The influence of seaweed on soil respiration

Marija Kristić, Vladimir Zebec, Jurica Jović, Meri Engler, Vladimir Ivezić

Faculty of Agrobiotechnical Sciences Osijek, University of Josip Juraj Strossmayer in Osijek, Vladimira Preloga 1, Osijek, Croatia (vivezic@fazos.hr)

Introduction

Soil respiration indicates soil health, i.e. biological activity. It can be an indicator of healthy soil, which has the ability to break down organic residues and circulate nutrients necessary for crop growth.

Aim

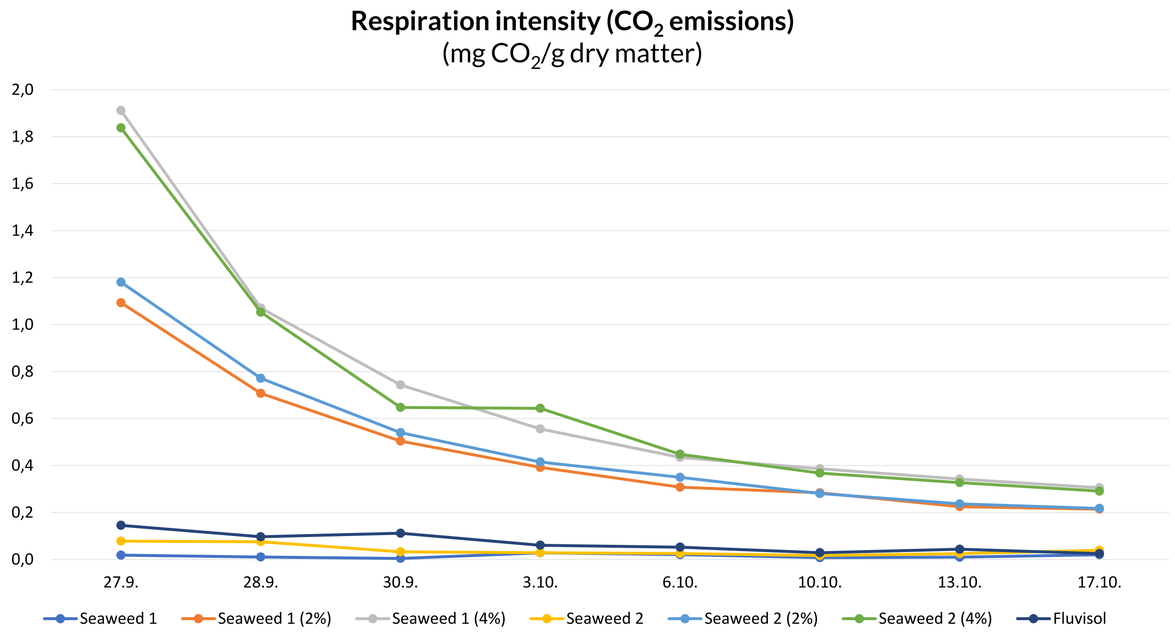
The aim of this research is to determine the effect of the addition of seaweed to the soil on the intensity of respiration.

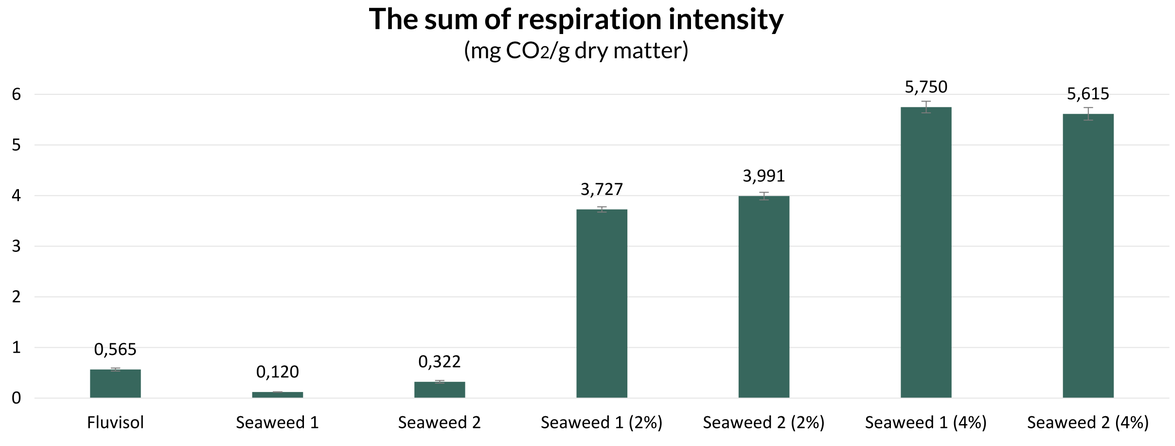
Material and methods

1. Fluvisol from Croatia and two types of seaweed from Ireland were used in the experiment
2. Seaweeds were added to the soil in different concentrations (2% and 4%) and the intensity of respiration was measured over 21 days using the titration method
3. The amount of CO_2 released was measured by "capturing" the released carbon dioxide in a template with NaOH.
4. Results were expressed as mg CO_2 /g dry matter/day

Seaweeds were added to the soil in different concentrations (2% and 4%) and the intensity of respiration was measured over 21 days using the titration method, i.e. the amount of CO_2 released was measured by "capturing" the released carbon dioxide in a template with NaOH. Fluvisol and two types of seaweed from Norway were used in the experiment, and results were expressed as mg CO_2 /g dry matter/day

Results





Conclusion

Established is positive effect of the addition of seaweed to the soil on the intensity of respiration. The intensity of respiration of soil and seaweed was significantly higher than respiration of only soil.

HRZZ Croatian Science Foundation