

Effects of pasture-sugarcane conversion and pasture intensification in the soil microbial community associated to nitrogen cycle

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INTRODUCTION

- Sugarcane ethanol is an alcohol-based renewable biofuel produced by the fermentation of sugarcane extract and molasses.



- One alternative to avoid clearing of native vegetation is to expand energy crops in degraded pasturelands.

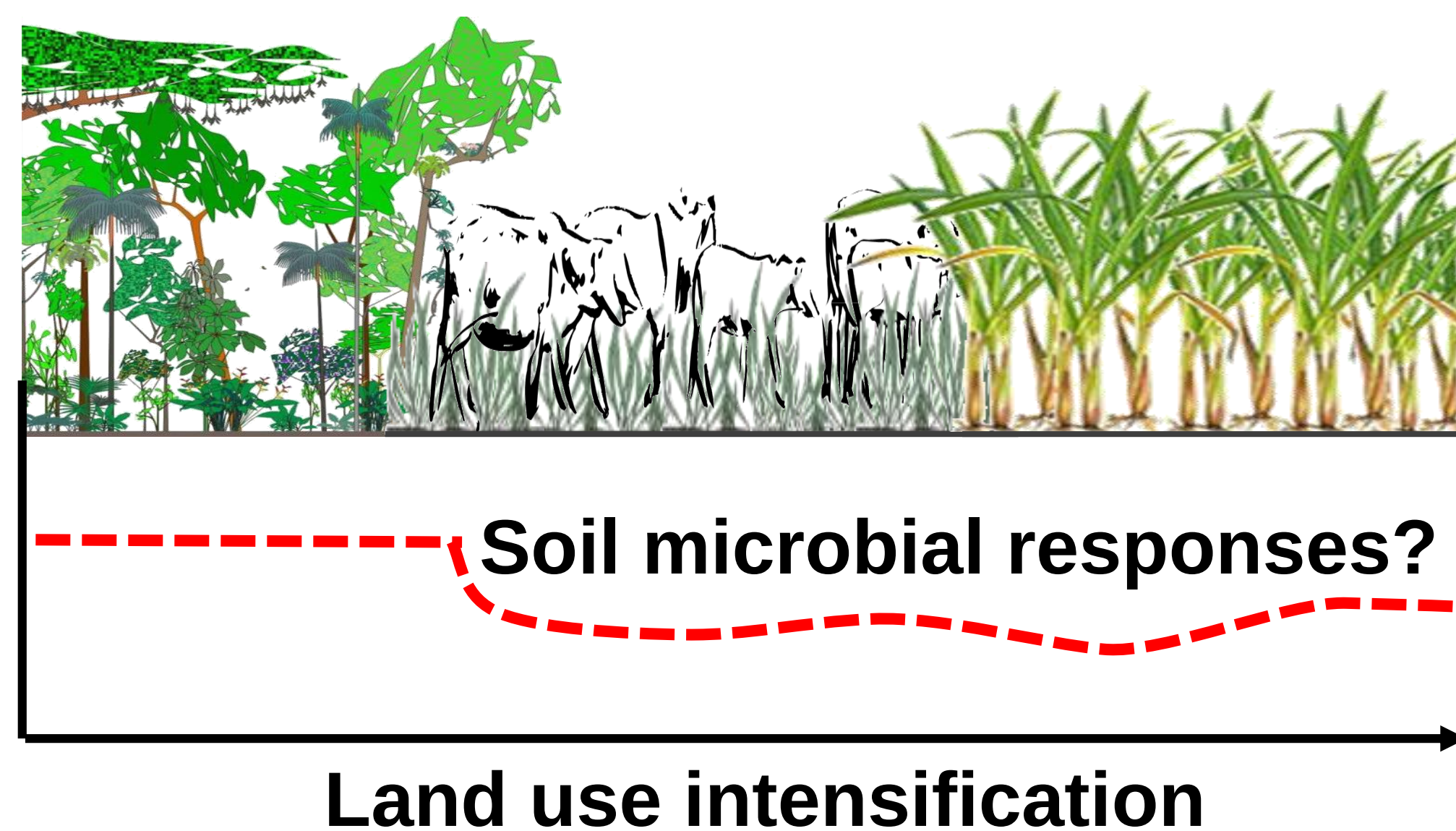
Pasture intensification

Same # of animal heads
in a smaller space



- Hypothesis:** the soil use intensification can alters richness, diversity and structure of soil microbial communities and can change the dynamics of N in the soil.

THE QUESTION

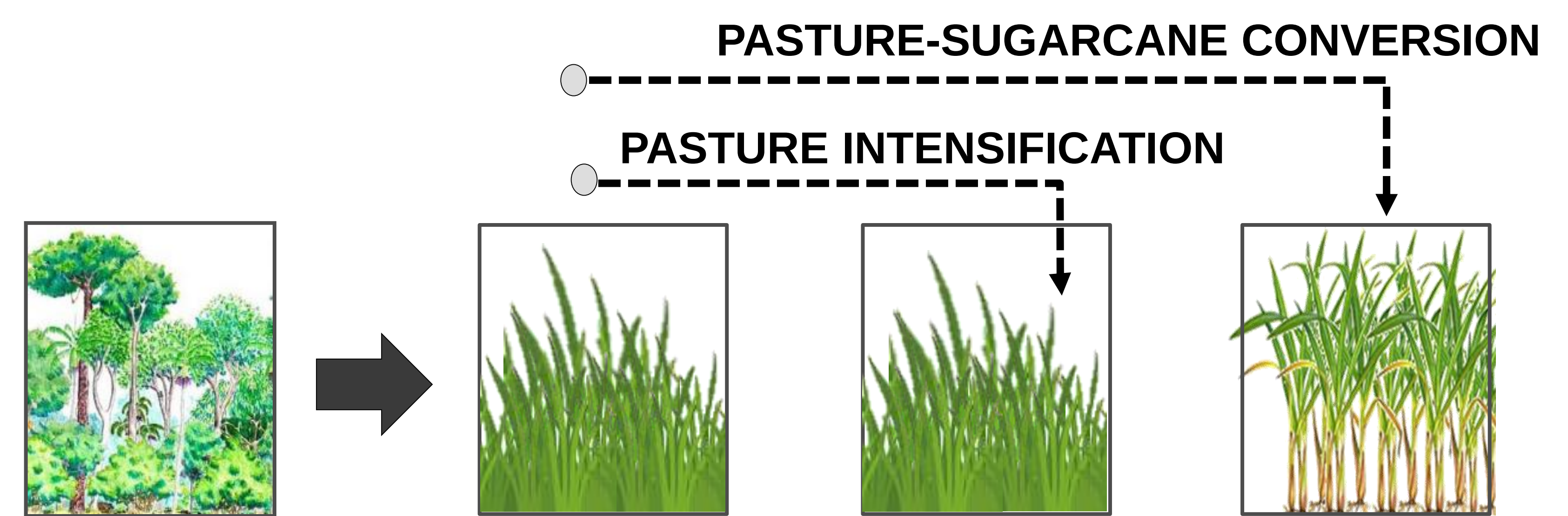


Evaluate the diversity of soil microbial communities associated to nitrogen cycling, to understand their responses to pasture-sugarcane conversion and pasture intensification.

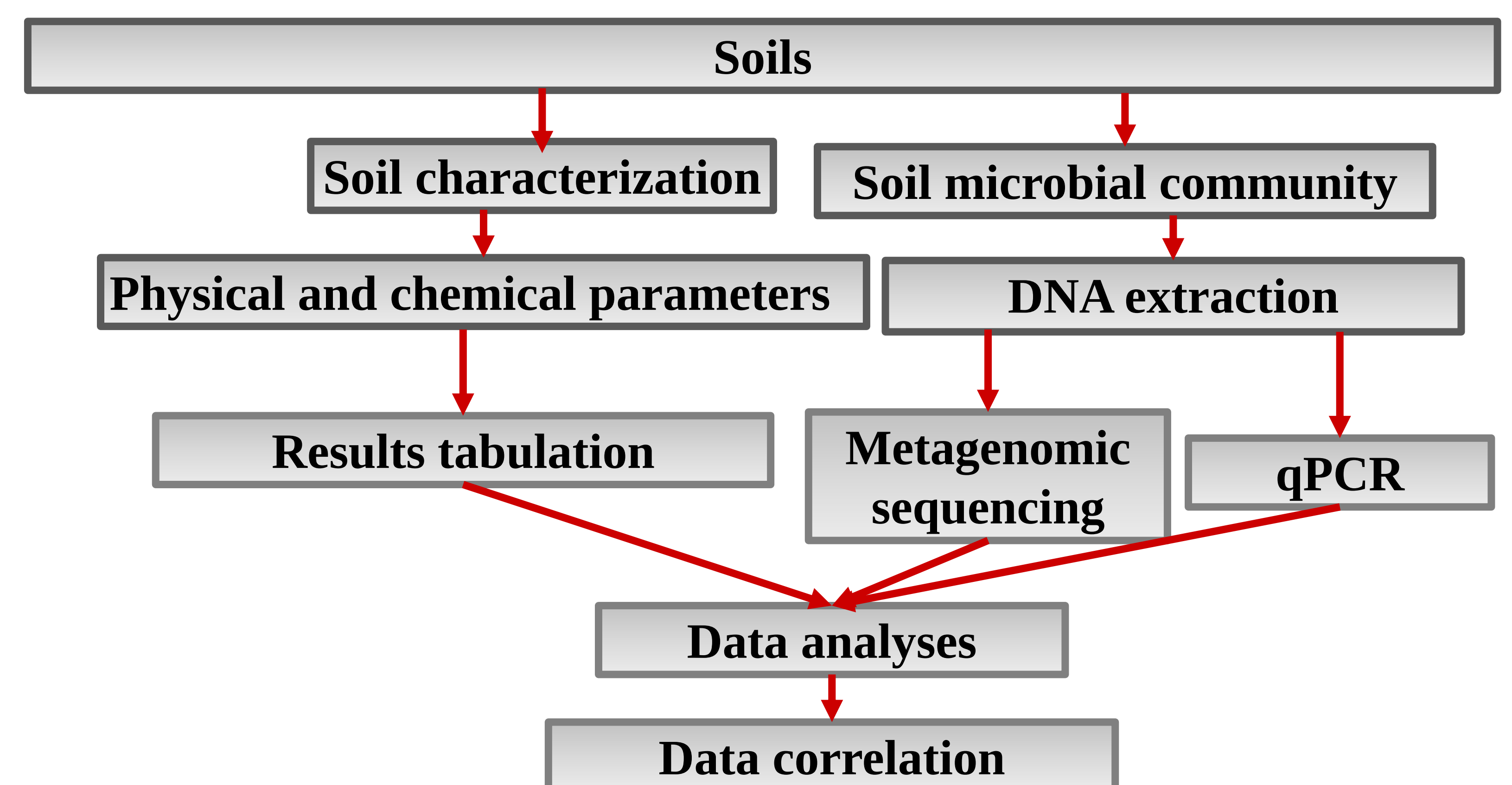
- We expect to contribute to the understanding about the effects of soil management changes and land use intensification over microbial community that are involved in N cycling.

METHODOLOGY

We propose to set a field experiment where pasturelands plots will be intensified to increase the animal product output per unit area or converted to sugarcane fields.



METHODOLOGICAL STAGES



REFERENCES

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- TILMAN, D.; SOCOLOW, R.; FOLEY, J.A.; HILL, J.; LARSON, E.; LYND, L.; et al. Beneficial Biofuels-The food, energy, and environment trilemma. *Science*, v. 235, p. 270–1, 2009.

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