

Biobased fertilizers instead of mineral?

Assessment of the agronomic performance of biobased derivatives from digestate & manure in cauliflower

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Goal

Optimize the use of nutrients (N, P, K, C..) present in animal manure and digestate in order to reduce the amount of non proprietary nutrients like mineral fertilizers.

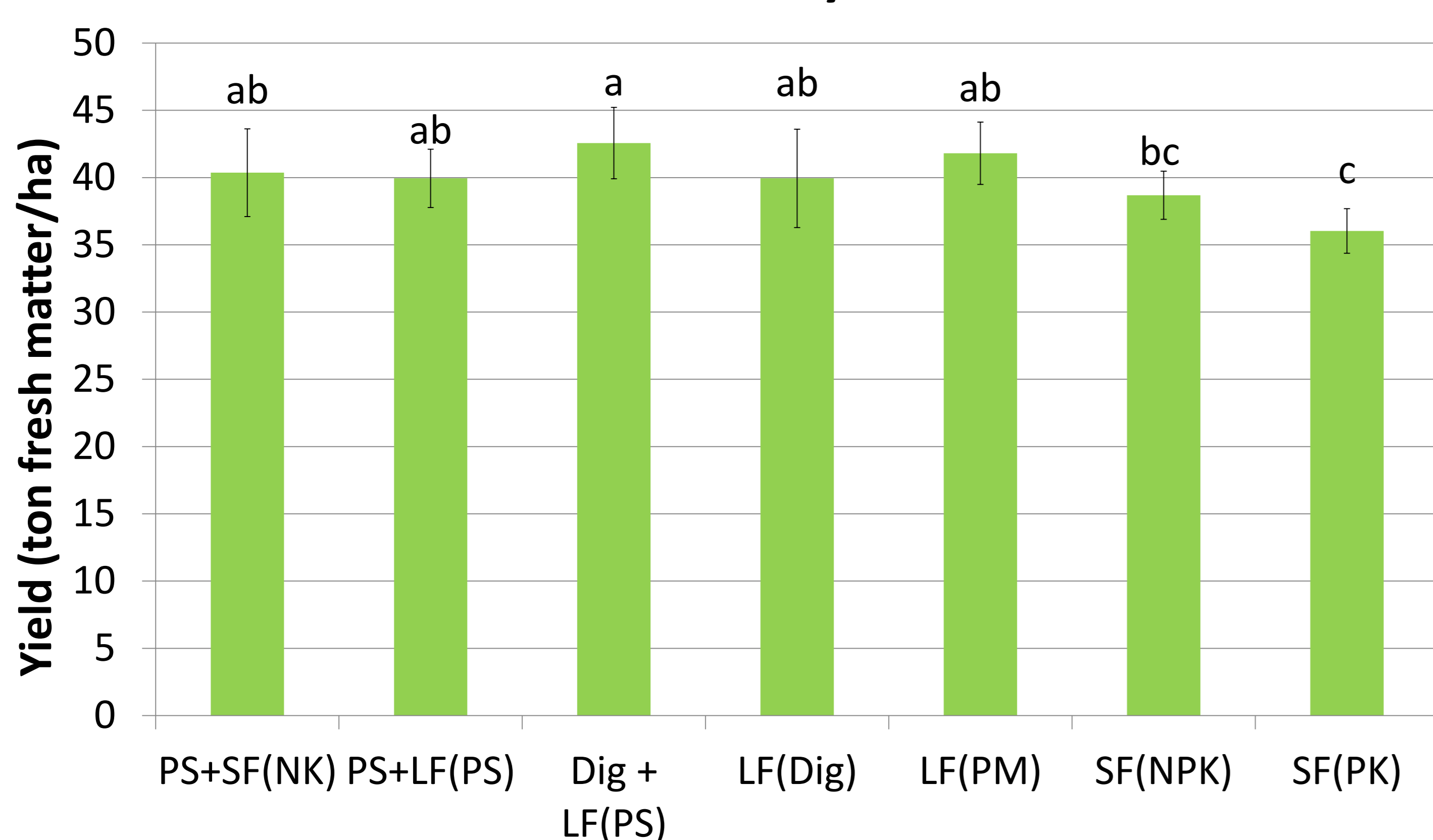
Method

Several field trials with biobased fertilizers were executed in 2014 and 2015 on maize, grass, cauliflower and potato. In those field trials the treatments comprised one or a combination of biobased fertilizers and were compared with mineral fertilizers (NPK and PK). The $N_{\text{effective}}$, P and K dose was equal for all treatments (with $N_{\text{eff}}/N_{\text{tot}}$ for SF=1.0, PS=0.6, LF(PS) and LF(Dig)=0.8).

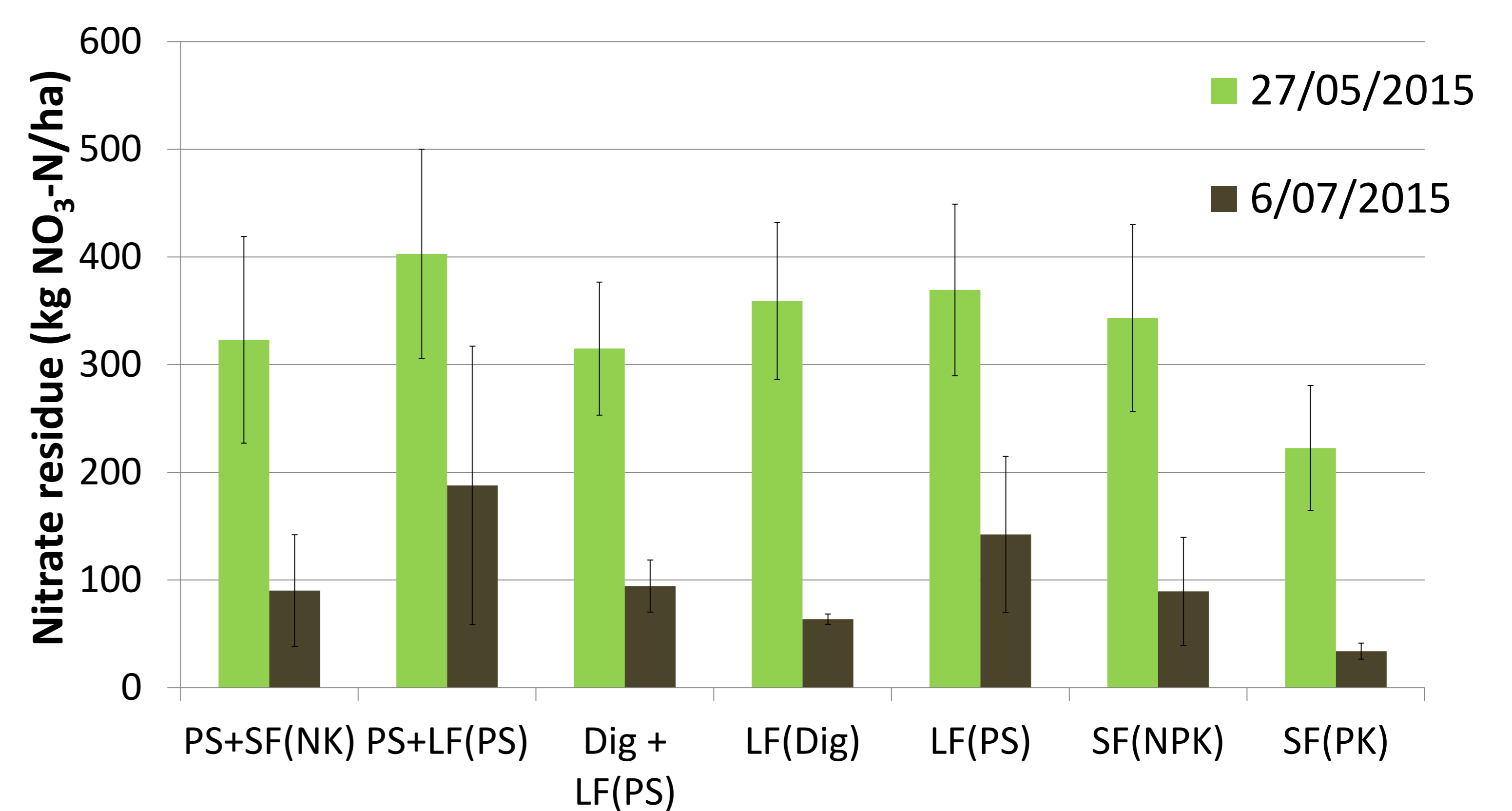
Result

The results from the cauliflower field trial are in line with those obtained in other trials. Results show equal or better yields for the biobased fertilizers compared to the reference scenarios (PS +SF(NK) and SF(NPK)). The nitrate residue results are not statistically significant different between treatments (except for SF(PK)).

Cauliflower yield



Nitrate residue



Legend: pig slurry (PS), synthetic fertilizer (SF), liquid fraction of pig slurry (LF(PS)), digestate (Dig), liquid fraction digestate (LF(Dig)), synthetic fertilizer with N (SF(NPK)), synthetic fertilizer without N (SF(PK))

Conclusion

Excellent crop yields can be obtained by thoughtful fertilization using **biobased** instead of mineral fertilizers.

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