

## Sunn hemp management after termination: effects on soil microbiological diversity

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### INTRODUCTION & AIM

Sunn hemp (SH), as a cover crop, not only controls weeds and provides nitrogen (N) but also promotes soil health. Its decomposition tends to increase microbial diversity and activity through the mineralization of organic residues. The objective of this research was to investigate the effects of different management practices after SH termination, on soil microbiota.

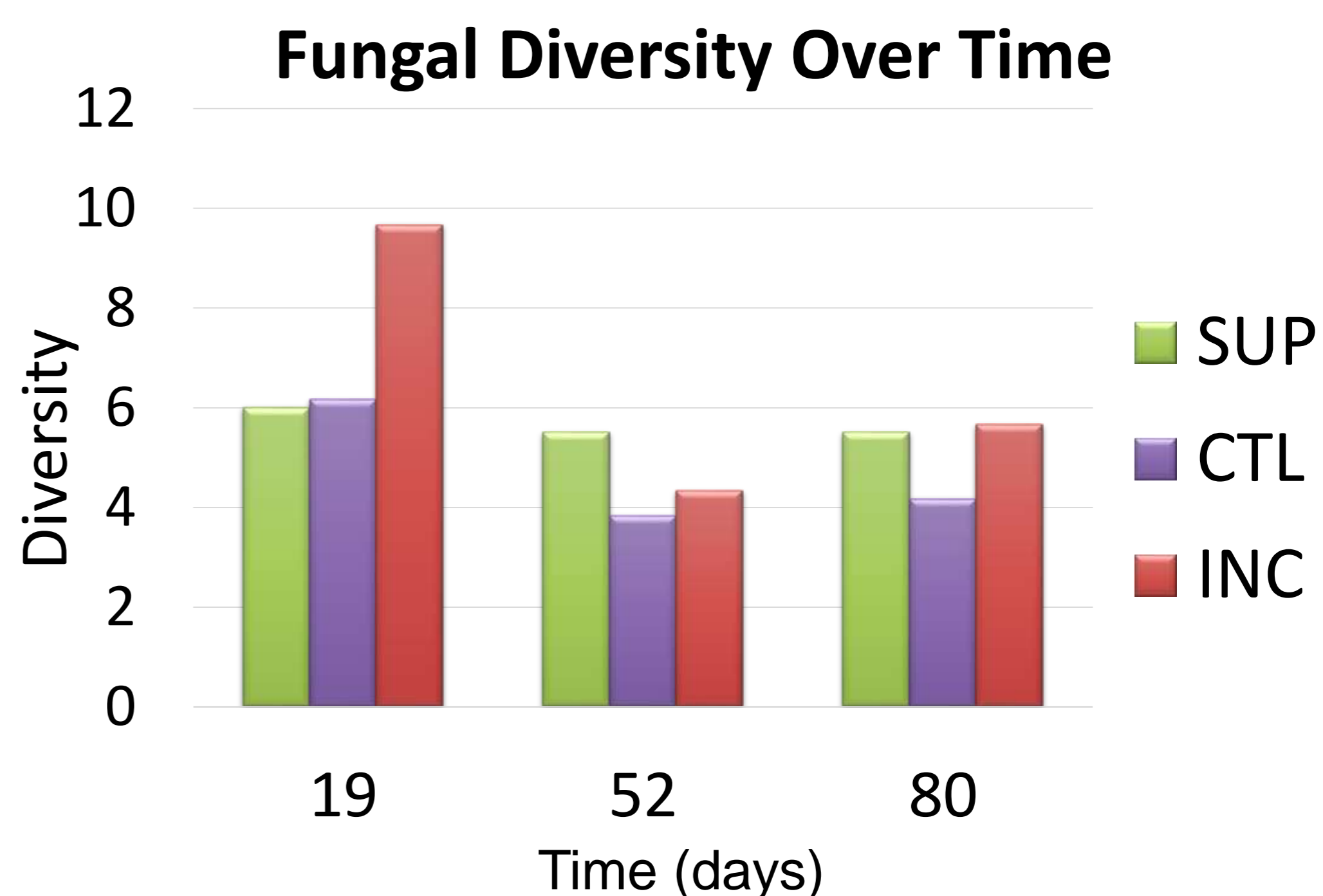
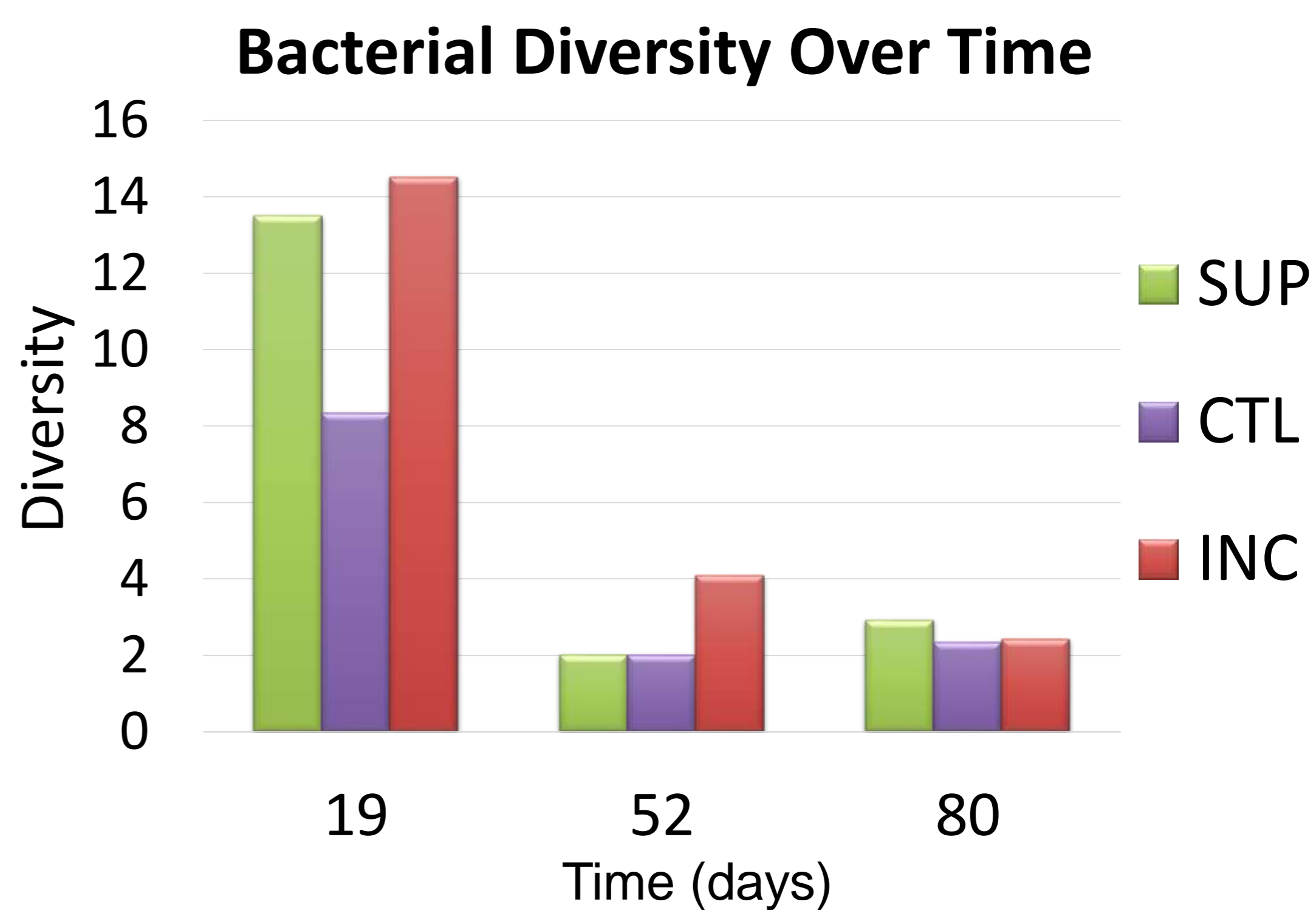
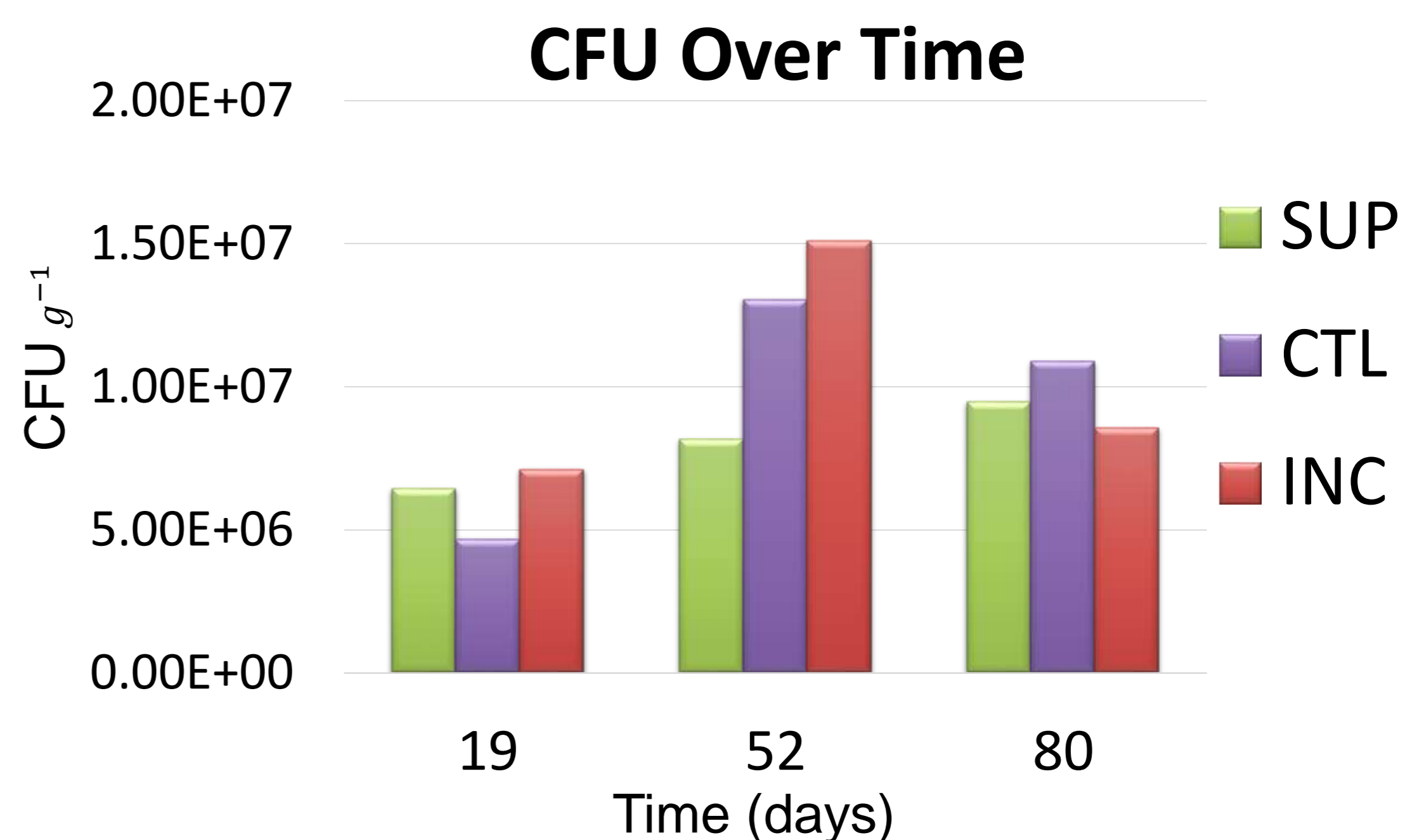
### METHODS

Three types of management, in a completely randomized design, were tested: SH left on the soil surface (SUP) and SH incorporated into the soil (INC), both compared to a control treatment with spontaneous vegetation (CTL). Right after that, sorghum was planted. SH was the main nitrogen source for sorghum, except in CTL, where all N was provided by urea. Soil samples were collected from the 0-10 cm layer at 19, 52, and 80 days following SH termination to count colony-forming units (CFU).

### CONCLUSIONS

- SH was effective as a cover crop for increasing short-term bacterial diversity, enhancing soil health and nutrient cycling;
- The application of urea should be carefully evaluated, as it may inhibit bacterial diversity and reduce the microbial benefits of cover crops;
- The impact of SH residues decreases over time, highlighting the need for ongoing strategies to maintain microbial diversity in the soil.

### RESULTS



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