

Two-year management does not compensate for the vegetation and soil difference between invaded and non-invaded areas

Boglárka Berki¹, András Mártonffy¹, Edina Csákvári², Melinda Halassy², Anikó Csecserits³

¹Eötvös Loránd University, Hungary, ²Restoration Ecology Group, Institute of Ecology and Botany, Centre for Ecological Research, Vácrátót, Hungary, ³Eötvös Loránd University, Hungary, ³Large-Scale Vegetation Ecology Research Group, Institute of Ecology and Botany, Centre for Ecological Research, Vácrátót, Hungary

berki67@gmail.com



INTRODUCTION

The quick expansion of common milkweed is a serious conservation problem in Hungary. Invasive plant species can change the environment, outcompete native plants and reduce diversity of vegetation.

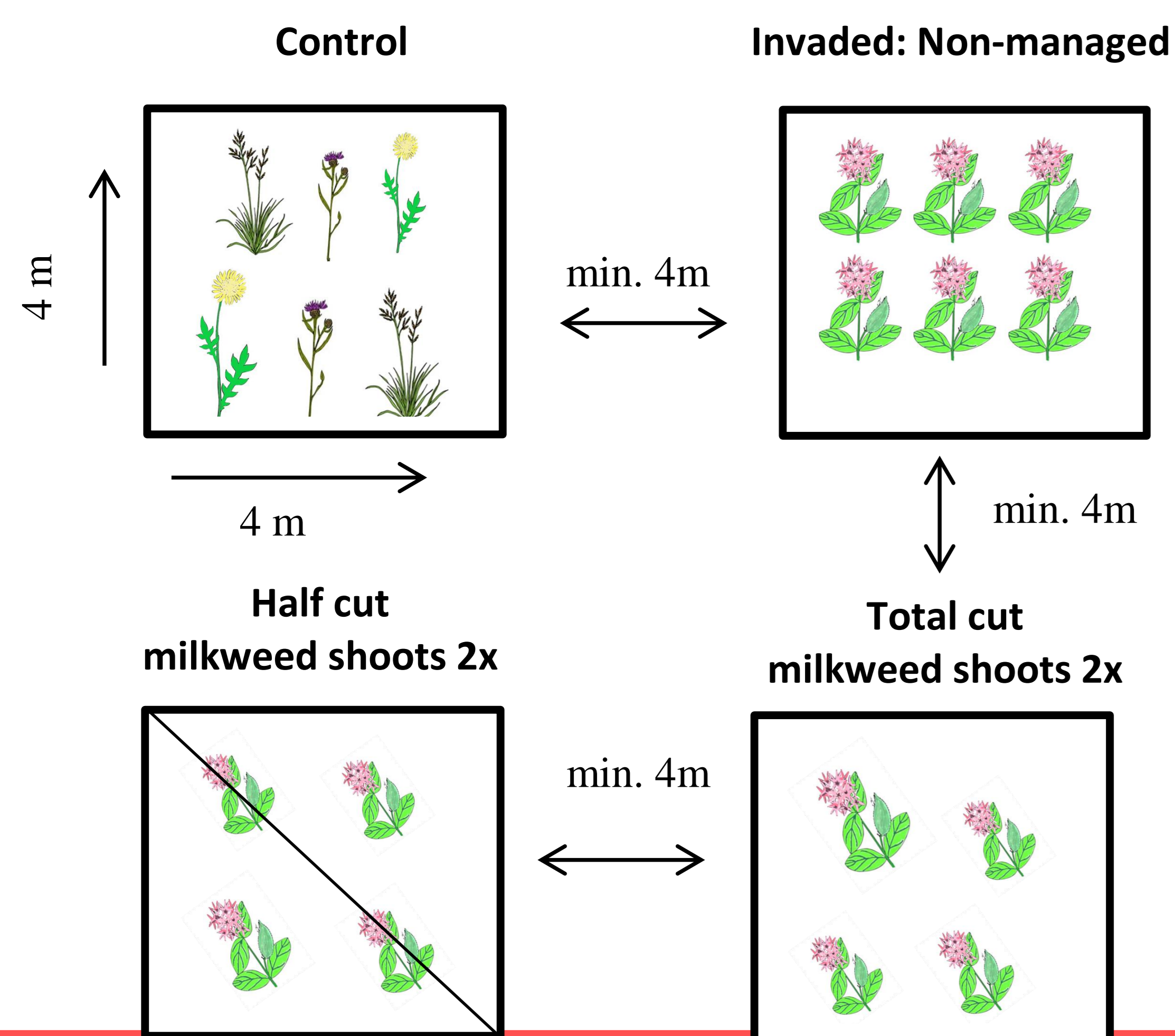
AIM OF THE STUDY

To explore the impact of common milkweed on basic soil attributes and on native plants species composition before and after manipulating the aboveground density of common milkweed.

METHODS: 2019-2020

In Central Hungary, we selected **10 abandoned agricultural fields** (i.e. old-fields). We collected **soil samples** from 0-10 cm and 10-20 cm soil layers from each plot **before the management**, and studied pH, humus, CaCO₃, K₂O, P₄O₁₀, C, NO₃. We **monitored the vegetation** in three 1x1m quadrats/ plots twice in year.

Management of aboveground density of milkweed



CONCLUSIONS

Common milkweed did not affect the studied soil attributes (pH, humus, CaCO₃, K₂O, P₄O₁₀, C, NO₃). Specialist plants cover were higher in control plots, and milkweed had no effect. Generalist plants cover were initially higher in invaded plots. Milkweed had an important effect on vegetation composition, but not through the studied soil properties. The two years of management affected the cover, but not the number of milkweed shoots. Two years of suppressing milkweed density was insufficient for vegetation recovery.

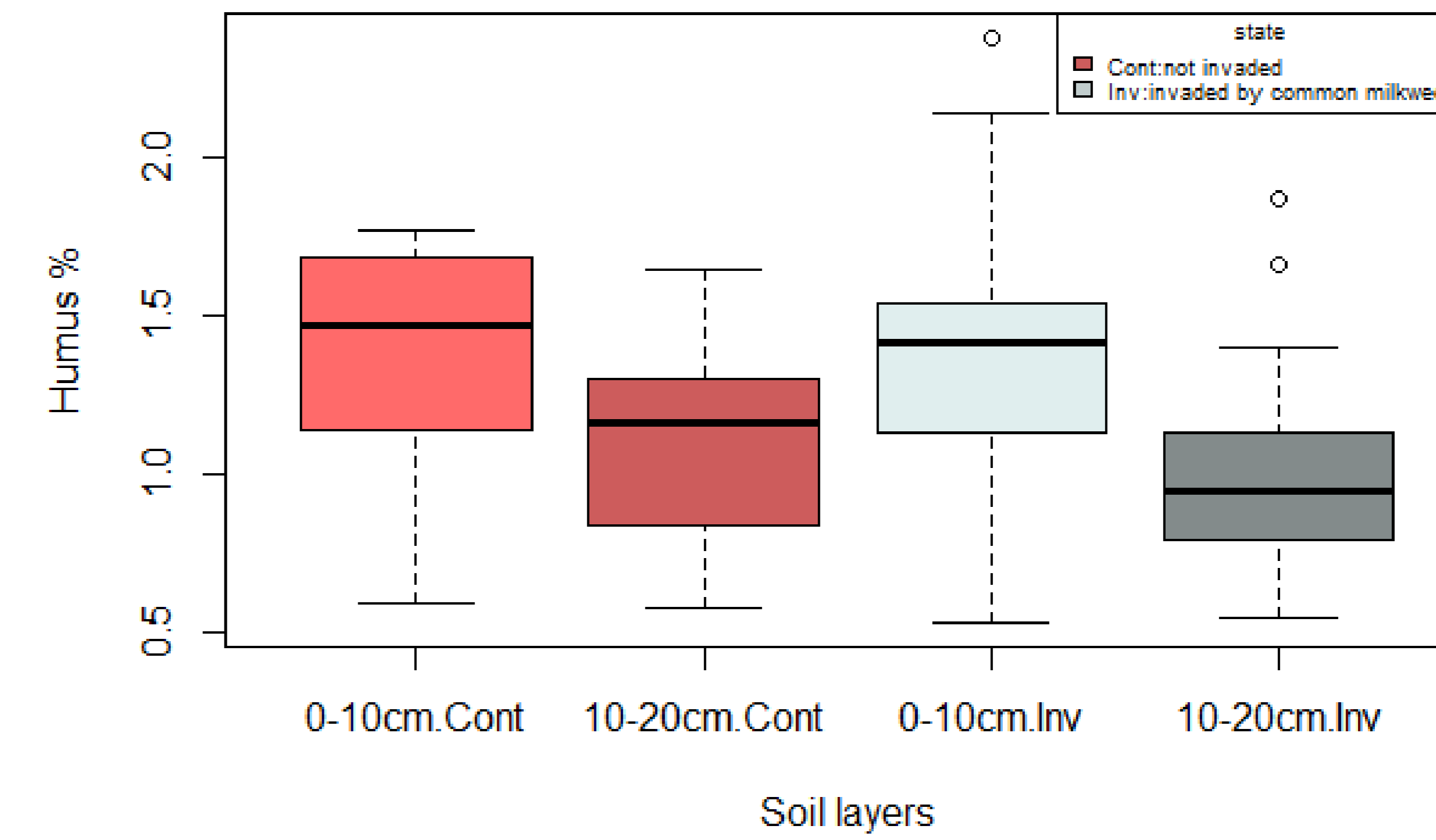
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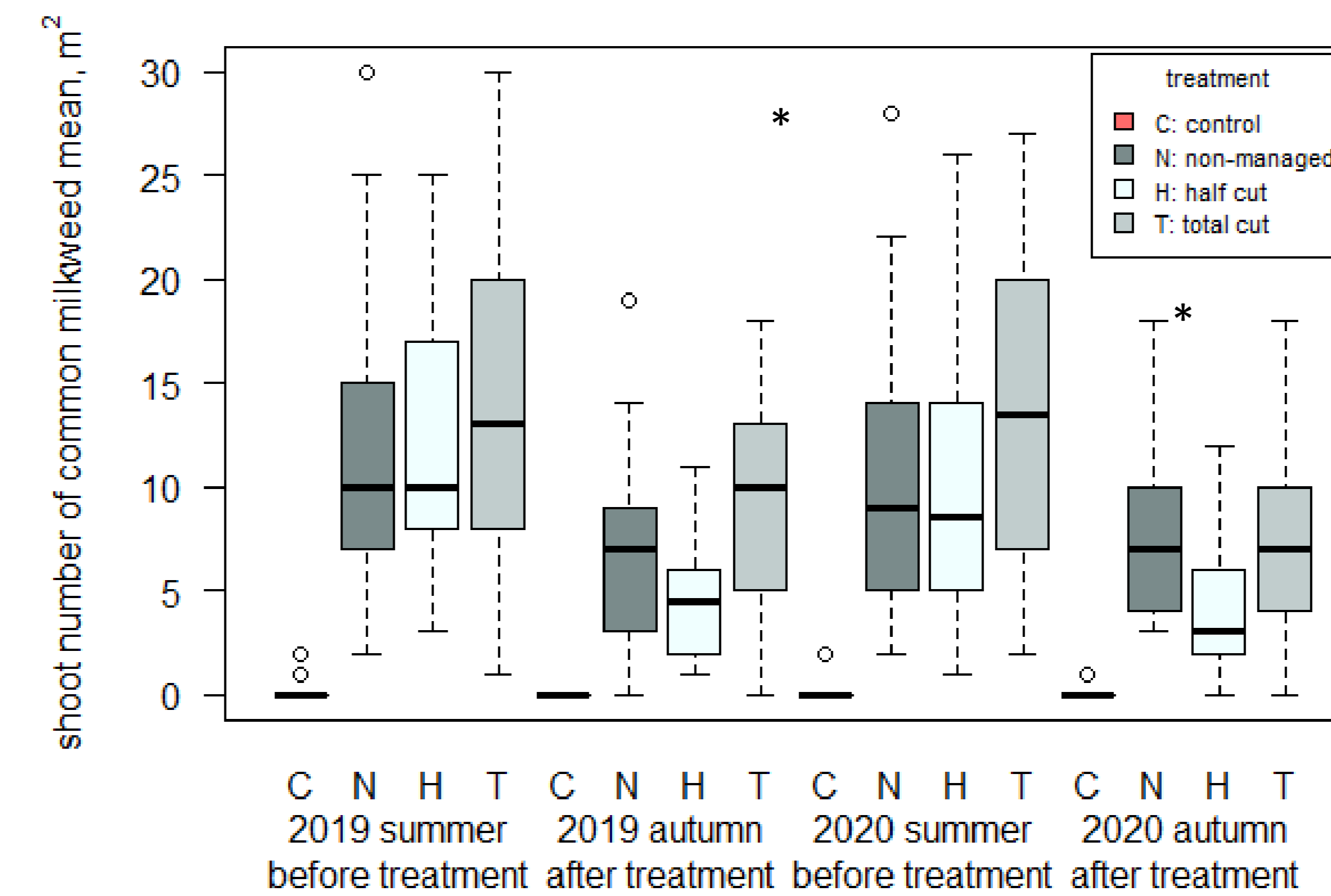
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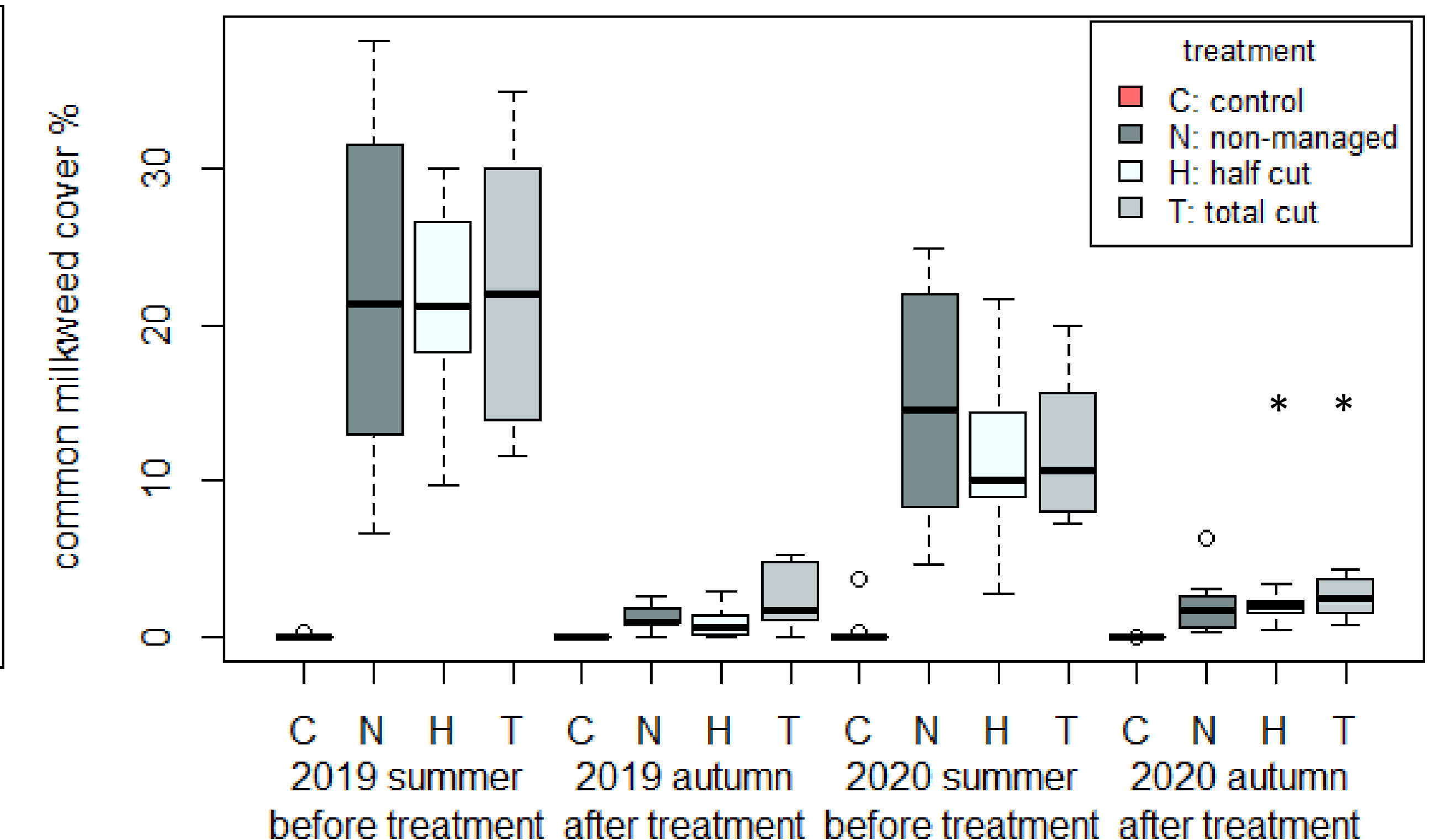
RESULTS



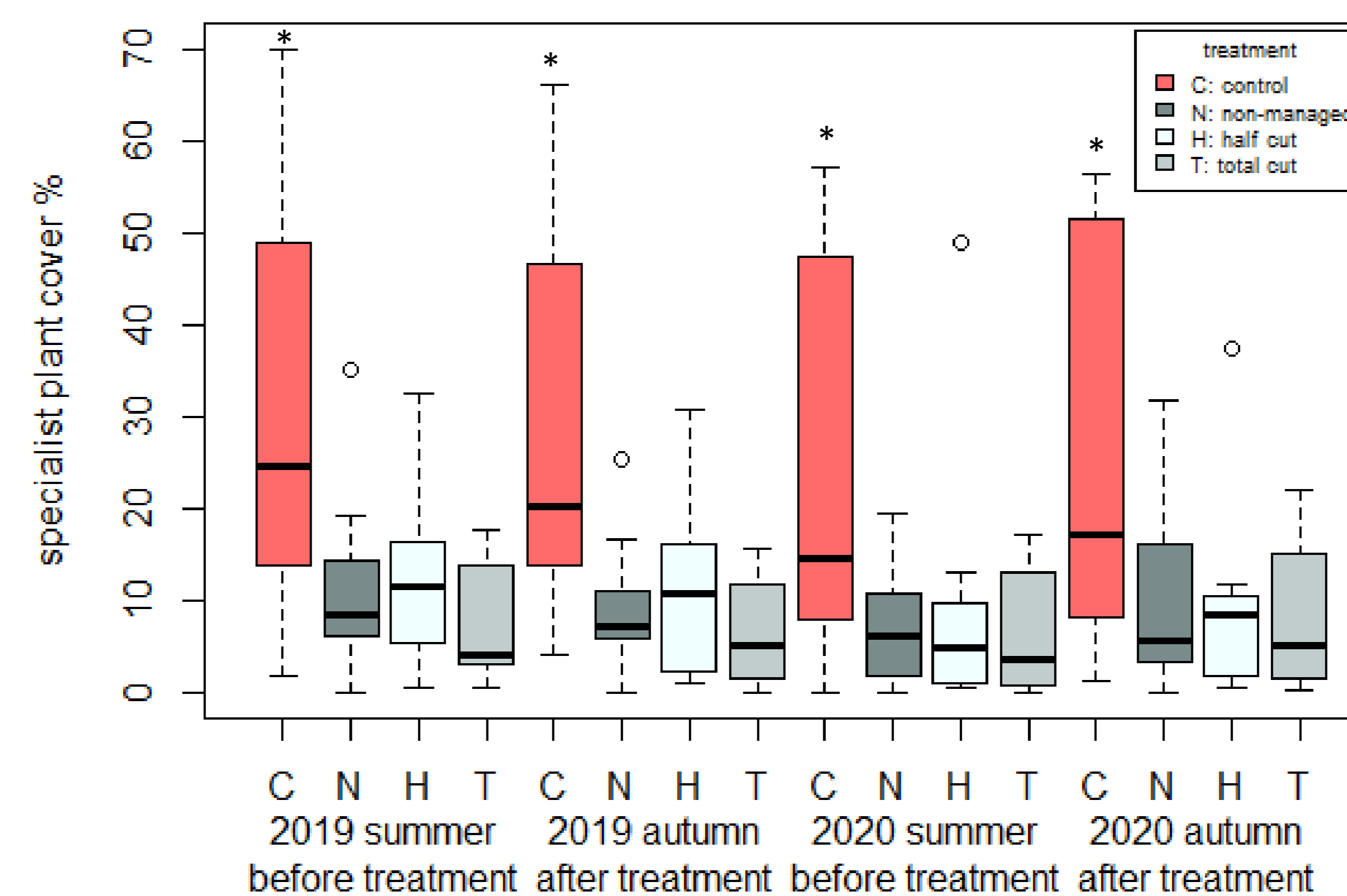
We found marginal significant differences in humus content in 0-10 cm soil layer in invaded areas.



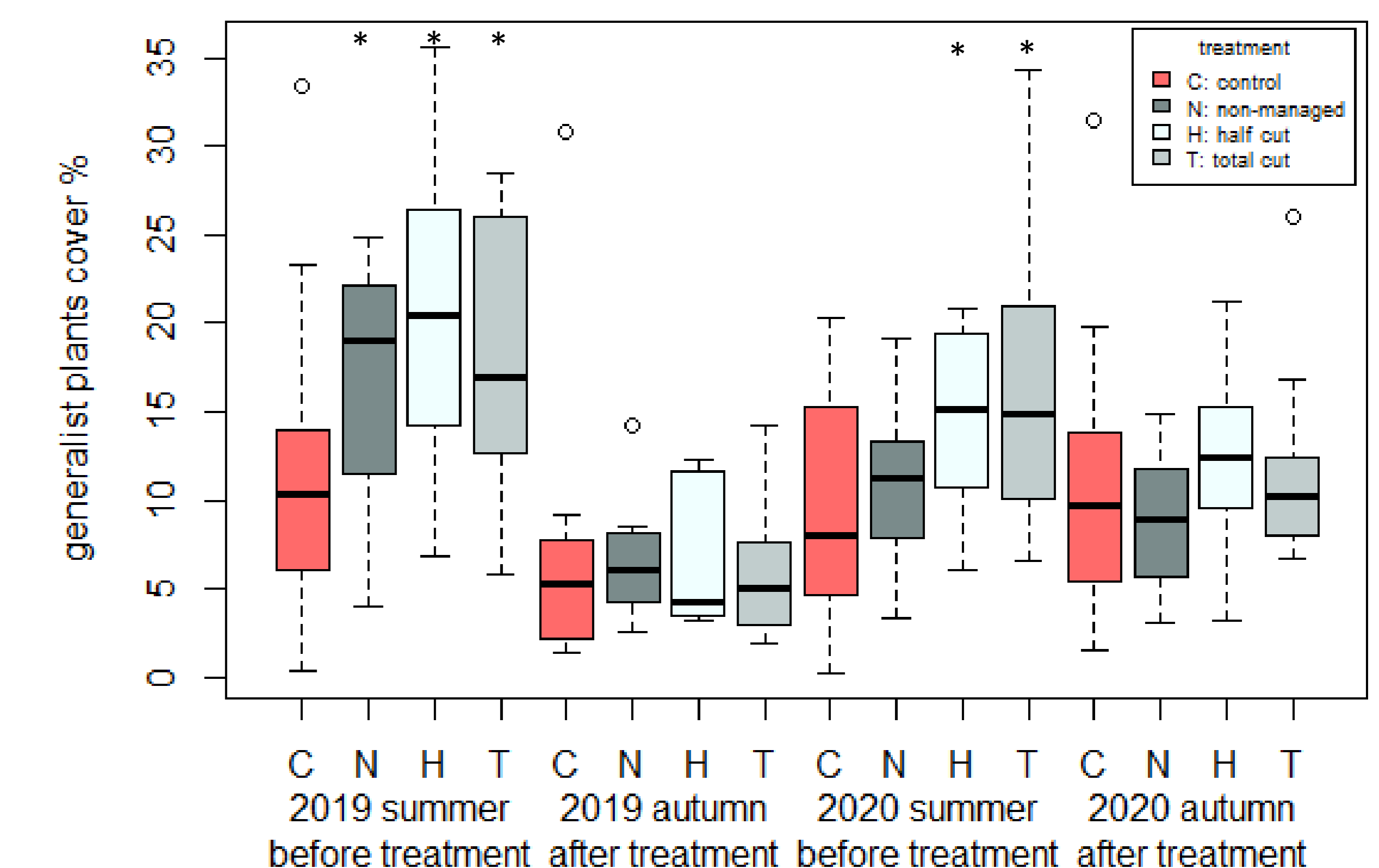
The shoot number of common milkweed was significant lower in half cut and total cut plots than control and non-cut plots at the end of the second year.



The cover of common milkweed was significant lower in half cut and total cut plots than control and non-cut plots at the end of the second year.



The cover of specialist species was significant higher in the control plots compared to invaded plots. The management of milkweed had no effect.



The cover of generalist species was initially higher in the invaded plots, but later became similar to control plots.