

Crop-livestock interactions between farms: how and why do they occur?

A case-study in Southern France

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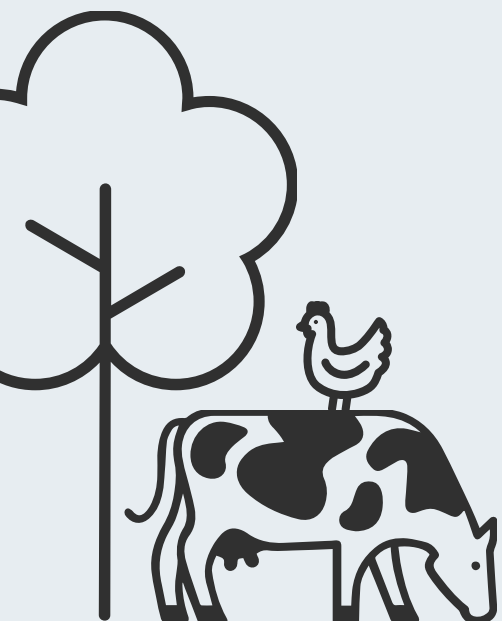
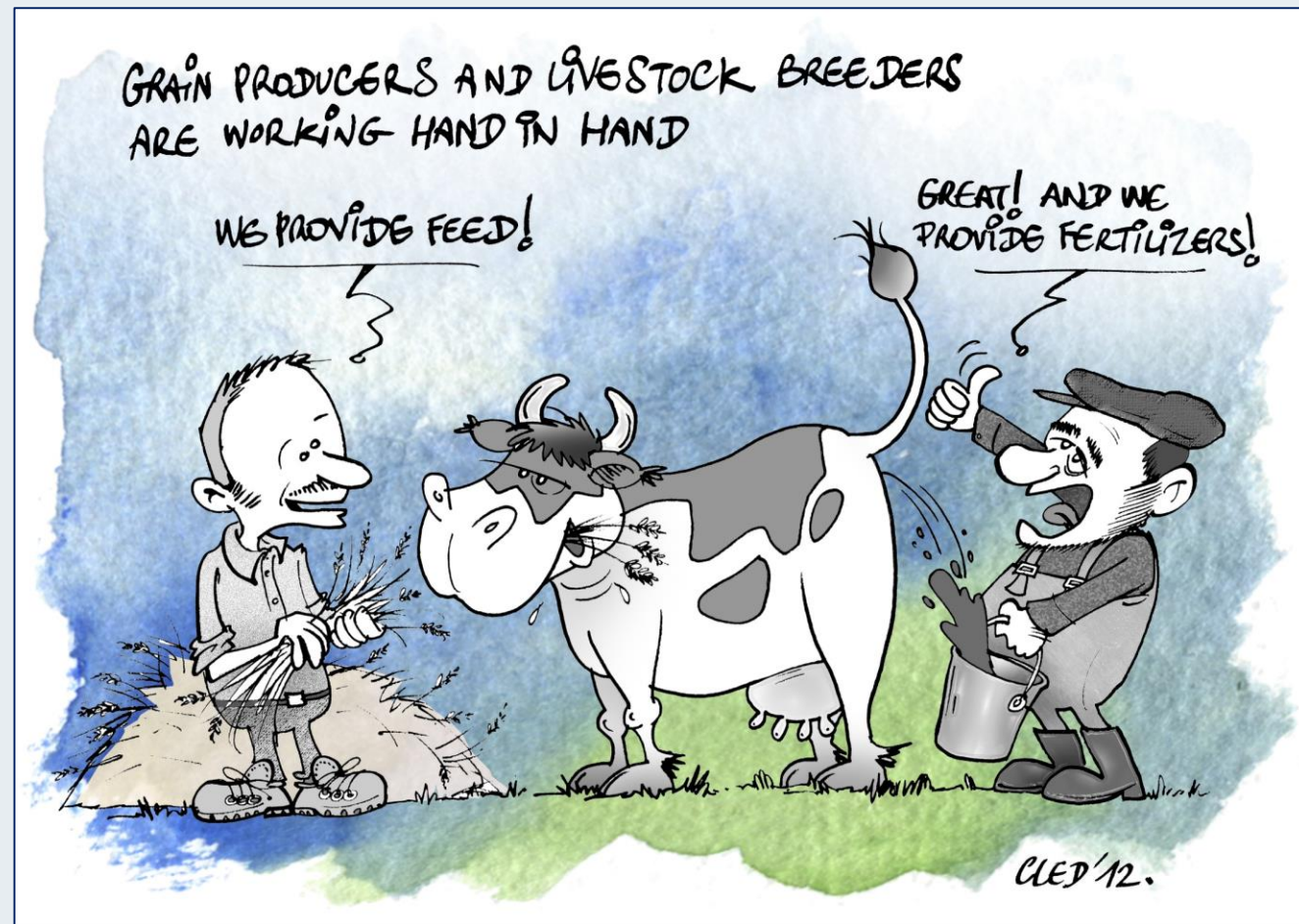
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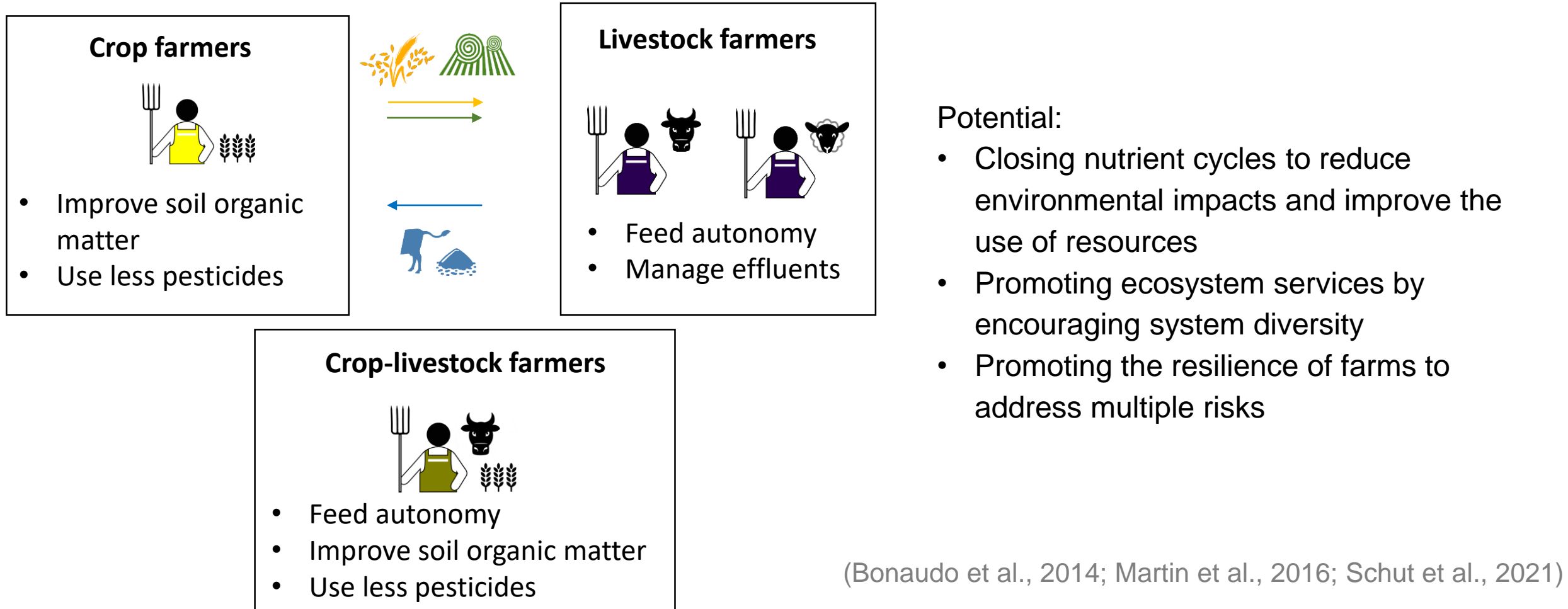
MIXED

EFFICIENT AND RESILIENT
MIXED FARMING & AGROFORESTRY

INRAE



Why focusing on interactions between farms?



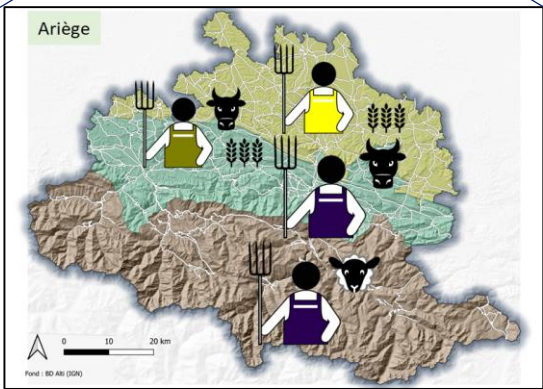
- These interactions remain scarce

E.g. transaction costs (Asai et al., 2018)

How and why do they occur?

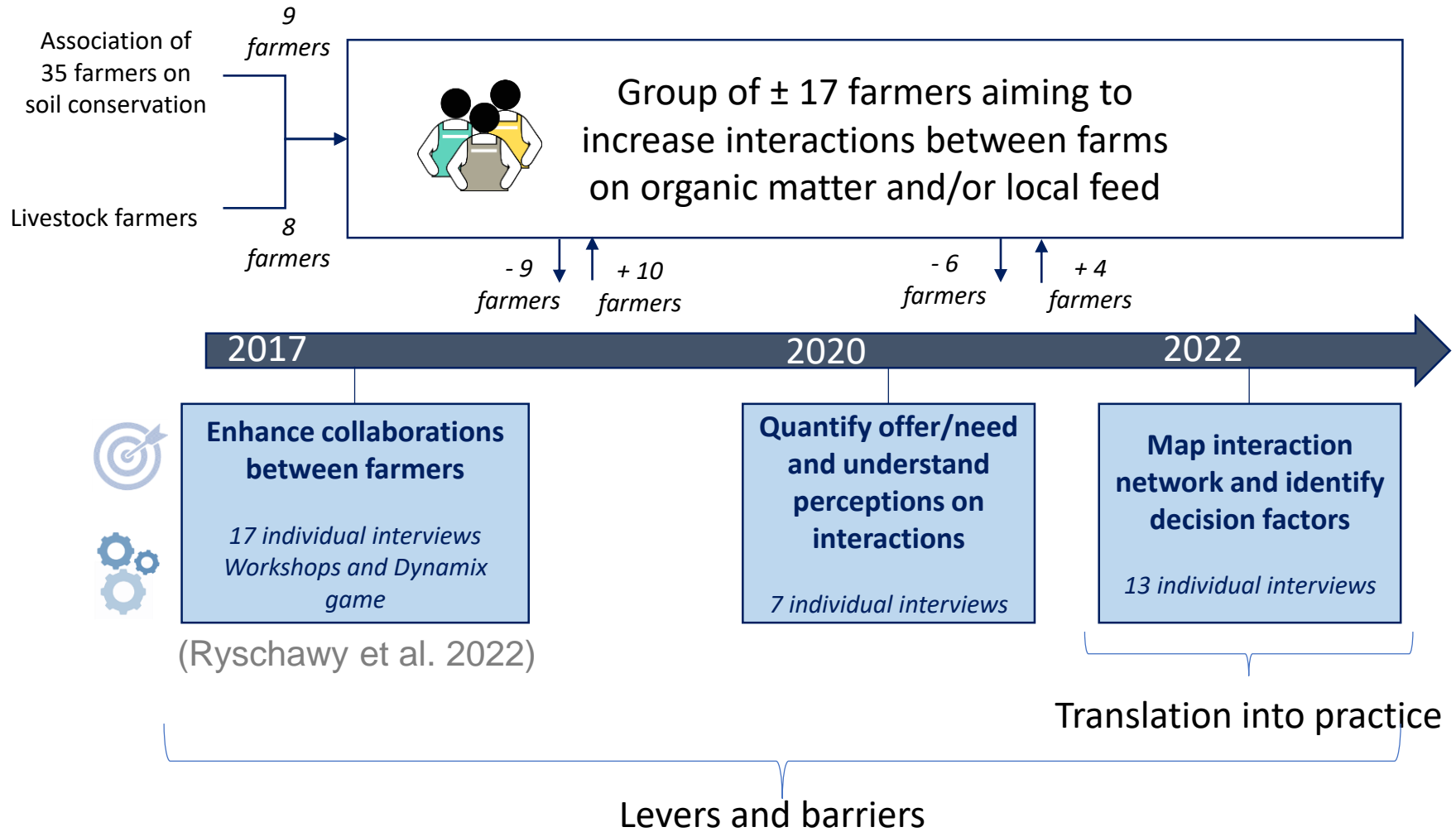
- We aimed to better understand farmers' perceptions and decision factors
 - identify levers and barriers leading to interactions between farms as expressed by farmers
 - understand how and why these interactions were translated in practice

Methodology



2 partners
One biomass
One flow type

forage manure grain straw



Main levers and barriers for interactions



Relational and Solidarity

Common desire for local cohesion looking for "win-win" situations



Logistics

"Distance increases difficulty. Mechanically, it increases the cost. [...] beyond 20 or 30 km, in my opinion, it's complicated". (C)



Economy

"Buying directly from crop farmers, it also allows us to pay less for the product [...] since] when we limit intermediaries there is always less cost." (L)

"[Delivering grain to the cooperative] is easier than coordinating ourselves with livestock farmers [...] I need things to be simple." (C)



Agronomy and Product management

"There really has to be an agronomic balance. As far as I'm concerned, what you take from the soil, you have to give back. " (C)

"The interest [in buying local grain for our animals is] control, and guaranteeing non-GMO feed" (CL)

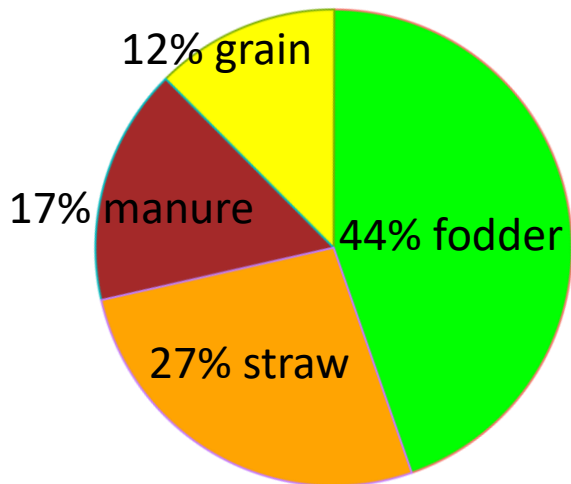
Interactions from 2021 to 2022

- 11 farms over 13
- 51 interactions in total

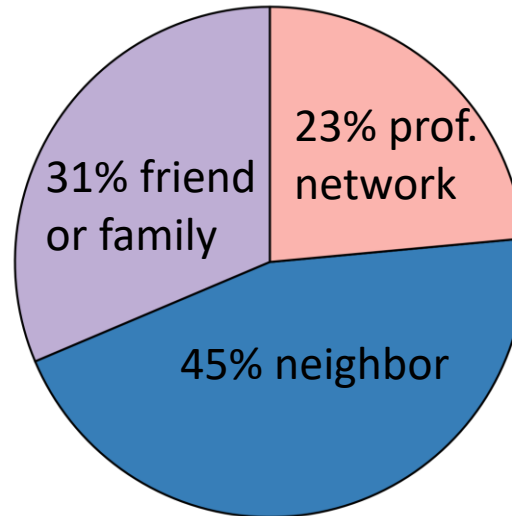
Average:

- 4 interactions per farm (1 to 8)
- 3 partners (1 to 6)

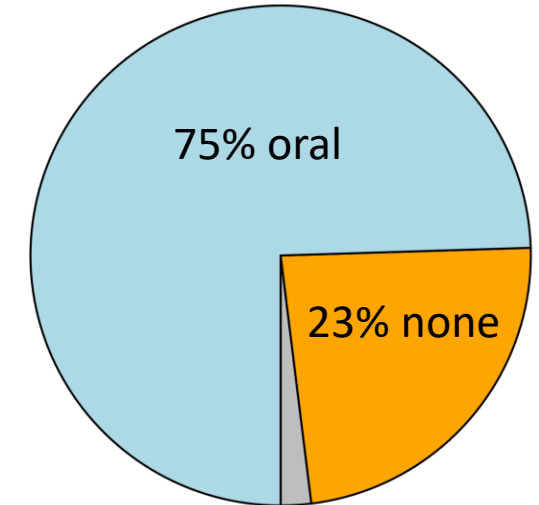
Biomass



Type of partner



Agreement





2% formal contract ↓





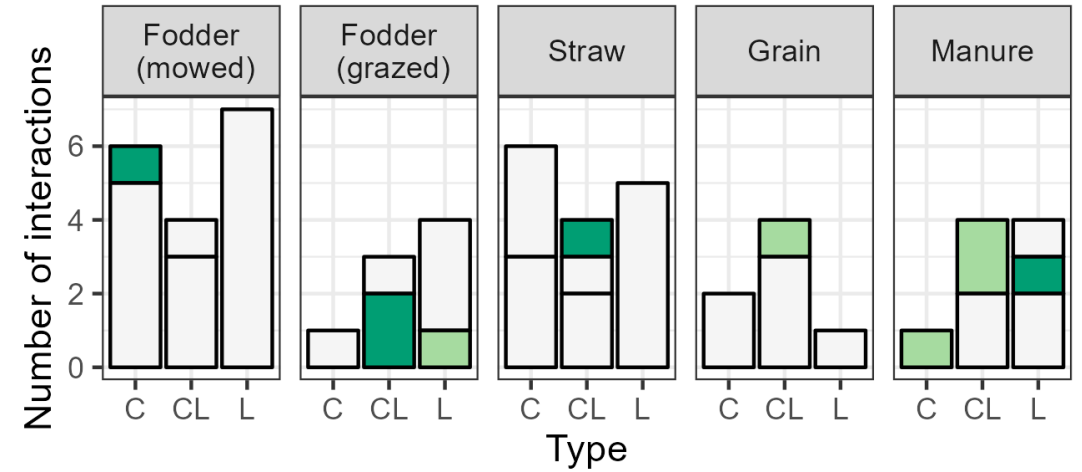
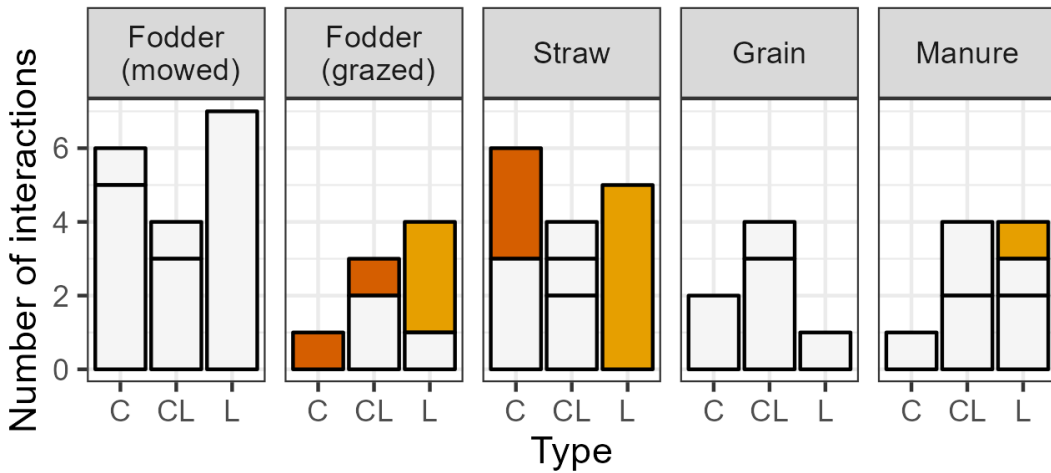
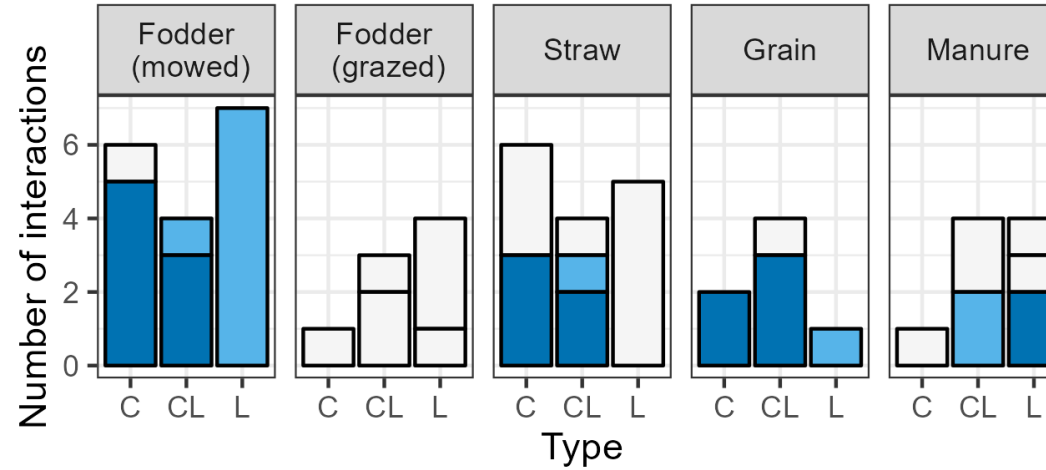
Interactions from 2021 to 2022

C: crop farmer
 CL: crop-livestock farmer
 L: livestock farmer

 Barter received
 Barter sent

 Purchase
 Sale

 Exchange received
 Exchange sent



Further thoughts

- These farmers aimed to increase local interactions
- Following a group of farmer (unplanned)
 - What is a group? How to follow-up the group trajectory?
 - Challenging with changes of composition: eg. unplanned life events
 - Insights on the dynamic of their decisions and motivations



not only optimize and not only maximize profit; importance of help; increase in coordination with time leading to changes in cropping systems; build of friendship

- Important to see how discourse evolve: eg. from straw-manure to cover crop grazing
- Reminder for modellers: interactions are not only biomass flows



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THANK YOU!



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