

P utilisation capacity of forage legumes from recycling products

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Objectives

Assessment of the ability of alfalfa and red clover to utilise P from recycling products.
 Investigation of the intra- and interspecific variation of P efficiency in both species.

Preliminary experiment (2019)

Accession selection based on biological status, plant P content, maturity group, etc.

Pot experiment (2020/2021, split-plot)

5 treatments with 4 replications:
 no P, triple superphosphate (TSP), sewage sludge ash, biowaste-compost and struvite.
 5 accessions each of alfalfa and red clover.

Field trial (2020/2021, split-plot)

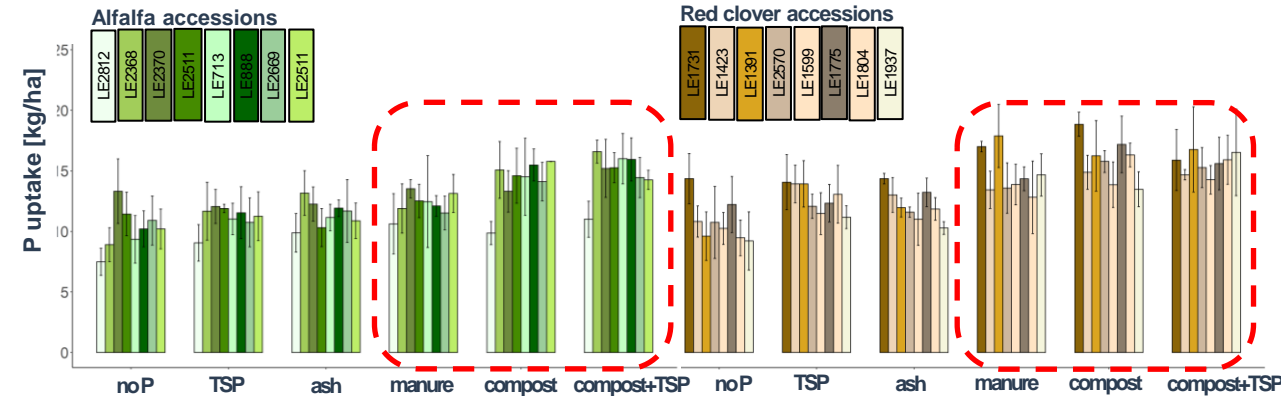
Based on a long-term field experiment since 1998
 6 treatments with 4 replications:
 no P, TSP, biomass ash, manure, biowaste compost and biowaste-compost+TSP.
 8 accessions each of alfalfa and red clover.

Parameters of interest

Fresh and dry mass, N and P uptake, and root morphology of plant;
 Root exudates, enzyme activity, microbial activity, and plant available N and P in soil.



P uptake of alfalfa and red clover in 2020 [kg/ha]



TSP: triple superphosphate; ash: biomass ash; compost: biowaste compost