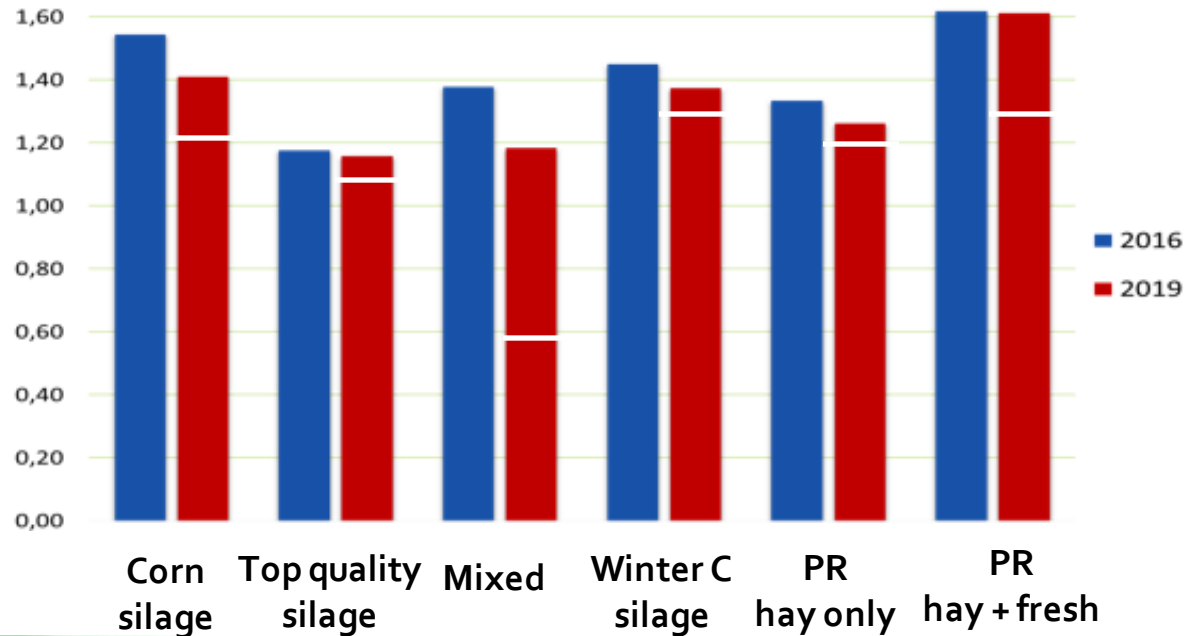
 Modello metabolico

 **PRATI_CO**

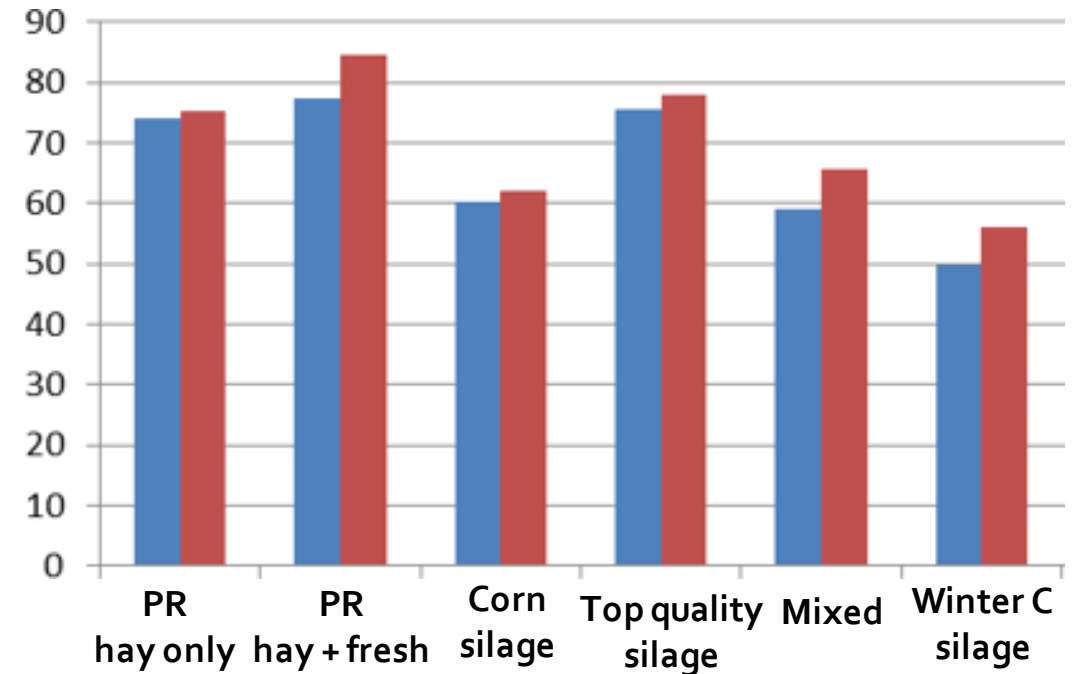
2 operations 16.2

GHG emissions and carbon sequestration in forage systems

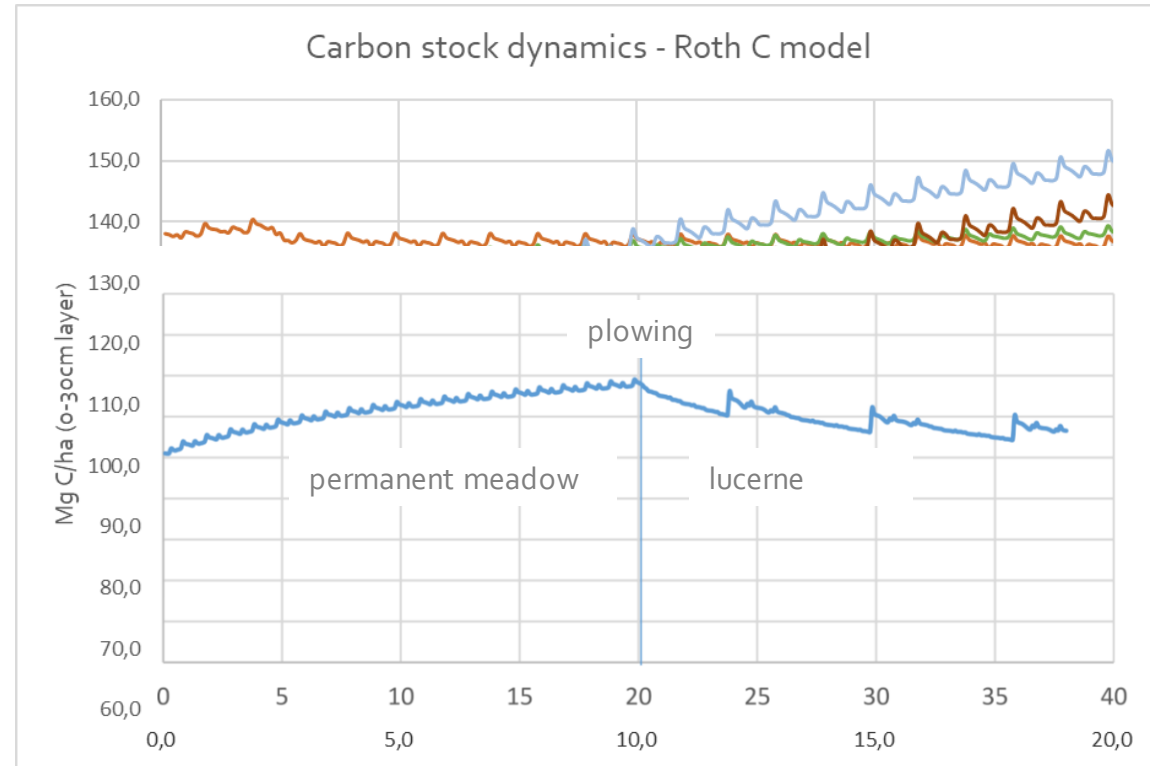
kg CO₂ eq./kg FPCM



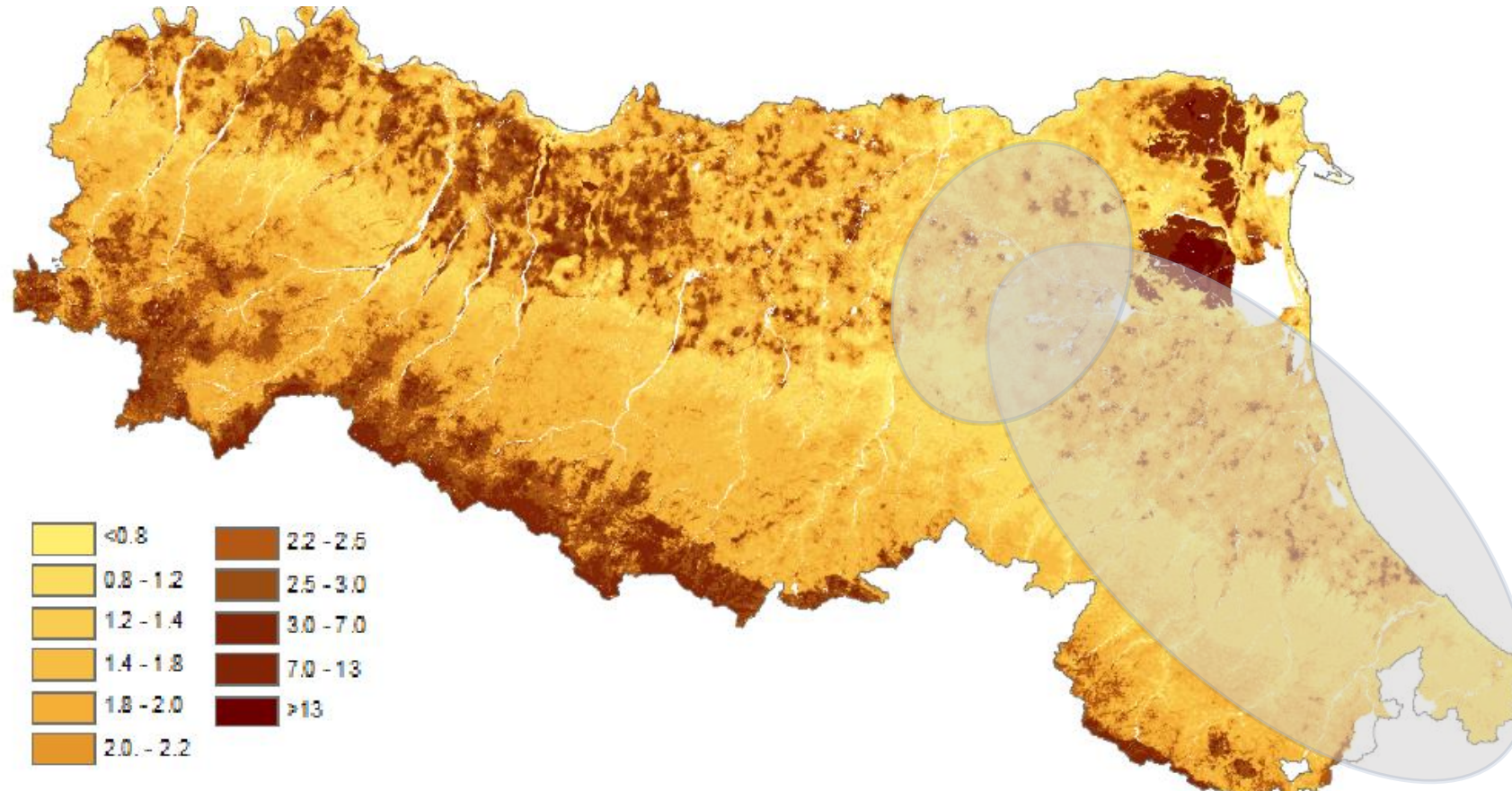
Mg C/ha (0-30 cm layer)



Permanent meadow in PR – Carbon stock



Lucerne in crop rotation, no livestock



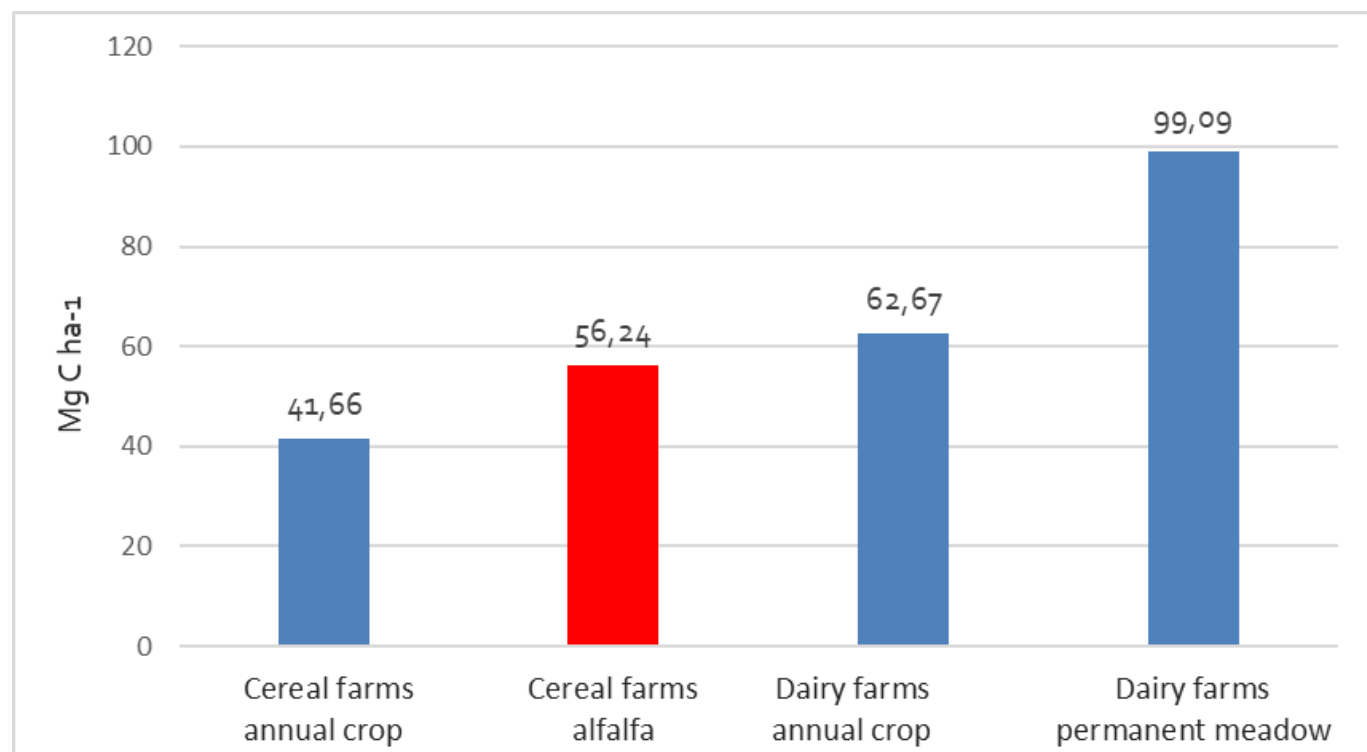
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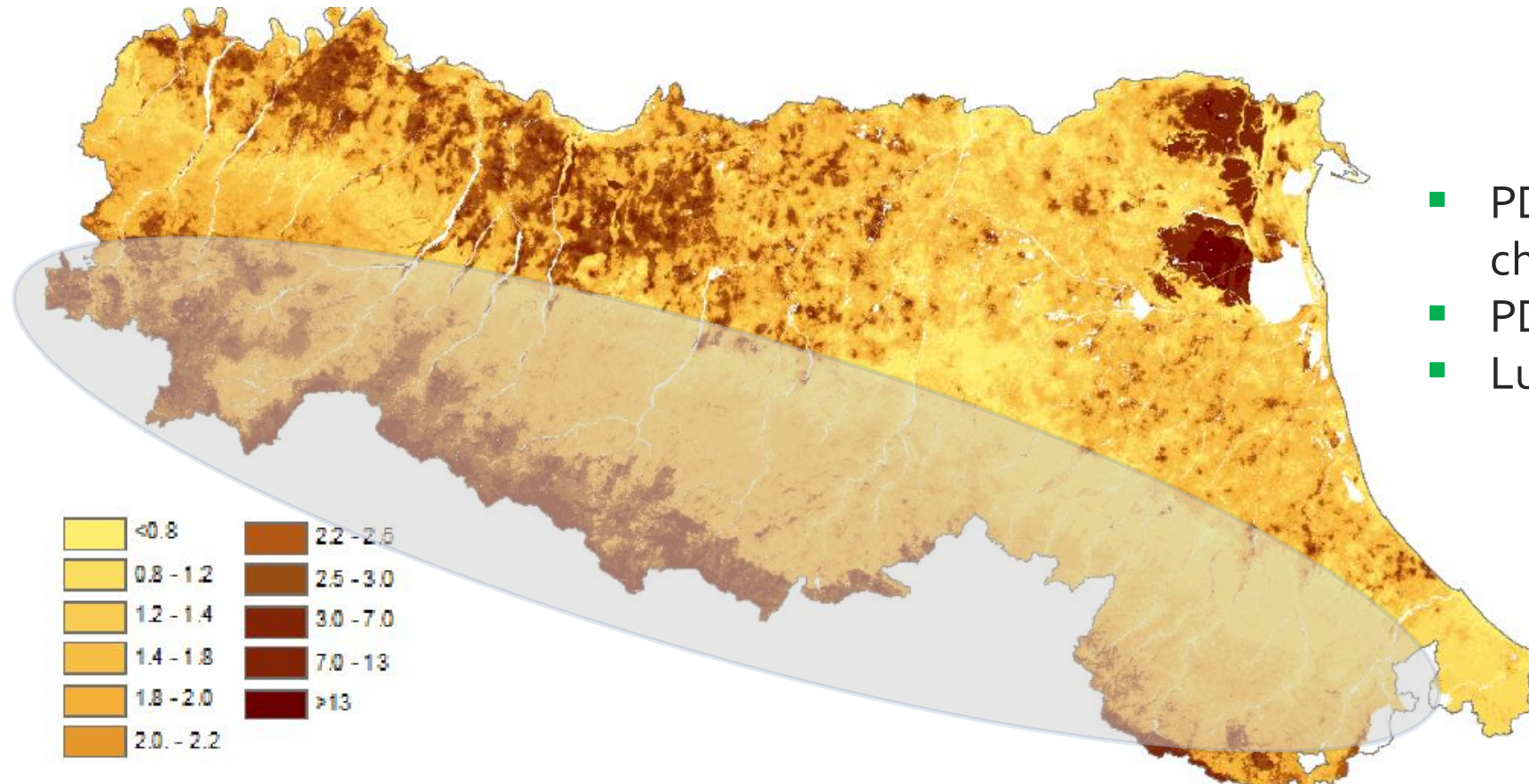
Lucerne & carbon stock in cereal farms

FILIERA ITALIANA FORAGGI
OG mediCarbonio

	Mg C/ha	Clay %	Sand %
Plain	56.24	29.00	20.81
Hill	52.35	30.9	3.98



Livestock and soil in Emilia-Romagna region



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Organic Carbon Map % 0-30 cm in rEmilia-Romagna soils, third edition (Ungaro, Tarocco, Aprea. 2023) -DRAFT

Soil carbon stock in the Apennines



Soil degradation



Bad use of livestock manure



Depleted meadows

Soil carbon stock in the Apennines



Guideline for
manure management



New forage crops and agronomic techniques

Take-home messages

- The credit system takes into account increases in carbon sequestration. What about the conservation of existing carbon stocks in the soil?
- Do we estimate or measure carbon stock changes? Prediction models still show weaknesses when applied to the individual farm.
- It is necessary to coordinate and disseminate the results of OGs, beyond their actual duration.

Carbon farming: a key contribution to carbon neutrality and food security

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Thank you for your attention!
<https://goi.crpa.it/>

31st March 2023, Brussels

