

LIVESTOCK TO MANAGE COVER CROPS

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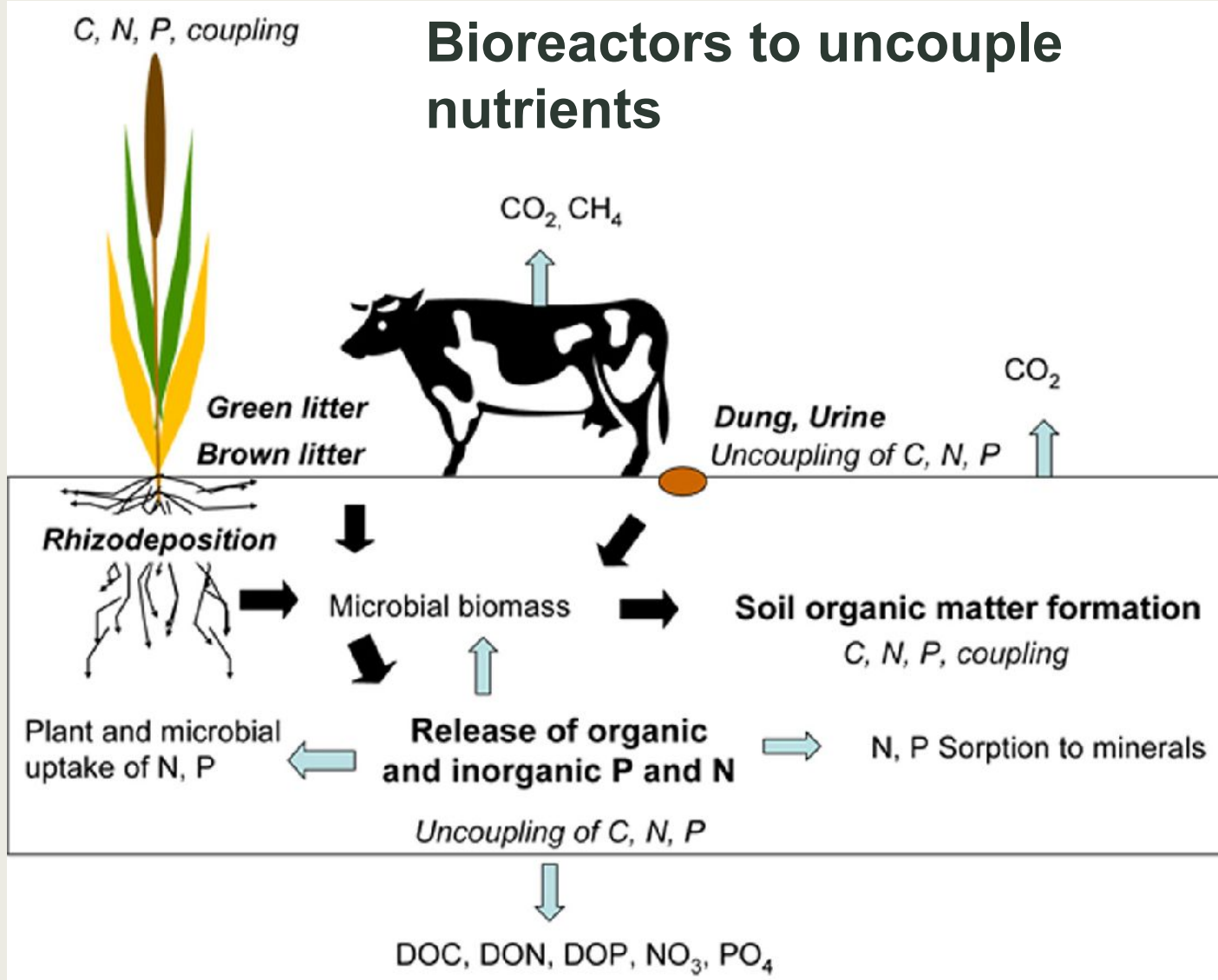
OVERVIEW

- Why livestock and cover crops?
- Grazing management is key!
- But why adoption is low and how can we improve that?



**WHY ARE
LIVESTOCK
INTEGRAL PART
OF COVER CROP
AND
CONSERVATION
SYSTEMS?**

Bioreactors to uncouple nutrients



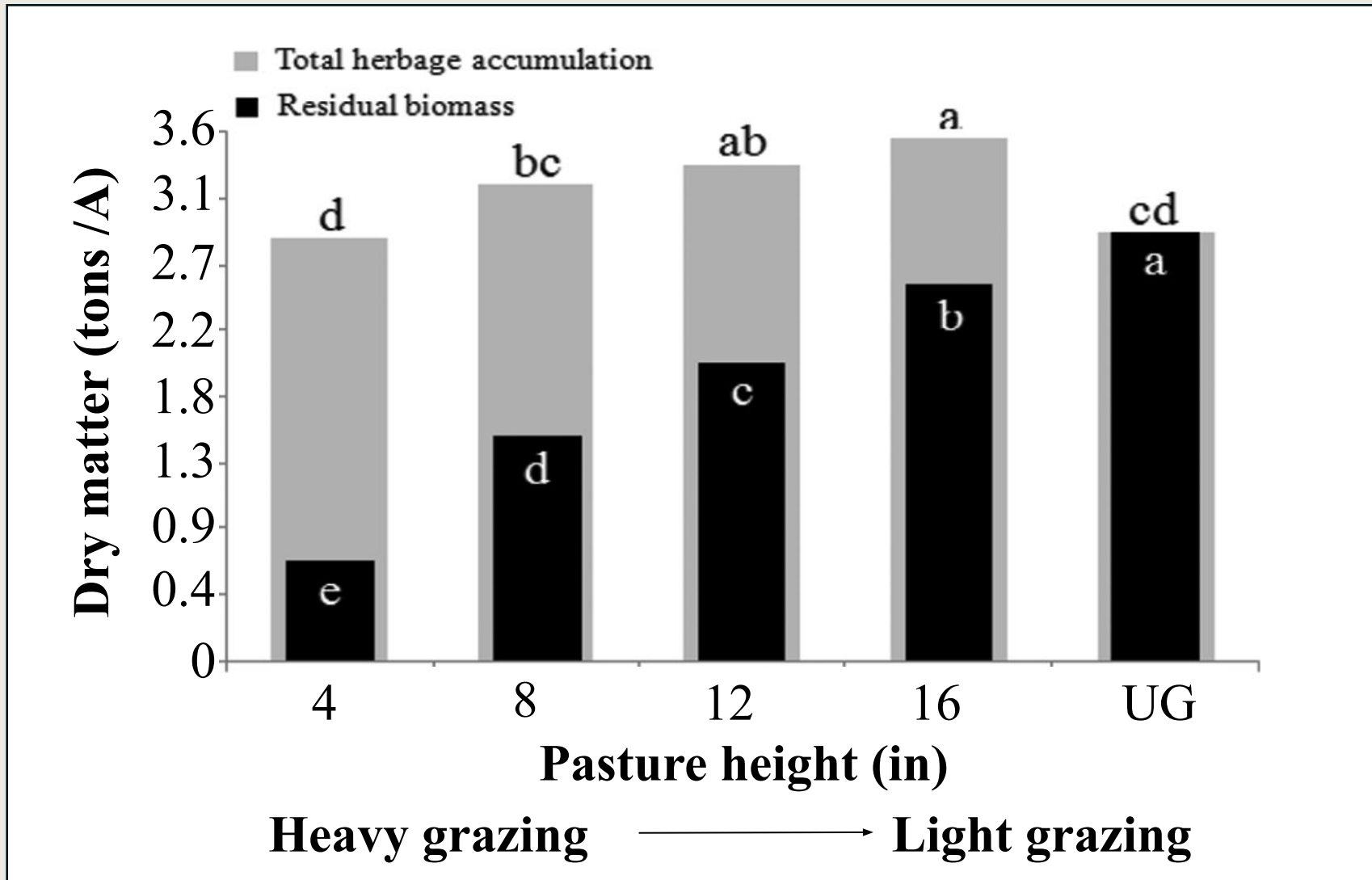
Active growth until the end
of the pasture cycle

Senesced plants at the
end of the pasture cycle



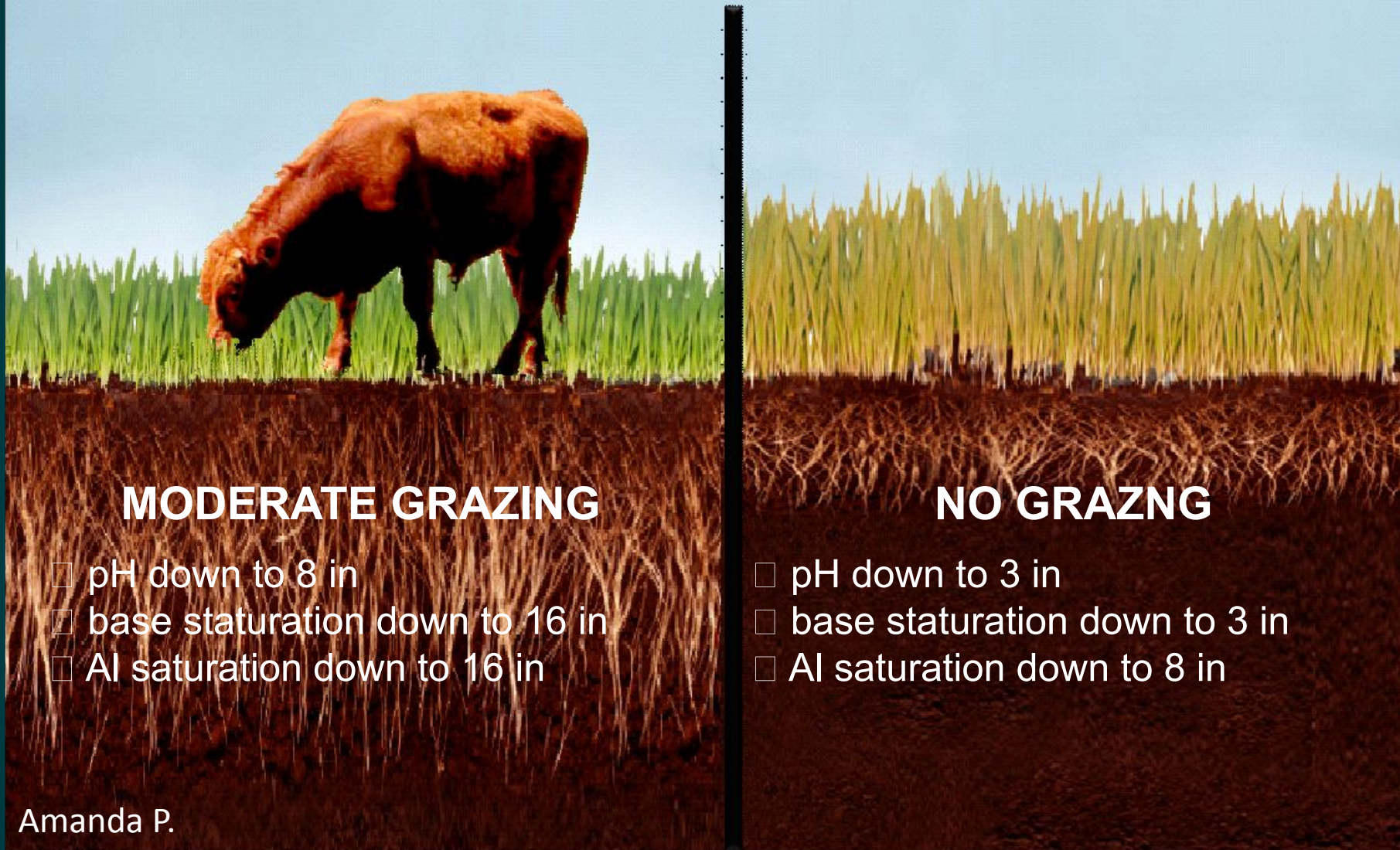
GRAZE
D

NOT
GRAZE
D



Average 14 years

Grazing contributes to improvements in soil chemical quality in no-till systems



MODERATE GRAZING

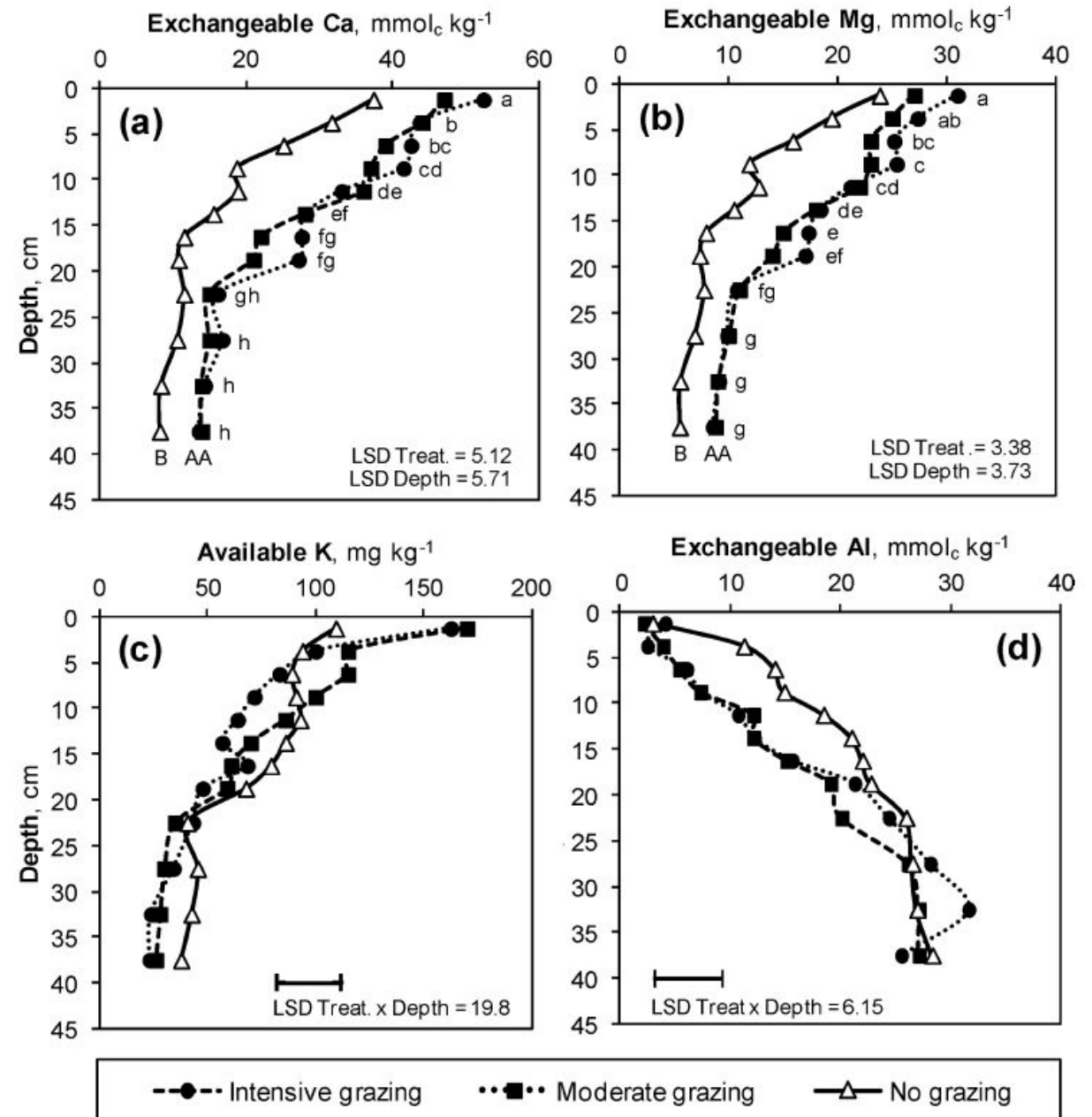
- pH down to 8 in
- base saturation down to 16 in
- Al saturation down to 16 in

NO GRAZING

- pH down to 3 in
- base saturation down to 3 in
- Al saturation down to 8 in

NUTRIENT RECYCLING

- Light grazing = more P released
- K independent of grazing management
- Ca and Mg = positive budgets for grazing vs. no grazing





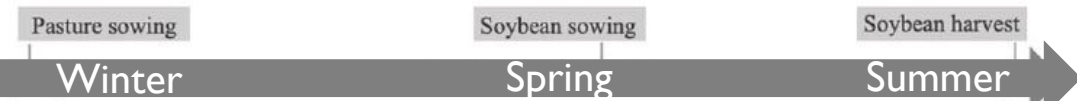
REDUCTION IN FERTILIZER NEEDS?

Producer testimony of $\frac{1}{2}$ the rate of N in Cotton after grazing

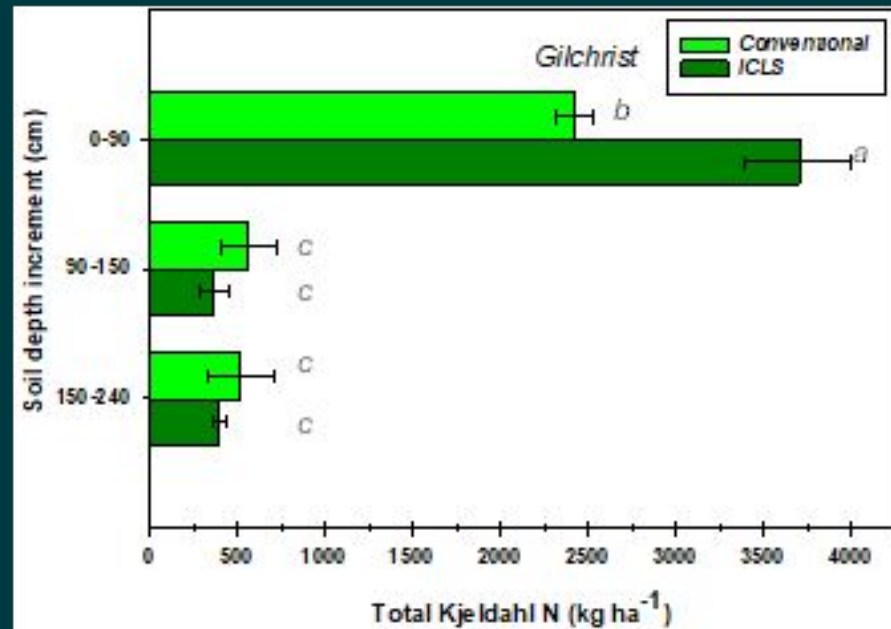
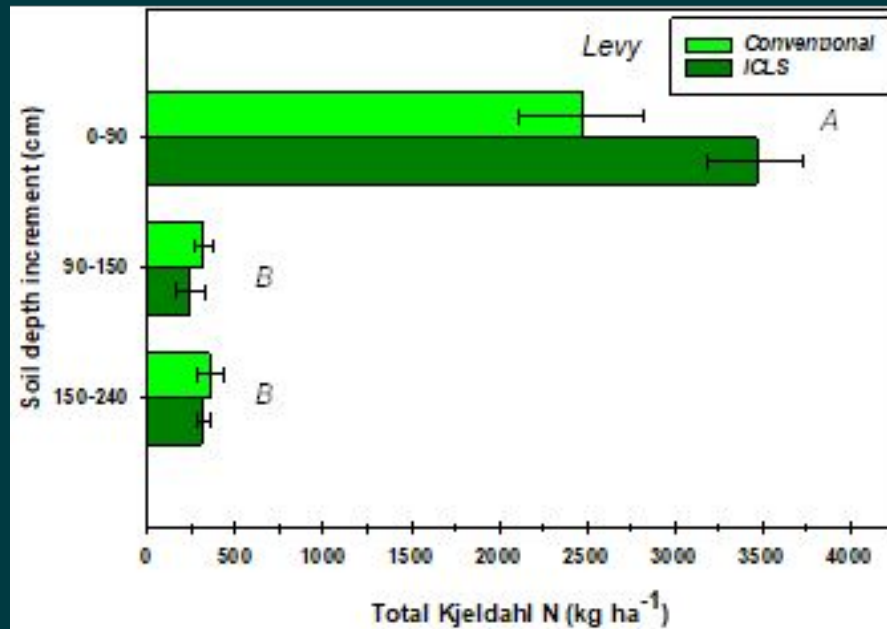
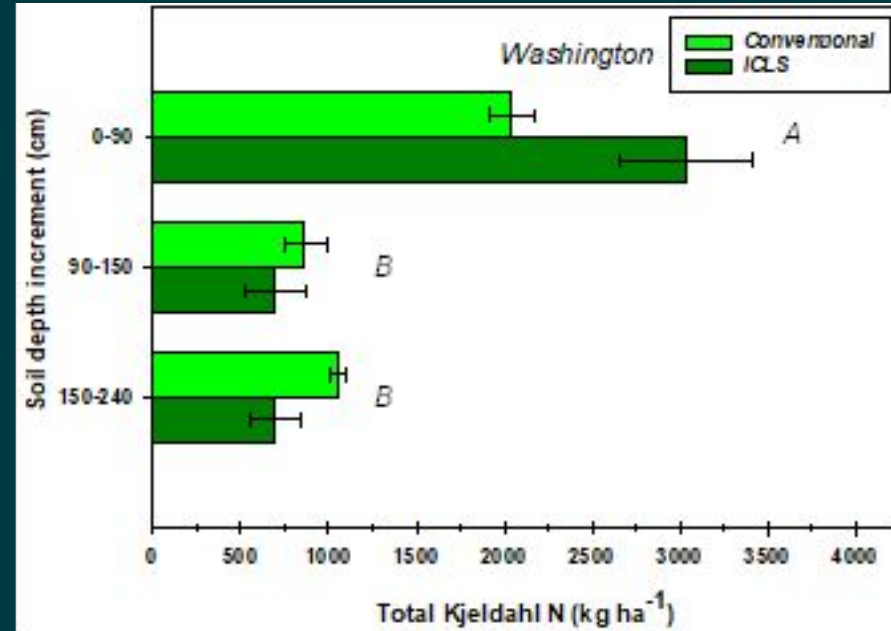
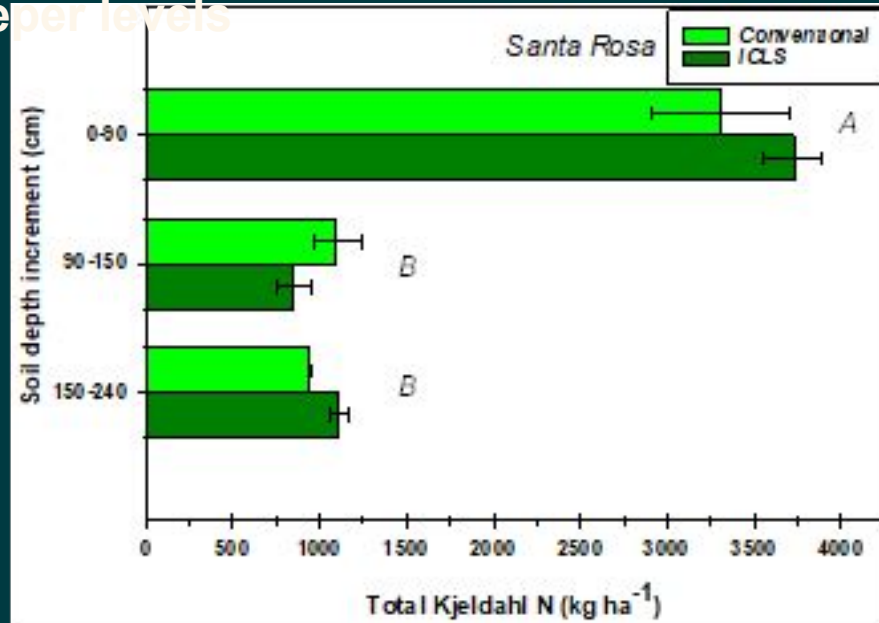
SYSTEM FERTILIZATION

N

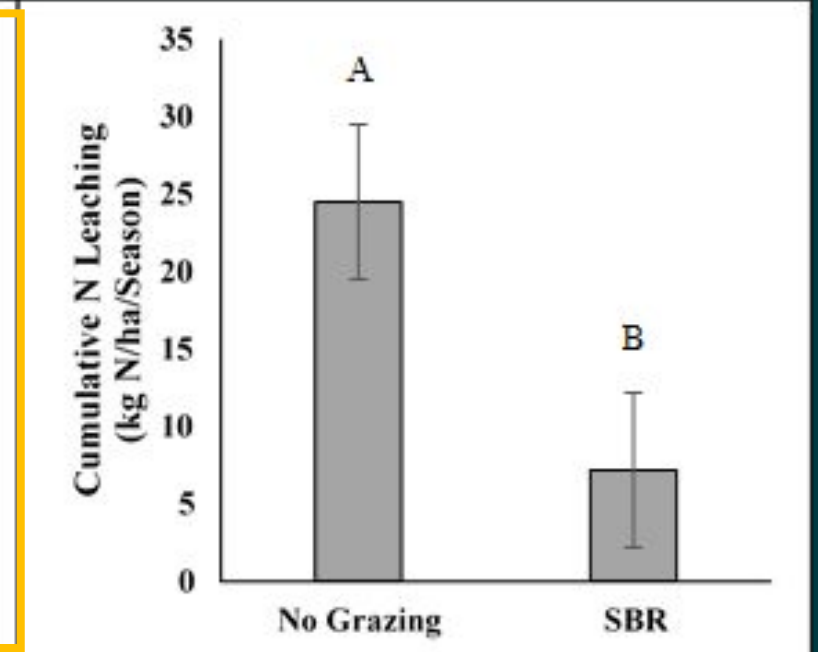
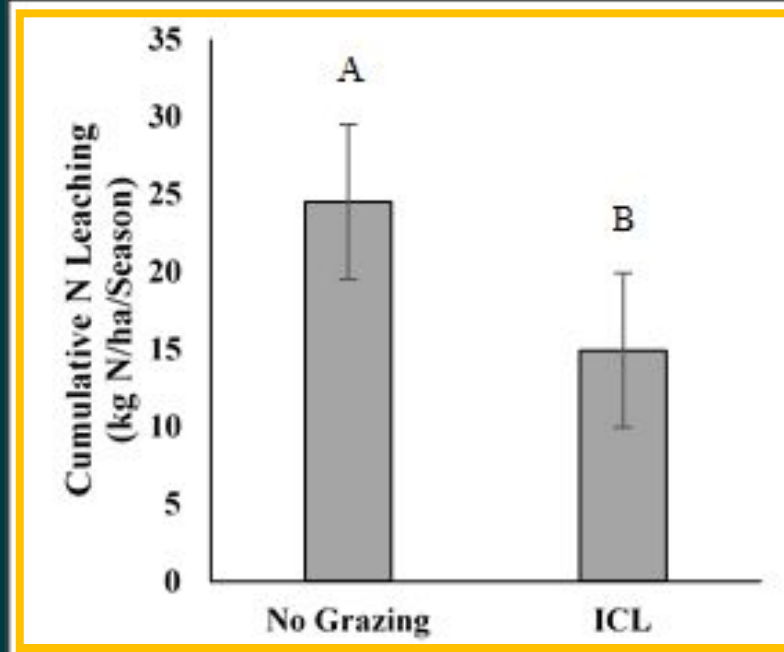
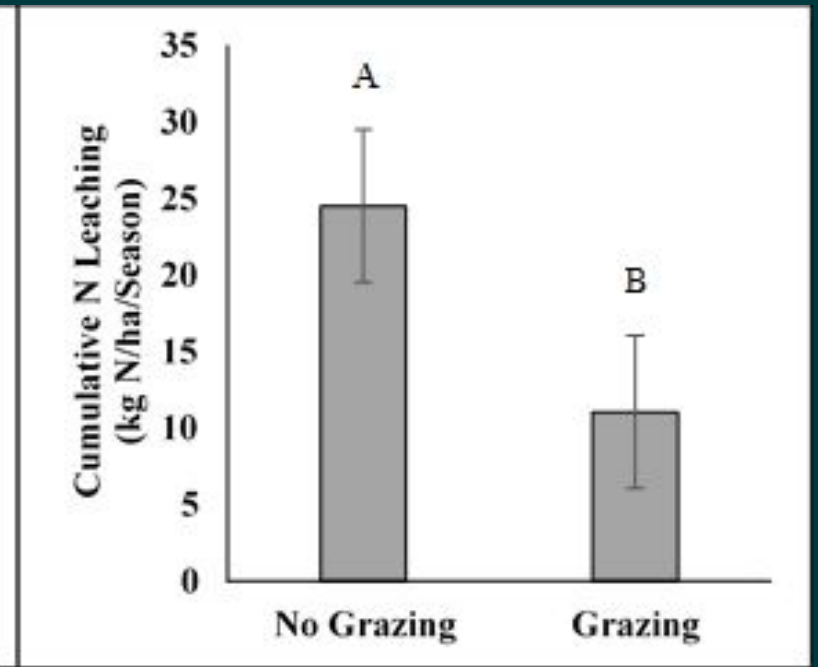
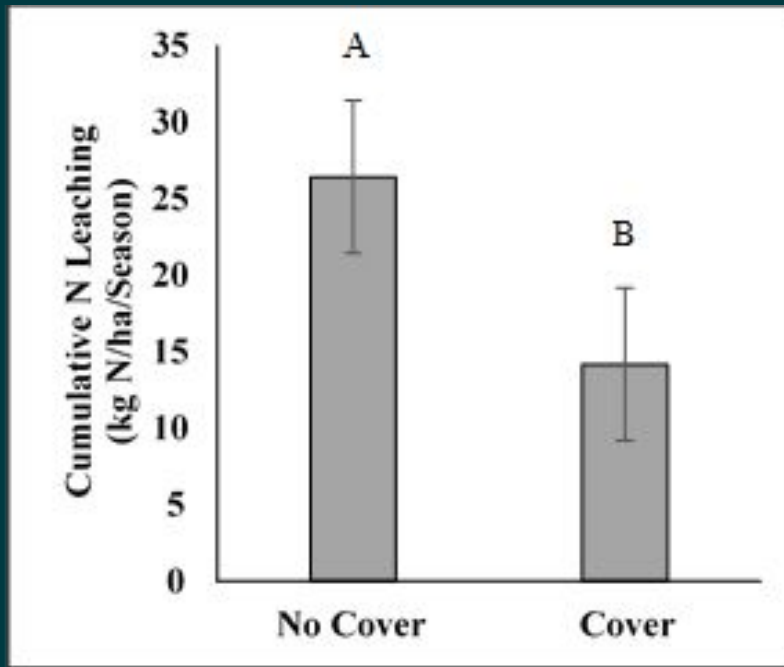
- Capitalizing on nutrient cycling
- Treating cover crops as a *crop*
- **Better pasture = better cattle** production (36%) and crop yield (13%).



On farm monitoring - more N is available on the surface with ICLS, but not necessarily at deeper levels



Cumulative total N leaching of different cropping systems



Importance of pasture nutrition



Amanda
Martins

NOT ANY "GRAZING" IS GOOD GRAZING!



December



Over Grazing

February



Less forage!

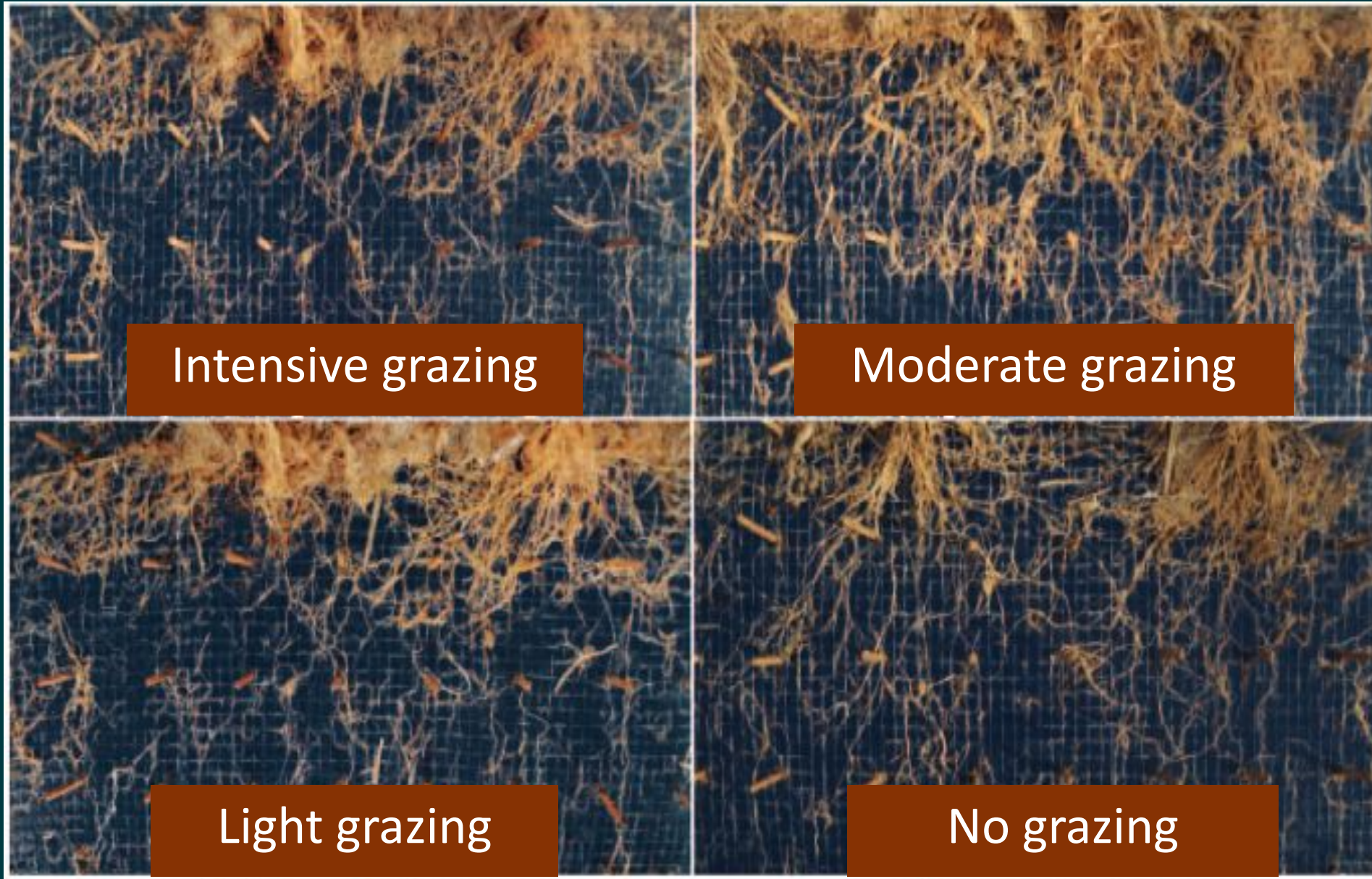


Heavy grazing



Moderate grazing



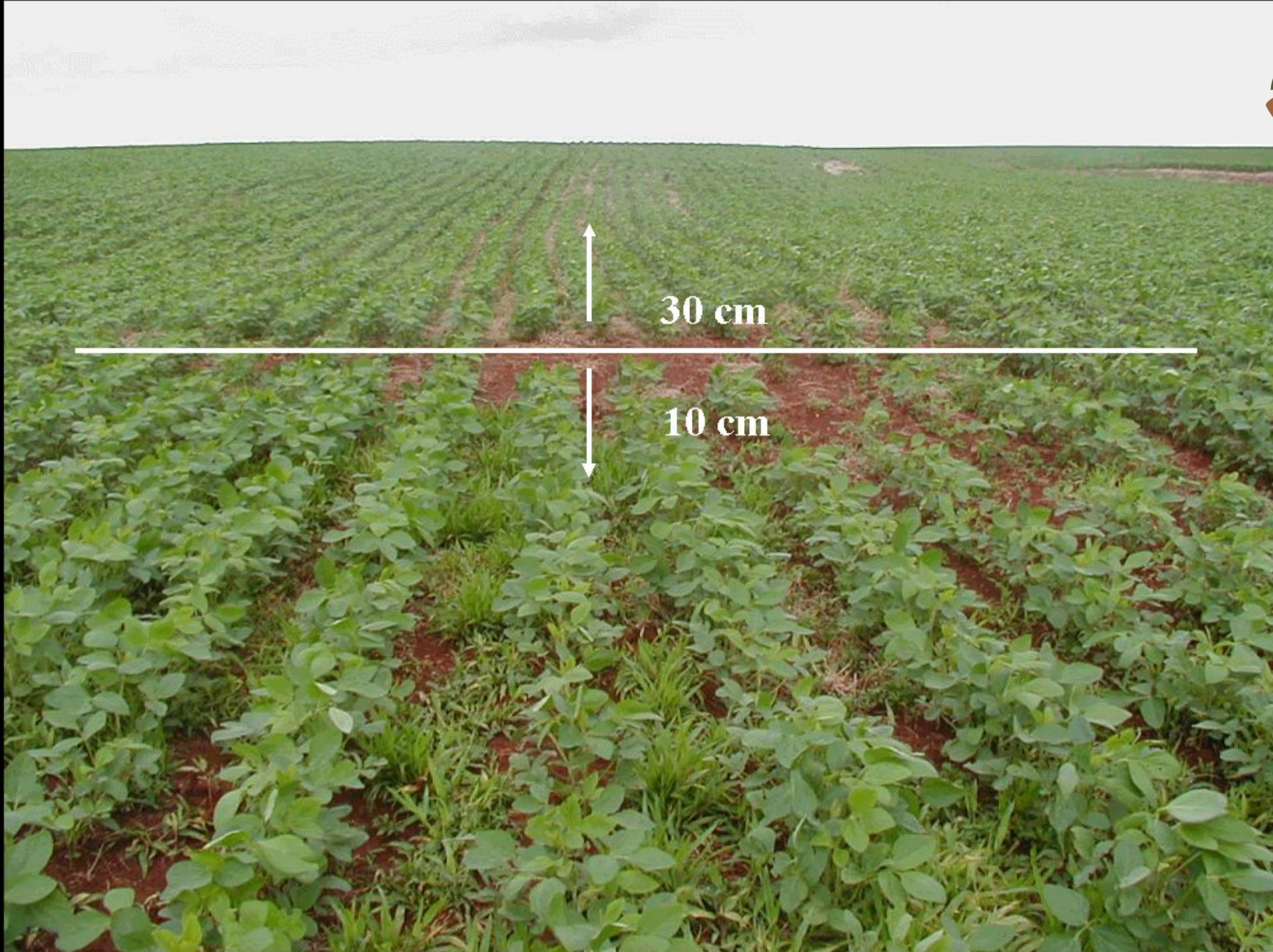


Intensive grazing

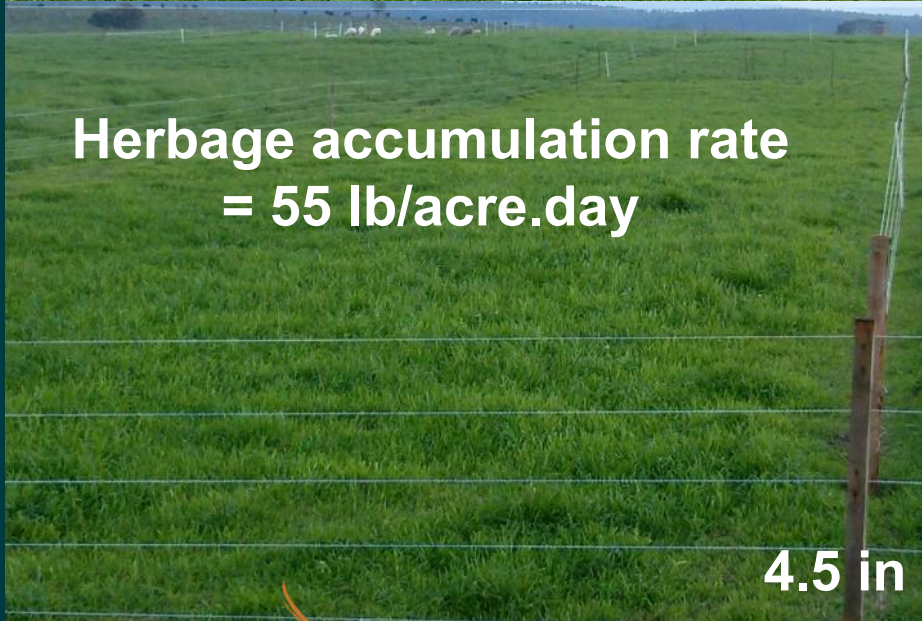
Moderate grazing

Light grazing

No grazing



Starting

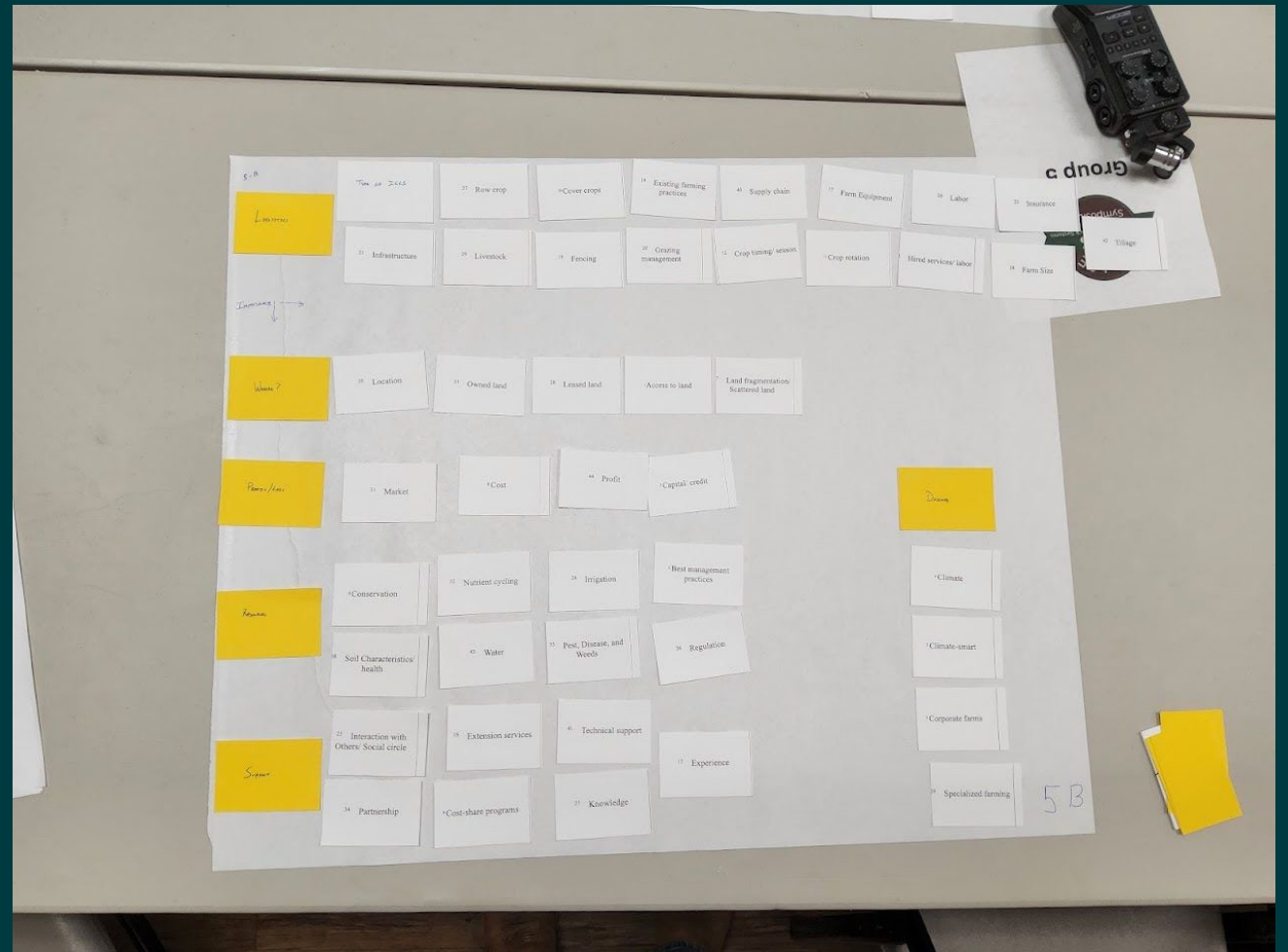


Residual



Average daily gain 153% greater
Gain per area 43% greater

HOW CAN WE INCREASE THE ADOPTION OF INTEGRATED SYSTEMS?



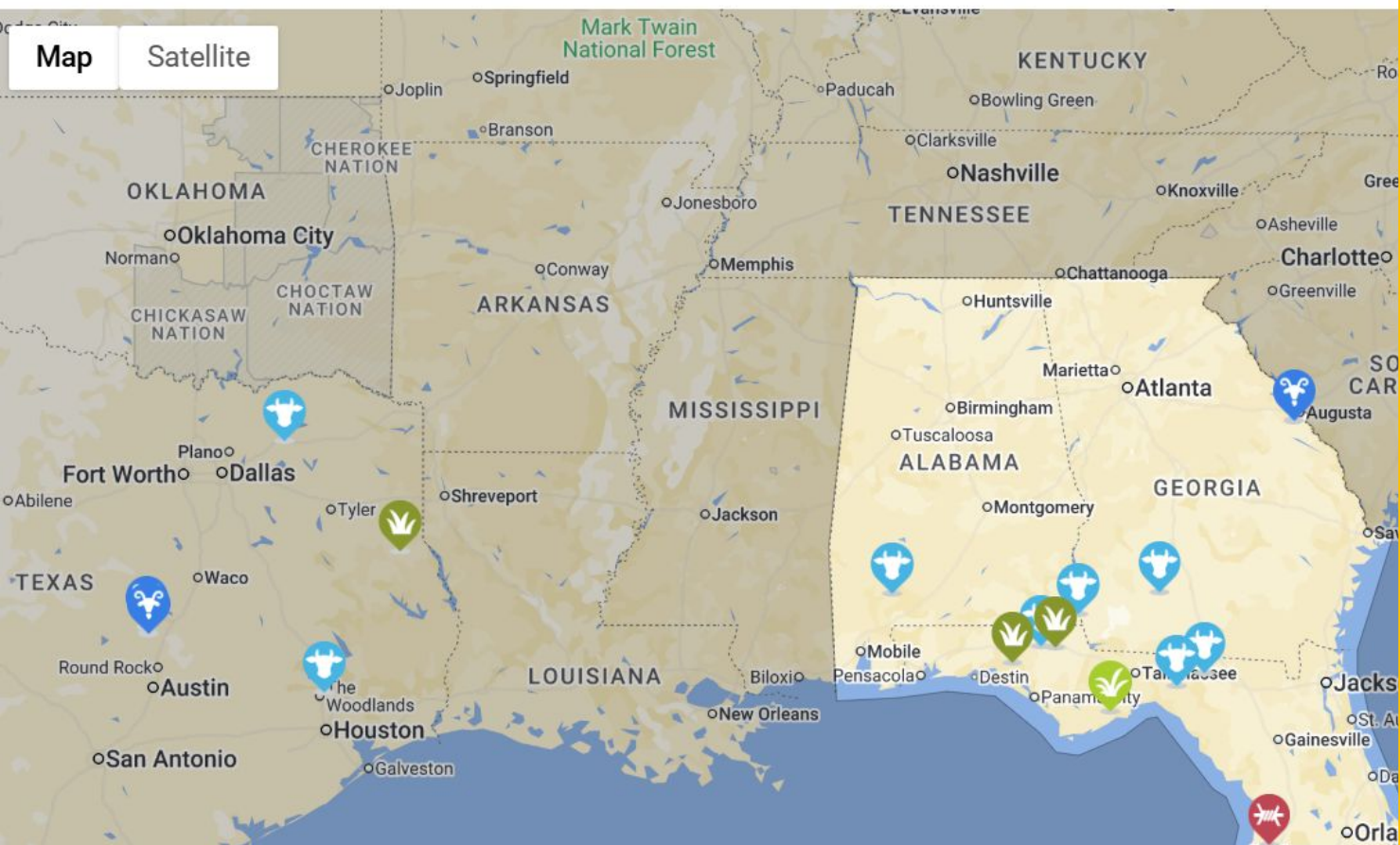
WHAT ARE THE PRIMARY **BARRIERS** AND **MOTIVATIONS** FOR THE ADOPTION OF ICLS ?


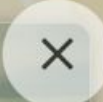
**Labor, land availability, and
capital**

Partnership, right?

The map overlay shows sites where fields are available for grazing, as well as livestock producers with animals they are willing to move to graze. Click on a site to see all sites and herds that are available. Reference the legend to the right to clarify what type of livestock or forage is represented. Click on a site for additional information that has been entered by the account holder about the field or herd, or to transmit your information and a short message to the account holder. Utilize the search box or drop-down menus to narrow your search by address, forage type, or grazing season.

Search by Address or Location... Search by Forage Type...





Beef Cattle
RILEY CATTLE

Number Available: 200
Distance to Travel: Up to 100 miles
Seasons Willing to Graze: Spring Summer
Fall Winter
Willing to Install Fence: yes
Willing to Install Water System: yes
Willing to Haul Water: yes
Grazing tier(s):
• Tier 2 - Contract/Targeted Grazing
• Tier 3 - Traditional Grazing: land leased on an annual or long-term basis

TRUST

- **Interpersonal** □ ability to work together (companion trust) and of having technical skills (competence trust)
- **Institutional** □ confidence in formal organizations to perform their roles

COST-SHARE MISALIGNMENT

“doing things different to try to maybe fit in a program”

“Sometimes when you have that [BMPs] and then you have your profits that you're trying to achieve there can be a little bit of conflict.”

**BUT IT IS NOT ONLY ABOUT
CONNECTING PEOPLE**

We need to build

communities

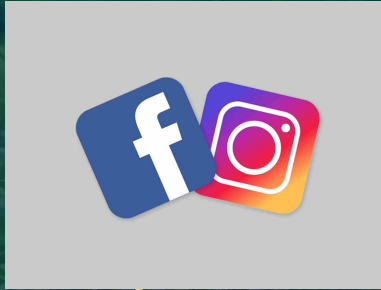
*And Extension has a great opportunity
here!*

Hands-on program:

- Economic sustainability
- Environmental stewardship
- Practical strategies for long-term viability

Develop more practical experience and large-scale demonstrations in *real conditions*





UFForage team
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THANK YOU

- Grazing cover crops is a strategy to improve nutrient cycling in cropping systems. Overgrazing is the root of most issues.
- Opportunity for crop-livestock integration through partnerships.
- But we need to build communities of practice.

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