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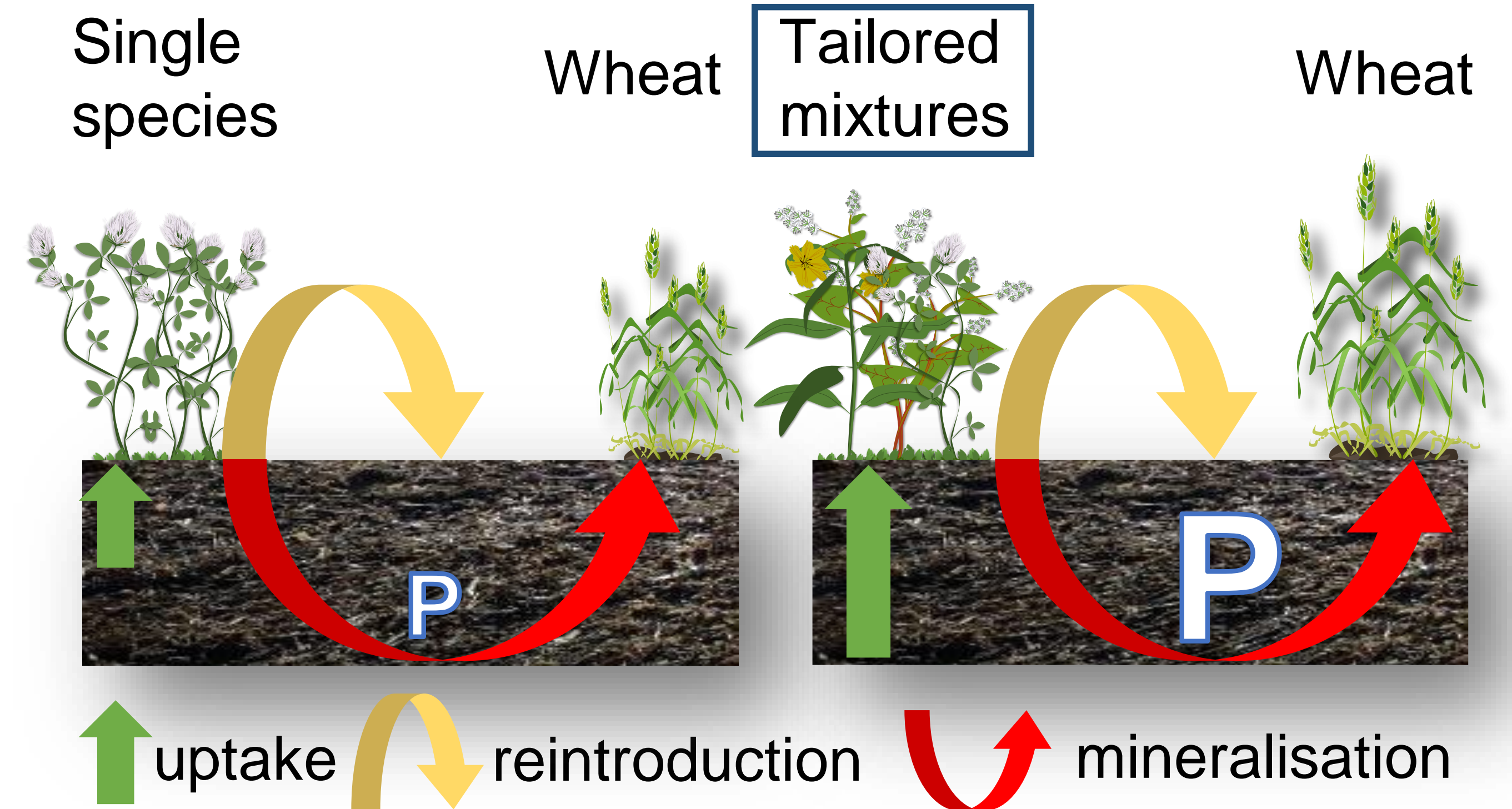
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Background

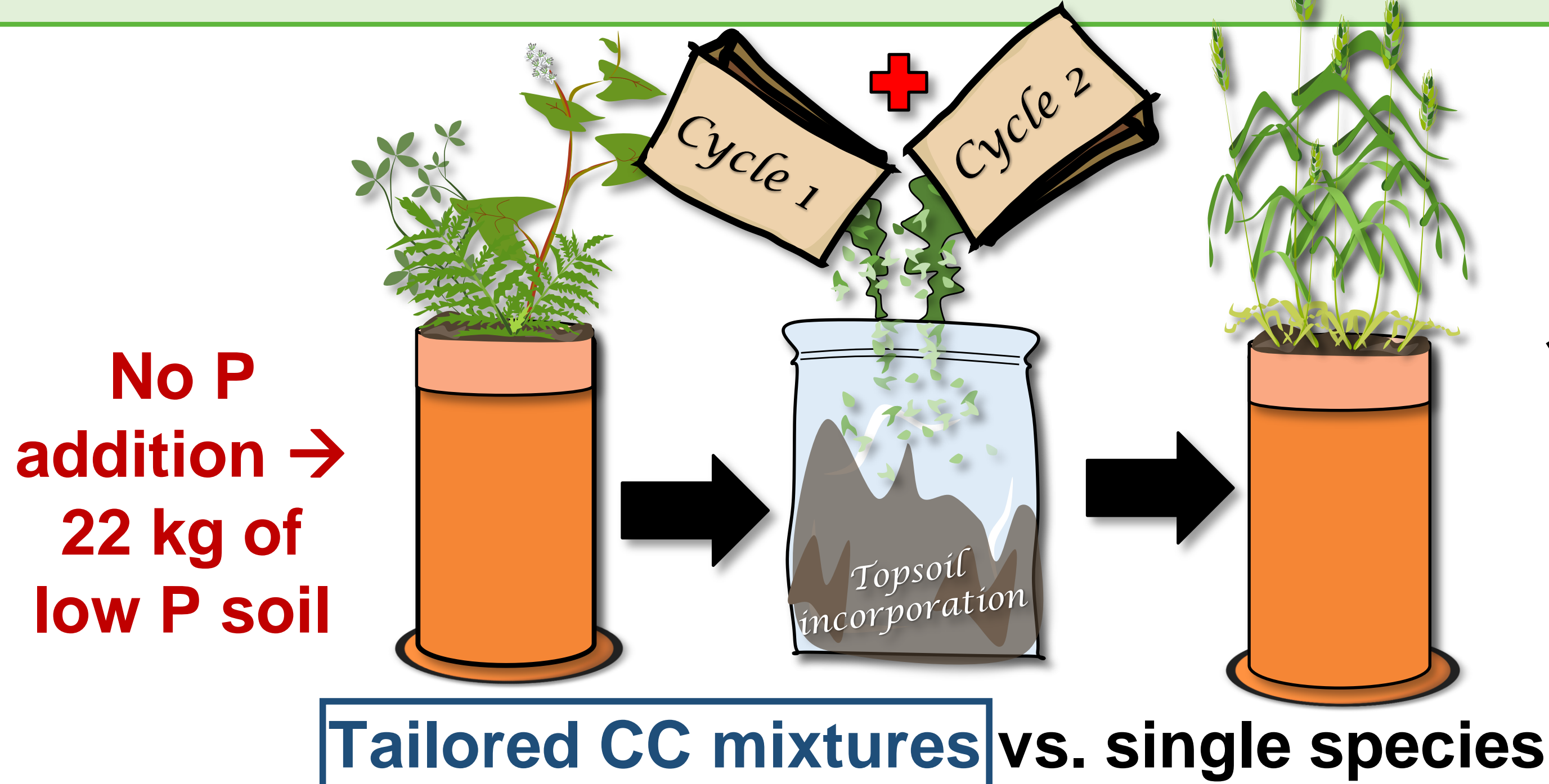
- P is a finite and limited resource → **supply risk**
- ↑ fertiliser input to supply plant's demand
- Soil fixation/precipitation → ↓ **P availability** to plants
- Non-available P (**legacy P**) accumulation in soils
- **Cover crops** (CC) may help access less available P
- P-mining and biomass incorporation → **P cycling**

Initial **screening** with single species in a decalcified and a calcareous chernozem indicated **differential P-acquisition strategies** → **Tailoring CC mixtures**

Graphical hypothesis

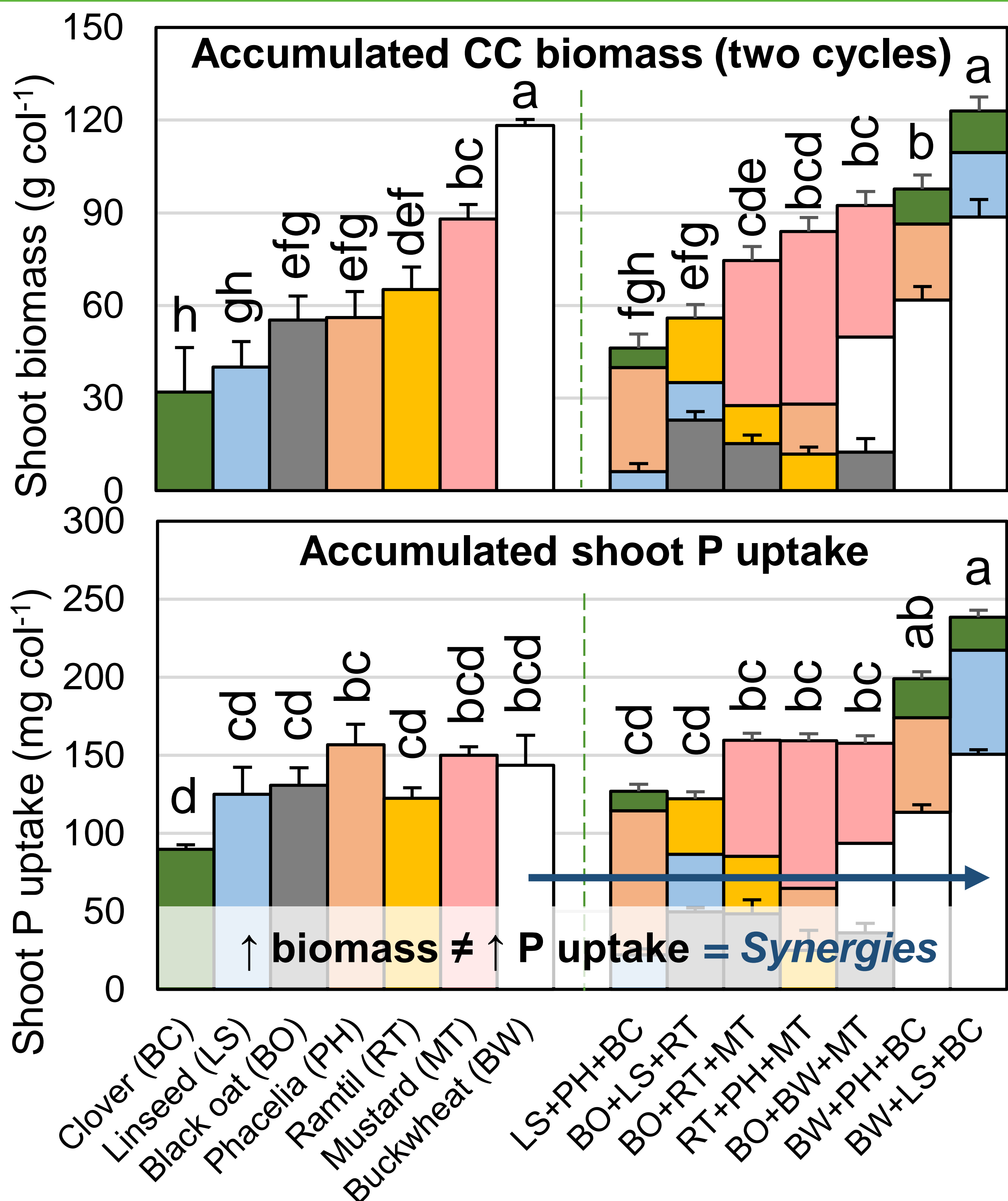


Methodology

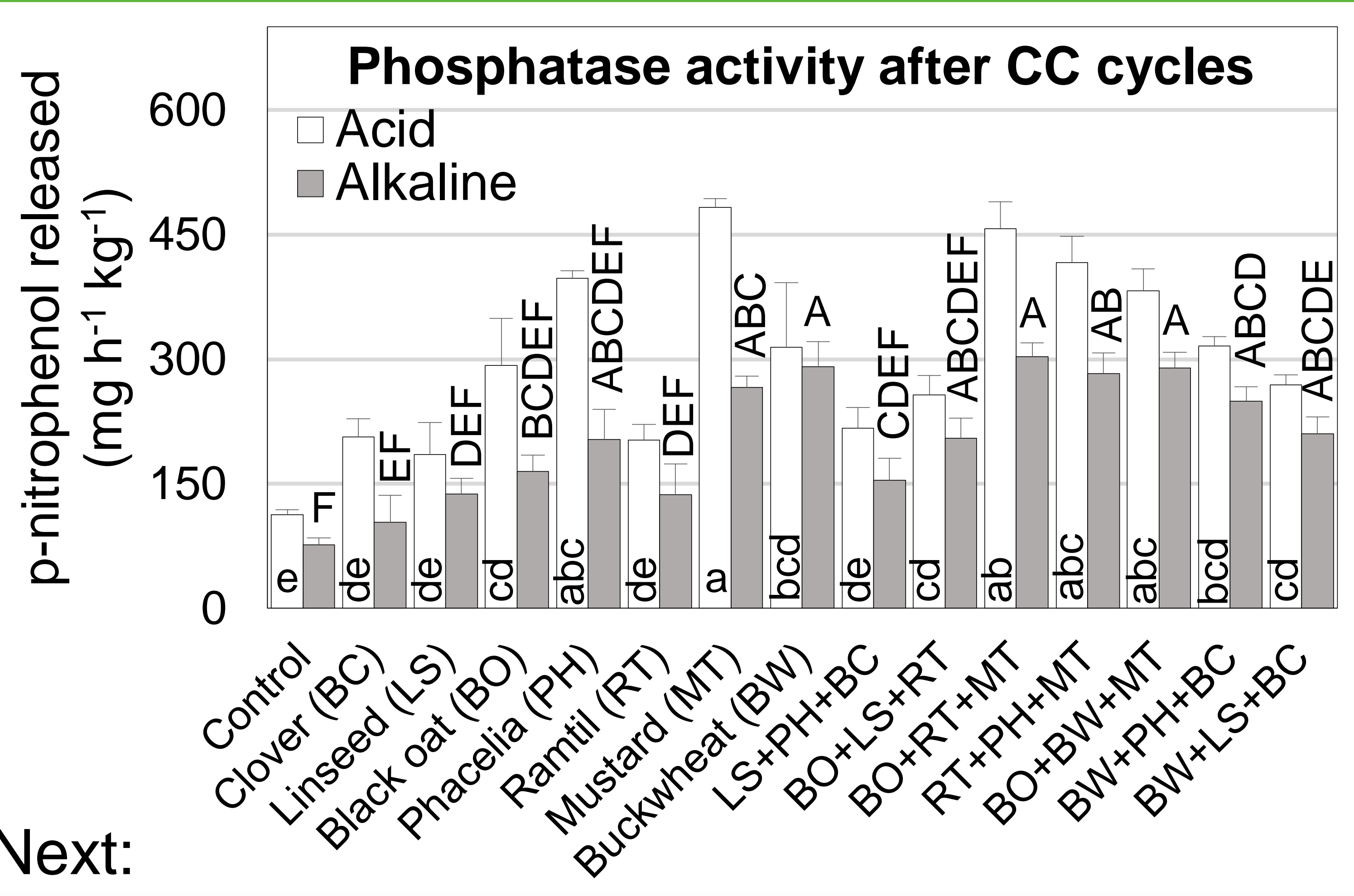


- Shoot and root biomass
- Nutrient concentrations
- Mycorrhization
- C:N:P
- pH
- Phosphatases
- Hedley P fractionation

(Some) key findings and future activities



Letters: Tukey HSD at $p \leq 0.05$



- Next:
- Wheat: biomass, grain yield, P uptake, mycorrhiza
 - Soil P fractionation, pH, phosphatases

Conclusions (so far)

- Single CC species → mostly **labile** P exploration
- P-acquisition traits **adapt** to predominant soil P **fractions**
- Mycorrhizal species → ↑ **inorganic P** scavenging
- ↑ Phosphatases species → ↑ **organic P** dissolution
- **Synergistic** mixtures → ↑ **biomass and P uptake** by CCs