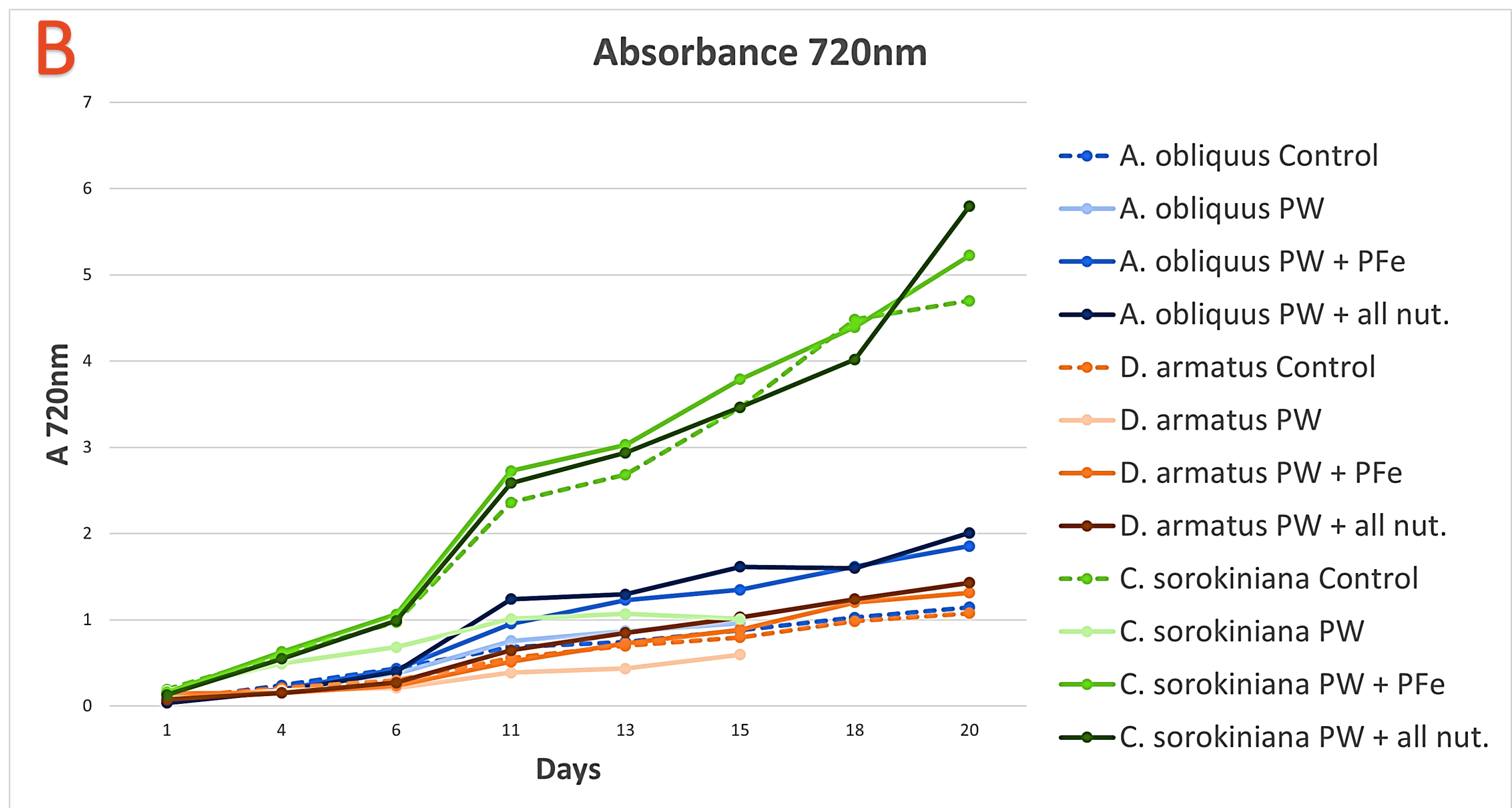
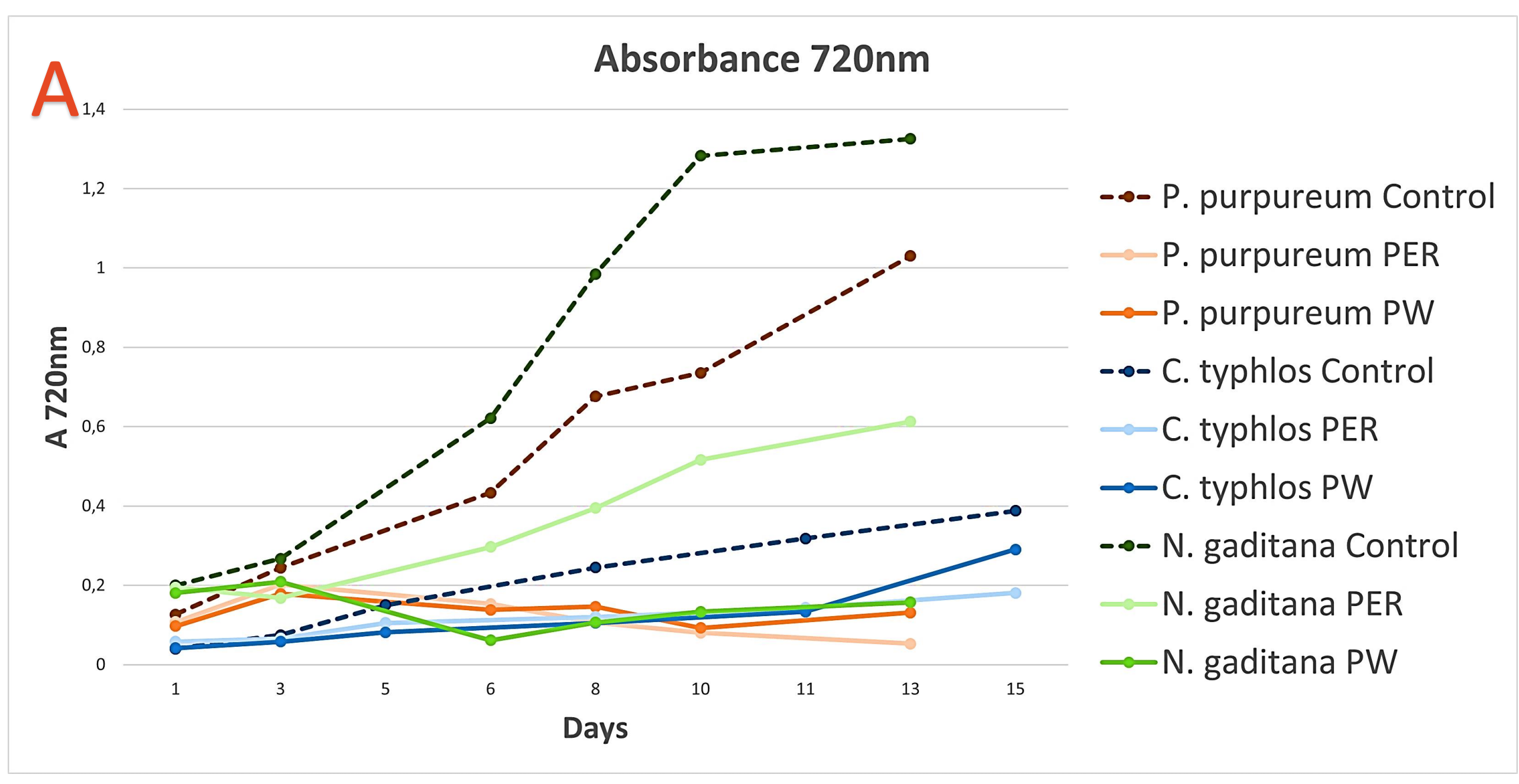
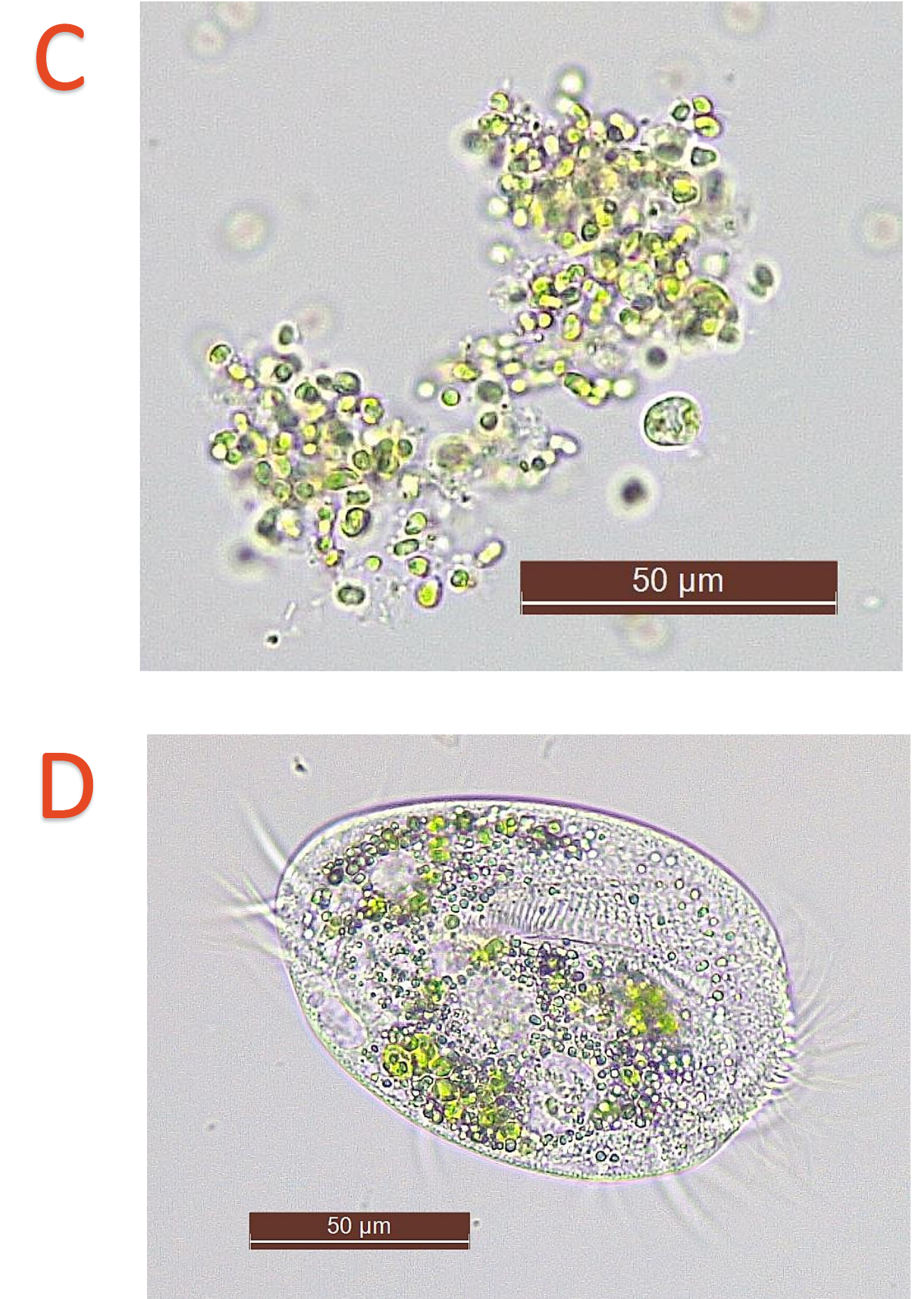
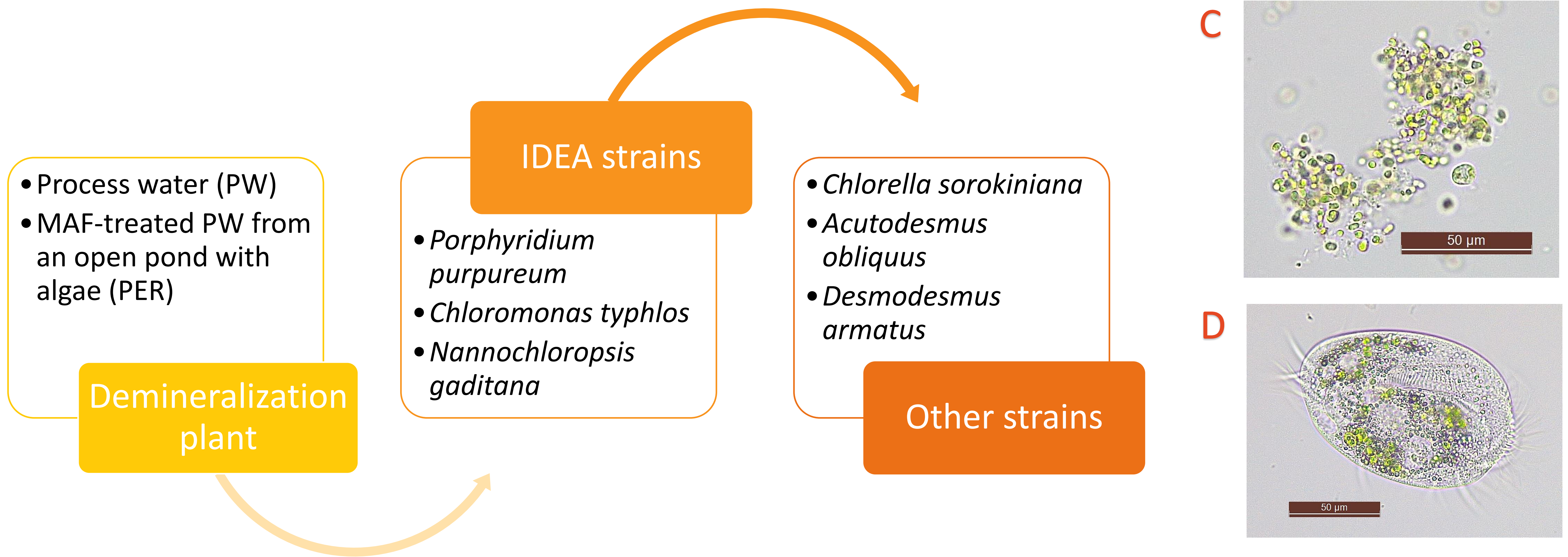


GROWTH OF MICROALGAE ON PROCESS WATER FROM A DEMINERALIZATION UNIT: A LAB TRIAL TEST

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- Average chemical composition of PW and PER from demineralization plant: NO₃: 110-270 mg/L, total N: 25-60 mg/L, P: 0-250 µg/L, Fe: 0-330 µg/L, Variations possible
- Observed pH: 4-6,5; Adjusted to 7 for growth tests
- Promising algal growth in PER: *N. gaditana* & *C. typhlos*
- Promising algal growth in PW: *C. sorokiniana*, *A. obliquus* & *D. armatus*
- Addition of nutrients enhanced the growth, sometimes better results than in the control medium
- Risk of contamination (diatoms, *Scenedesmus sp*-like cells, grazers)
- Different behavior and morphology of algae compared to the control medium e.g., aggregates of cells (*N. gaditana* in PW), rapid loss of flagella (*C. typhlos* in PER and PW), ...

- A. Growth in PER, PW and control medium for *P. purpureum*, *C. typhlos* and *N. gaditana*
- B. Growth in PW with and without the addition of nutrients and control medium for *A. obliquus*, *D. armatus* and *C. sorokiniana*
- C. Microscopic pictures of *N. gaditana* aggregation
- D. Microscopic pictures of a grazer
- E. Lab-scale dry weight results of 3 algae species selected for upscaling

E Algae	Medium	DW in g/L
<i>C. Typhlos</i>	Control	0,625 ± 0,039
	PER	0,566 ± 0,054
	PER + NP	0,747 ± 0,03
	PER + all nut.	0,939 ± 0,06
<i>N. Gaditana</i>	Control	1,433 ± 0,151
	PW	0,296 ± 0,059
	PER batch 1	0,7 ± 0,045
	PER batch 2	0,464 ± 0,156
<i>A. obliquus</i>	Control	0,477 ± 0,019
	PW + PFe	0,753 ± 0,055

