

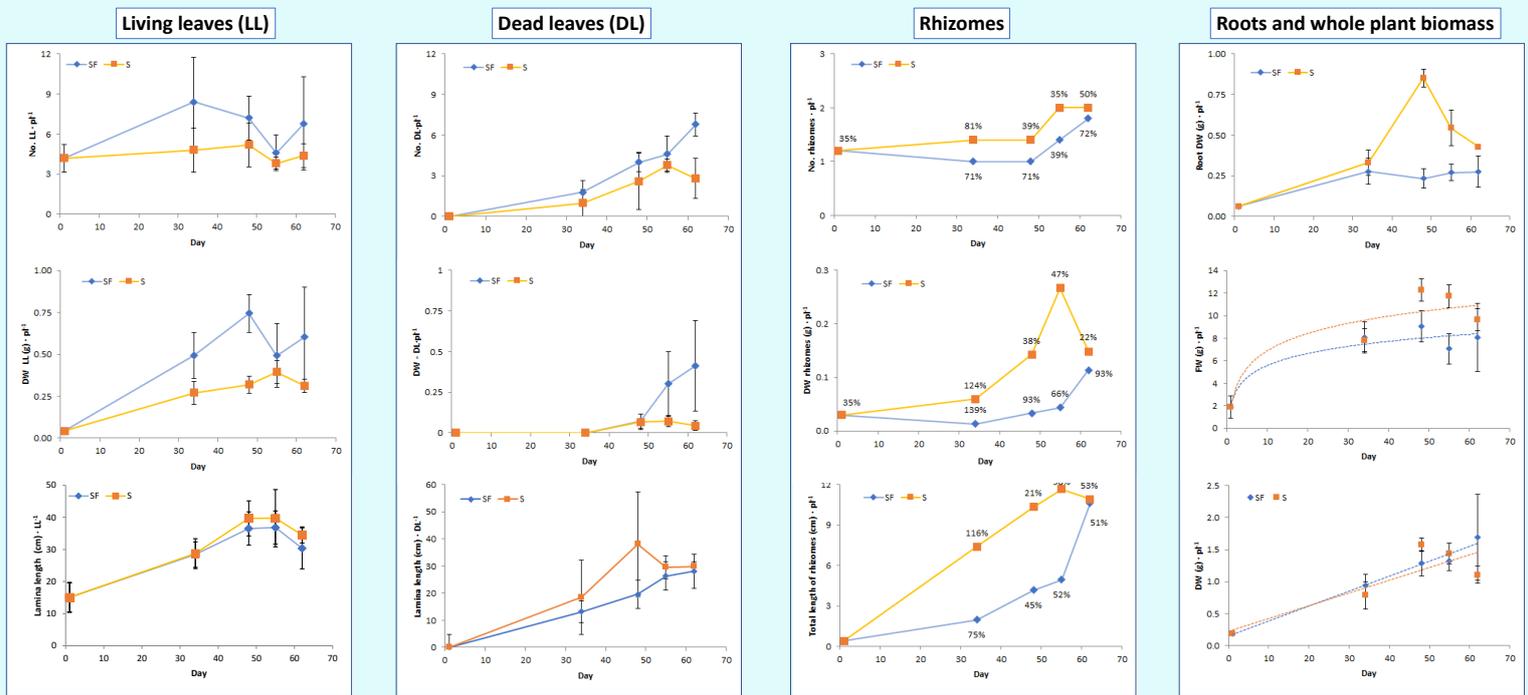
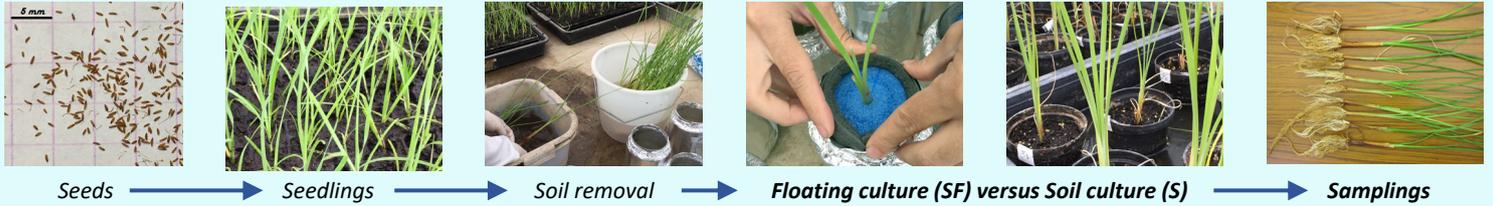


GROWTH ANALYSIS OF *Typha domingensis* AFTER THE TRANSPLANTING TO A FLOATING SYSTEM FOR BIOMASS PRODUCTION



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ABSTRACT.- *Typha domingensis* Pers. (cattail) is a highly productive plant species that thrives in eutrophic water bodies. Controlled cultures of cattail in the form of green floating filters (GFFs) represent a possibility of combining water improvement with biomass production for biofuels and bio-products. In order to establish GFFs, young cattails are planted on ad-hoc supports that are placed on water surface. Plant adaptation to floating culture is critical to succeed in GFF establishment. However, little is known on this subject. In this work, a comparative growth analysis of *T. domingensis* in floating culture versus soil culture was carried out for better knowledge of how cattails respond to floating culture after the transplanting.

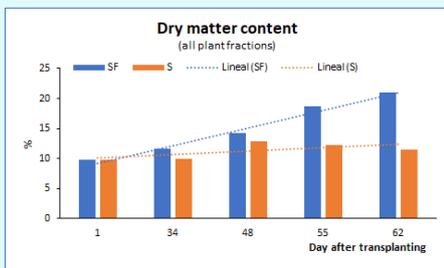


- SF presented higher variability.
- SF developed more leaves.
- More leaf mass in SF than S.
- SF leaves with similar size to S.

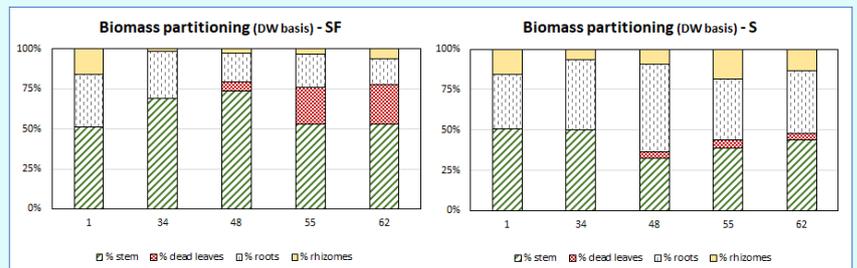
- Also, higher variability in SF.
- More leaves dried up in SF.
- Leaves had shorter life in SF plants.

- High c.v. (%) in all rhizome parameters.
- FS: less rhizomes, smaller size, less root mass.

- Dry mass: SF and S, similar values.
- Fresh mass: higher in S culture.
- High c.v. in the last SF sampling.



Throughout the experiment, cattails in SF presented lower moisture content.



Cattails in SF performed different from cattails in S. The proportion of emerged plant parts (living and dead leaves) was higher for SF.

CONCLUSIONS.- Seedlings of *T. domingensis* endured the removal of all soil from root balls and the subsequent floating culture; survival was 100%. Results of growth parameters showed that cattail growth was altered by the culture system and suggested that seedlings experienced some stress after transplanting to a soilless floating system. However, despite the differences in plant performance and the high intra-sampling variability, the biomass production (total dry weight per plant) of both systems attained similar values on Day 62.

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