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OBJECTIVE

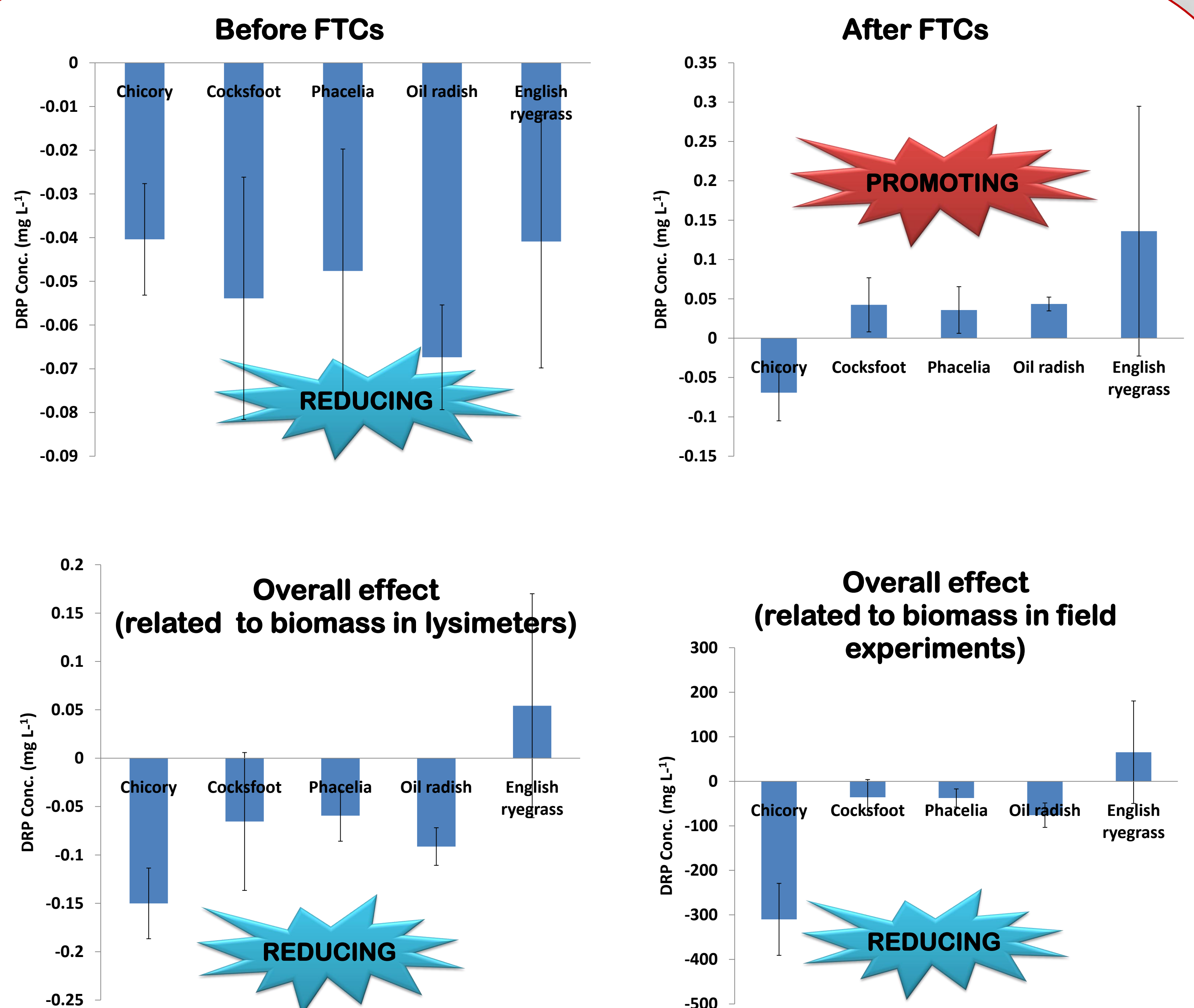
As a part of understanding the role of plants (including buffer strip vegetation) for phosphorus (P) retention, laboratory experiments were conducted with leaching of dissolved reactive phosphorus (DRP) from soil and a number of potential catch crops before and after several freezing-thawing cycles (FTCs).

DISCUSSION & CONCLUSIONS

- Overall, chicory, cocksfoot, phacelia and oil radish reduced DRP leaching, while English ryegrass increased leaching.
- Before FTCs, all five potential catch crops were indicated to reduce DRP leaching; while after FTCs, cocksfoot, phacelia, oil radish and English ryegrass seemed to promote leaching.
- Some plants seemed to play different roles in P retention, probably due to their physiological characteristics.
- More testing is needed to validate the present conclusions and to identify other catch crops that might be efficient as catch crops for phosphorus.

RESULTS

Relative effects of catch crops on DRP concentration before and after 7 FTCs



MATERIAL & METHODS

Small lysimeters were used. Catch-cropped soil columns were collected in the field before winter. In the laboratory 70 mm rainfall at a rate of 10 mm h⁻¹ was simulated before and after 7 repeated freezing-thawing cycles, respectively.

