Soil organic carbon balance in a bio-energy crop

Berhongaray G., M.S. Verlinden, L.S. Broeckx, R. Fichot, M. Camino Serrano, R. Ceulemans.

Gonzalo.berhongaray@student.ua.ac.be
Research Group of Plant and Vegetation Ecology (PLECO)
University of Antwerp, Department of Biology
2610 Wilrijk, Belgium.

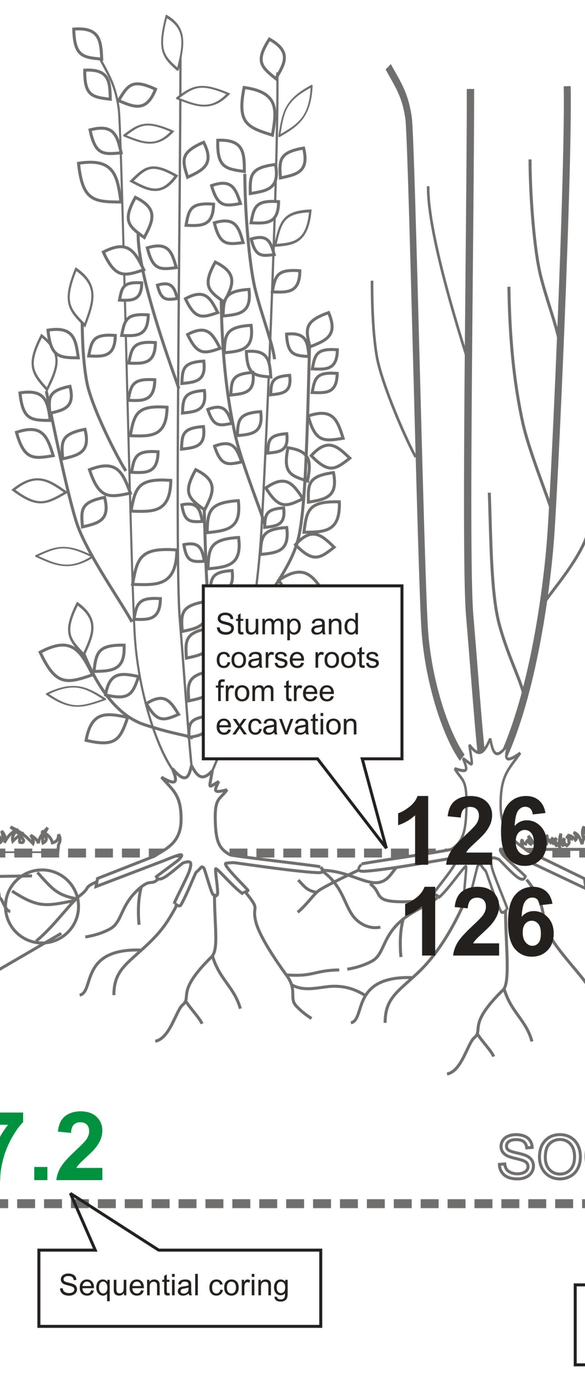
OBJECTIVE

Short-rotation coppice cultures (SRC) with poplar (*Populus* spp.) for bio-energy production offer a potential for fossil fuel substitution and mitigating increased CO_2 concentrations. But the potential of SRC to store carbon into the soil and to mitigate the rising atmospheric CO_2 concentration is still not well understood. The objective of this study is to measure all carbon fluxes into and out of the soil to quantify the SOC balance of a SRC with poplar in the second growing season.

APPROACH & FIRST RESULTS

Genotype:
Skado
(P. trichocarpa x P. maximowiczii)

Former land use:
Pasture



Carbon stocks, **carbon inputs** and **carbon released** (g C m^{-2})

CONCLUSIONS

- We were able to get reliable estimations of all below-ground carbon stocks and fluxes.
- A net below-ground carbon loss was observed in the second growing season of a SRC of poplar.

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