Biobased fertilizers instead of mineral?
Assessment of the agronomic performance of biobased derivatives from digestate & manure in cauliflower

B. Annicaert1,2, B. Vervisch1, A. De Dobbeelaere1, V. Lebuf3, B. Ryckaert1, E. Michels2, E. Meers2
1 Inagro vzw, Ieperseweg 87, 8800 Roeselare, Belgium
2 Laboratory of Analytic chemistry and Applied Ecochemistry, Ghent University, Coupure Links 653, 9000 Ghent, Belgium
3 VCM vzw, Abdijbekestraat 9, 8200 Brugge, Belgium

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 Neffective, P and K dose was equal for all treatments (with Neff/Ntot 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)).

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

Contact
Bart Ryckaert
Bart.Ryckaert@inagro.be
Bram Vervisch
Bram.Vervisch@inagro.be

Anke De Dobbeelaere
Anke.DeDobbeelaere@inagro.be
Brecht Annicaert
Brecht.Annicaert@ugent.be

The research leading to these results has received funding from the European Union’s Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 289712.