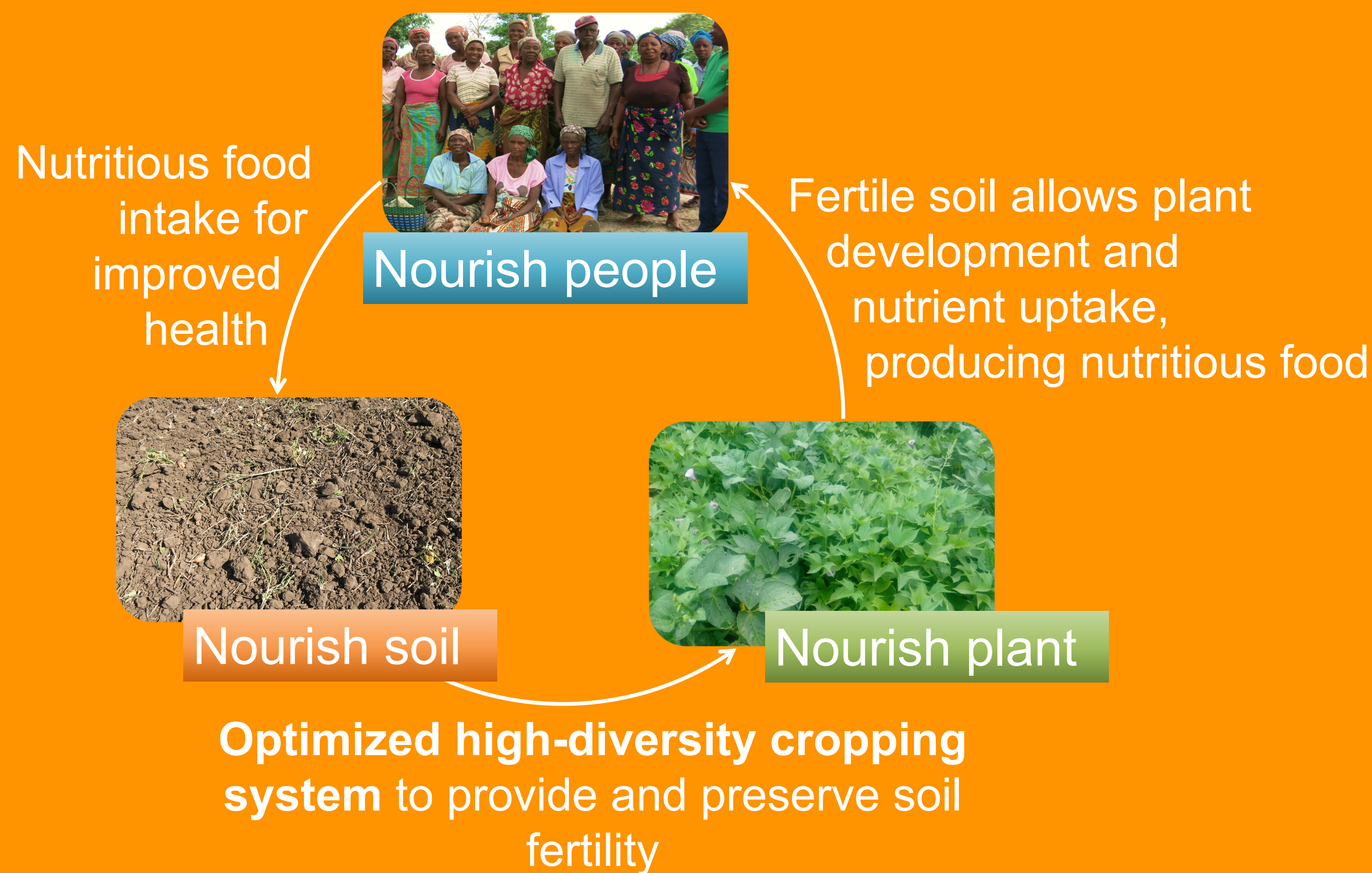


Towards nutritional security through agroecological practices in orange-fleshed sweetpotato systems in Mozambique

Feola Conz, Rafaela¹, Pereira, Engil I.P.¹, Andrade, Maria I.², Six, Johan¹

¹Sustainable Agroecosystems Group, Institute of Agricultural Sciences, ETH Zurich; ²International Potato Center, CIP – Mozambique

1. Motivation



2. Methods

1 st Season	2 nd Season	3 rd Season
OFSP	OFSP	OFSP
OFSP	MZ	OFSP
OFSP + CP	OFSP + CP	OFSP + CP
SP + CP	MZ + CP	SP + CP

OFSP = orange-fleshed sweetpotato, MZ = maize, CP = cowpea

❖ Objective: Test agroecological practices in regards to its potential to:

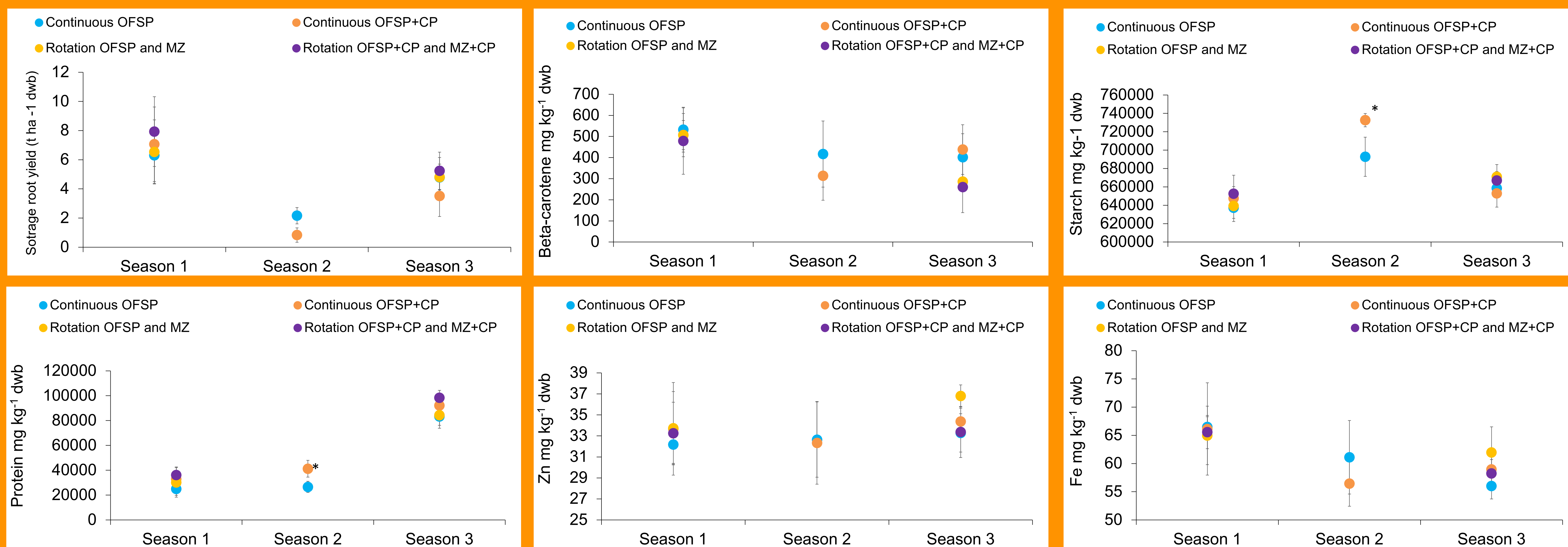
1. Increase yield and nutritional quality of storage root
2. Preserve soil fertility for long-term cultivation

- ❖ Plant aboveground and storage roots yield, nutrient content (N, P, K, Fe and Zn) and nutritional quality (β-carotene, protein, starch)
- ❖ Soil analyses: total N, P, K, Fe and Zn.

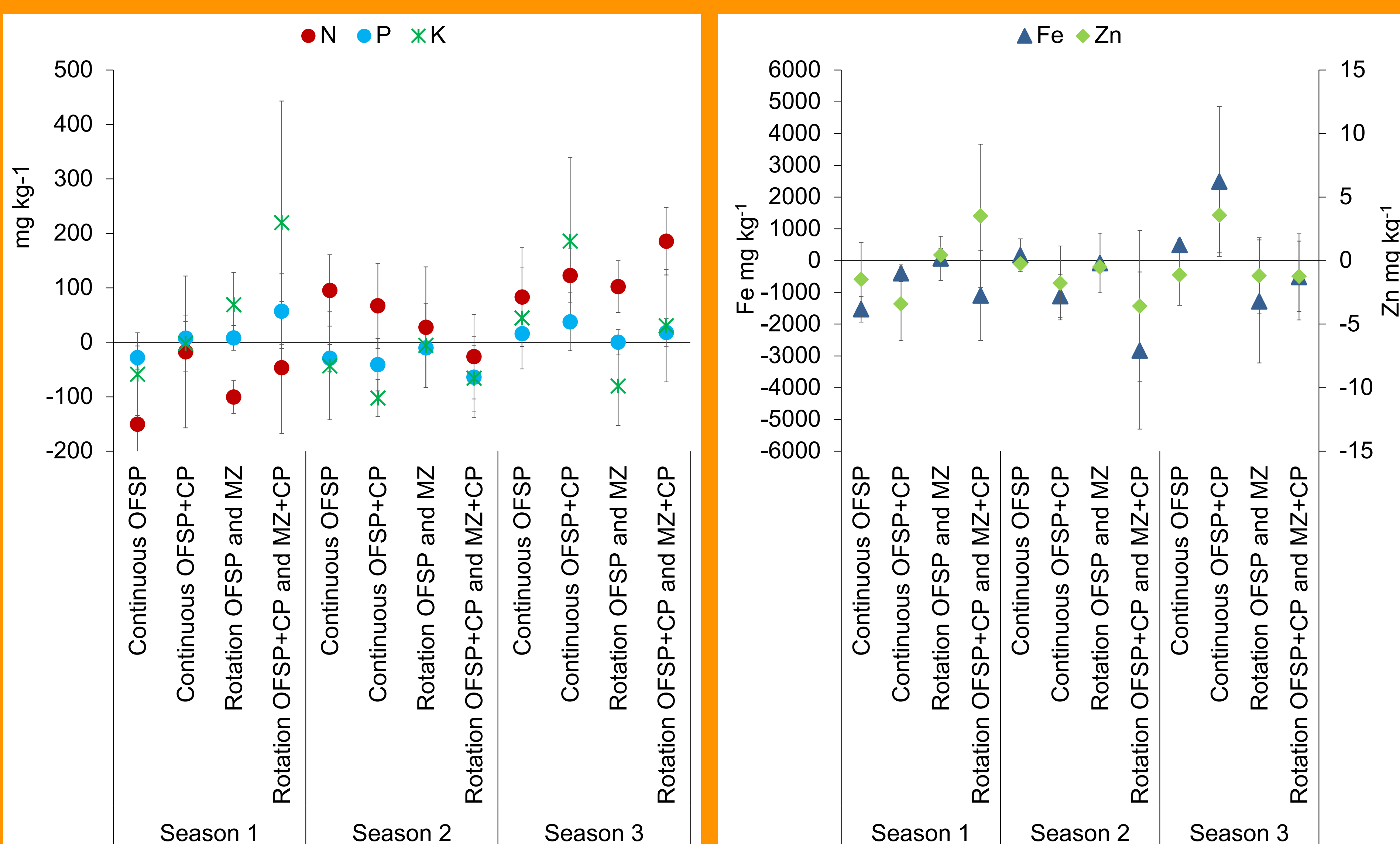
$$[\text{nutrient}]_{\text{at harvesting}} - [\text{nutrient}]_{\text{at planting}} = + \text{soil nutrient accumulation} - \text{soil nutrient depletion}$$

3. Results

Plant indicators: Yield and nutritional quality



Soil indicators: Total macro and micronutrients depletion/accumulation



4. Remarks

- The decreased storage root yield from first to subsequent seasons was caused by drier climate during the winter. **Rotation schemes with OFSP and maize preserved yields closer to the first cropping season.**
- **β-carotene was not affected by soil fertilization** and remained similar for all treatments during three seasons.
- **Starch and protein contents were higher in continuous intercropping** after the second harvest. This could be caused by lower yields caused by the environmental stress.
- **Rotation combined with intercropping preserved K in soil** after the first and third seasons.