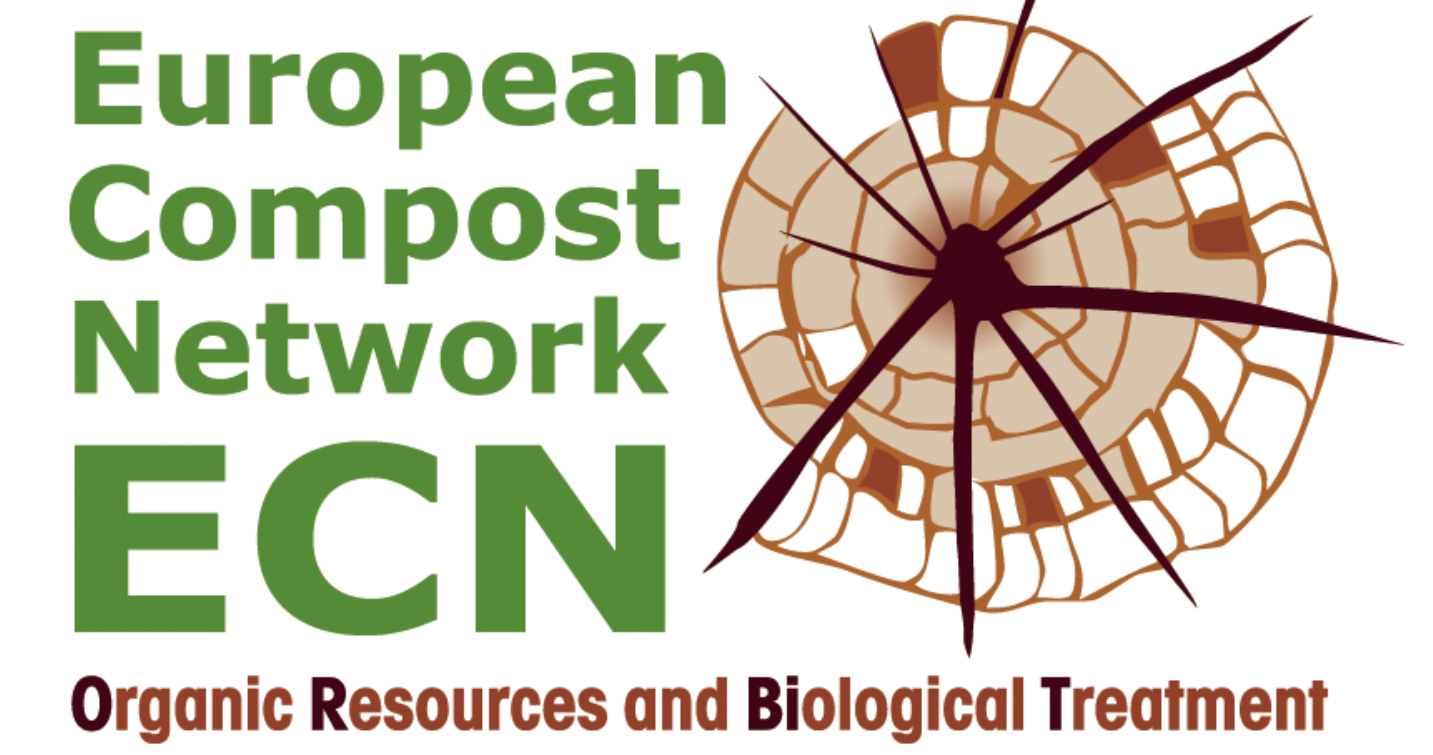


Potential and Value of Recycled Phosphate from Organic Waste

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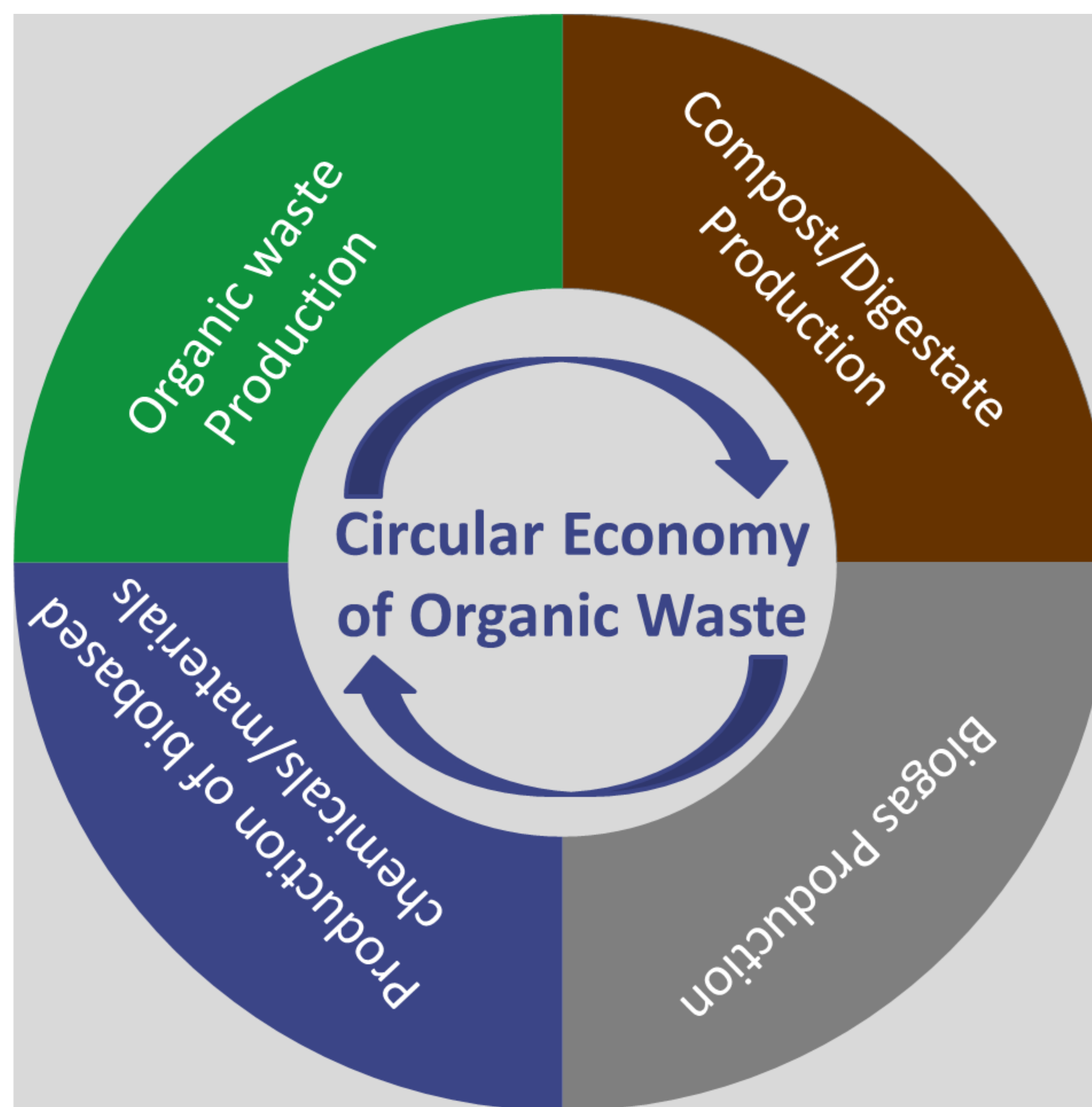
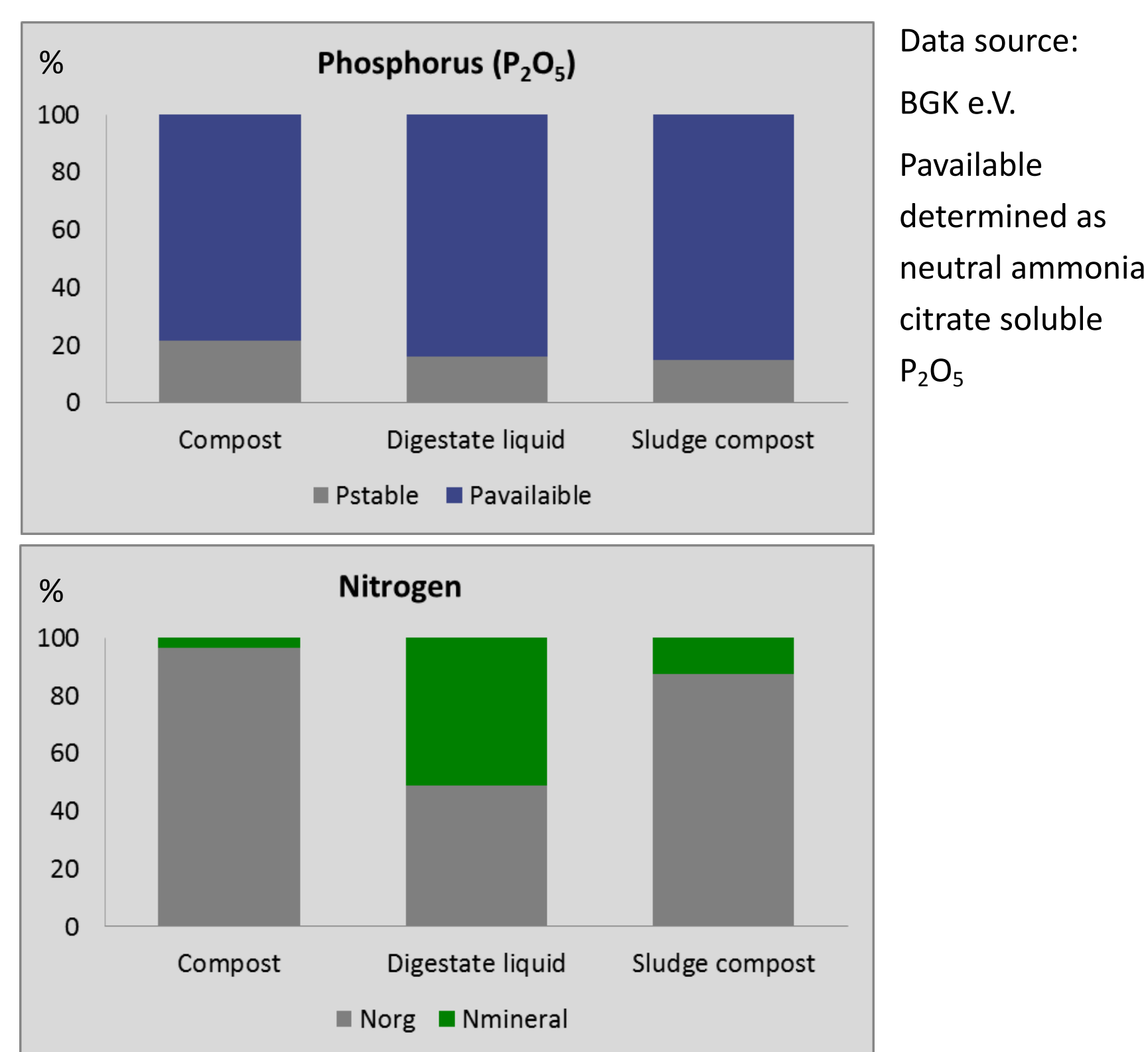
Introduction

According to the 'Communication on Future Steps in Bio-Waste Management in the European Union' (COM(2010)235) the EU produces between 118 and 138 million tonnes of bio-waste every year, of which about 88 million tonnes is municipal waste. These 88 million tonnes of bio-waste per annum (M tpa) can be used as feedstock for compost and digestate, for biogas and biofuel production and for the biobased economy to produce biochemicals and biopolymers. Nutrients and organic matter from compost and digestate that are not used as soil improvers, organic fertilisers or as constituents in growing media should be used for biobased production. In this way bio-waste gives a maximum contribution to a sustainable, circular bio-based economy.

Organic waste production

- 118-138 M tpa Bio-waste in EU ► 130 Gg P pa
- 10-11 M tpa Sewage Sludge in EU ► 360 Gg P pa
- + food waste from food processing industries
- + agricultural waste (manure, crop residues, etc.)

Phosphorus and nitrogen efficiency of organic wastes



Savings and benefits of compost and digestate use

- 10-44 M t CO₂-equivalent could be saved through composting and digestion
- 10% of phosphate fertilisers, 9 % of potassium fertilisers and 8 % of lime fertilisers
- 3-7% of depleted agricultural soils could be improved by adding organic matter from composts

Quality of recycled products from organic waste

For the promotion and acceptance of recycled organic wastes on the market, the quality of recycled products has to be clearly defined and proved by independent quality assurance. Therefore ECN has developed a 'European Quality Assurance Scheme for Compost and Digestate (ECN-QAS)' (www.ecn-qas.eu).



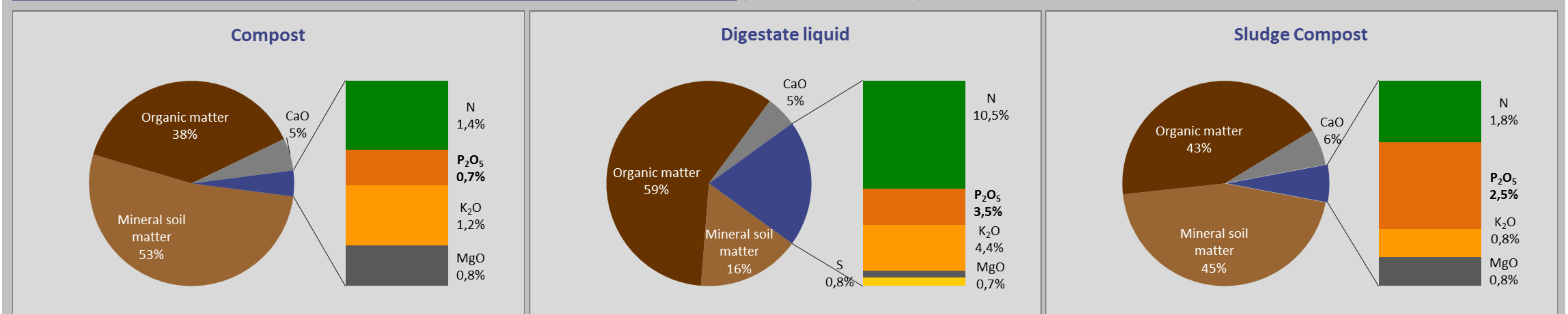
Conclusions

- Biowaste plays a key role in a resource-efficient Europe and in Circular Economy.
- Composts, digestates and sewage sludge composts have comparatively low P-contents but remarkable P-fertilisation effects.
- The P-use efficiency is high and 100% deductible in the P-fertilisation of a crop rotation.
- The P-recycling by direct use of composts, digestates and sewage sludge composts varies considerable within the EU ► huge potential is unused and wasted
- Priority use of recycled organic products instead of primary resources in agricultural, horticultural and landscaping systems
- Promotion of quality assurance for recycled organic wastes

Policy Recommendations

- Need for a consistent EU legislative approach for all organic wastes (EU Fertilisers Regulations, Waste Framework Directive (EoW), Circular Economy Package) with regard to resource efficiency and bio-economy
- Implementation of separate collection for organic wastes
 - Setting recycling targets
 - Harmonisation of quality criteria (obligation for quality assurance like ECN-QAS)
 - Regulation for biodegradable waste
 - Revision of EU Sewage Sludge Directive
 - Need for EoW criteria for all recycled organic waste
 - EU Fertilisers Regulations scoping mineral/organic fertilisers and soil improvers and growing media

Figures 1-3: Nutrient composition of compost, liquid digestate and sewage sludge compost (Data source: BGK e.V.)



About European Compost Network ECN

The European Compost Network (ECN) is the leading European membership organisation promoting sustainable recycling practices by composting and anaerobic digestion of organic resources and guarding over the quality and safe use of the recovered organic fertilisers/soil improvers. ECN is a membership organisation with 71 members from 27 European Countries. Members include all European biowaste organisations and their operating plants, research, policy making, consultants and authorities. Via the member organisations, ECN represents more than 2000 experts and plant operators with more than 25 million tonnes of biological waste treatment capacity.

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