



Finland as a pilot country for nutrient cycling

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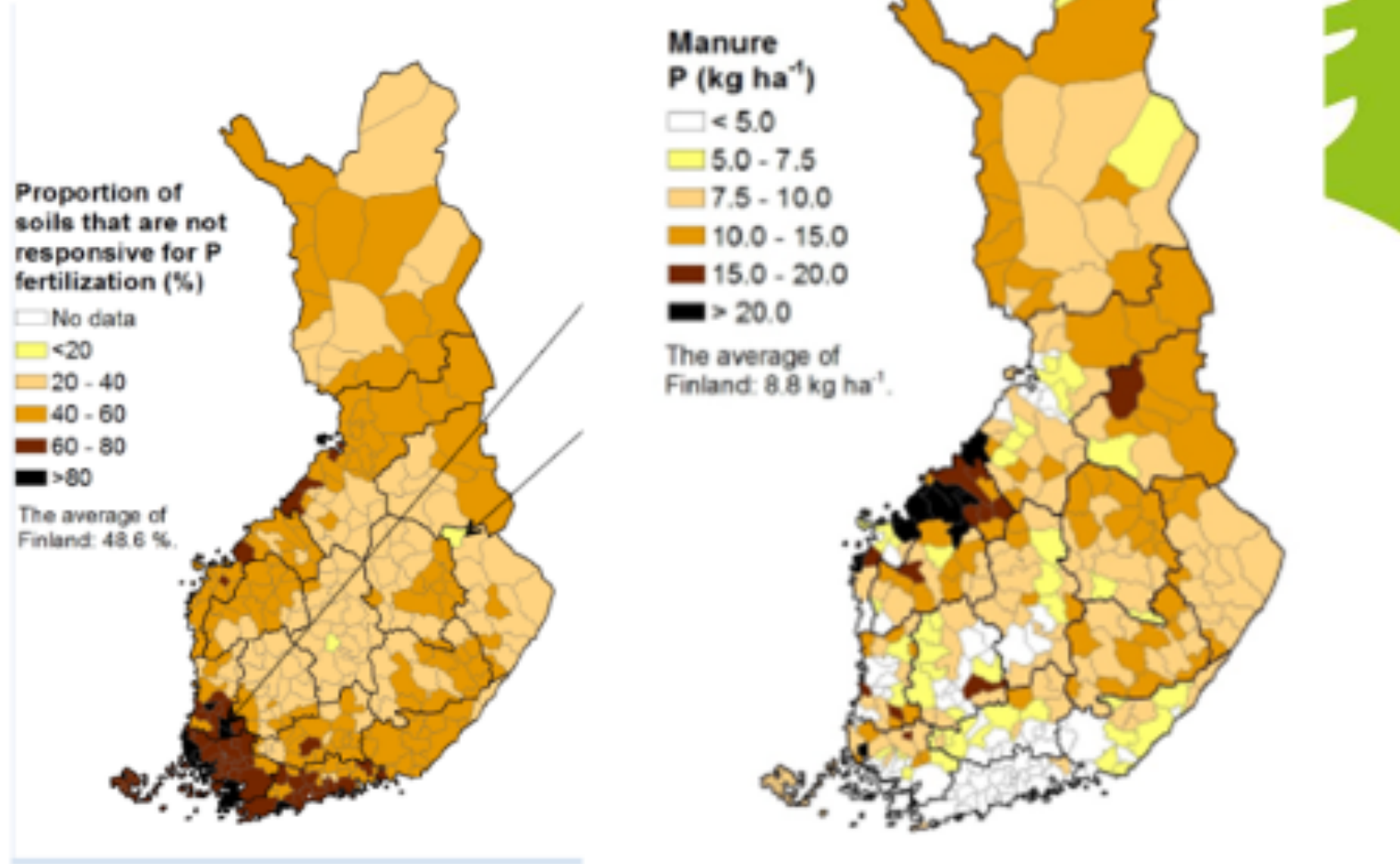
Ministry of Agriculture and Forestry

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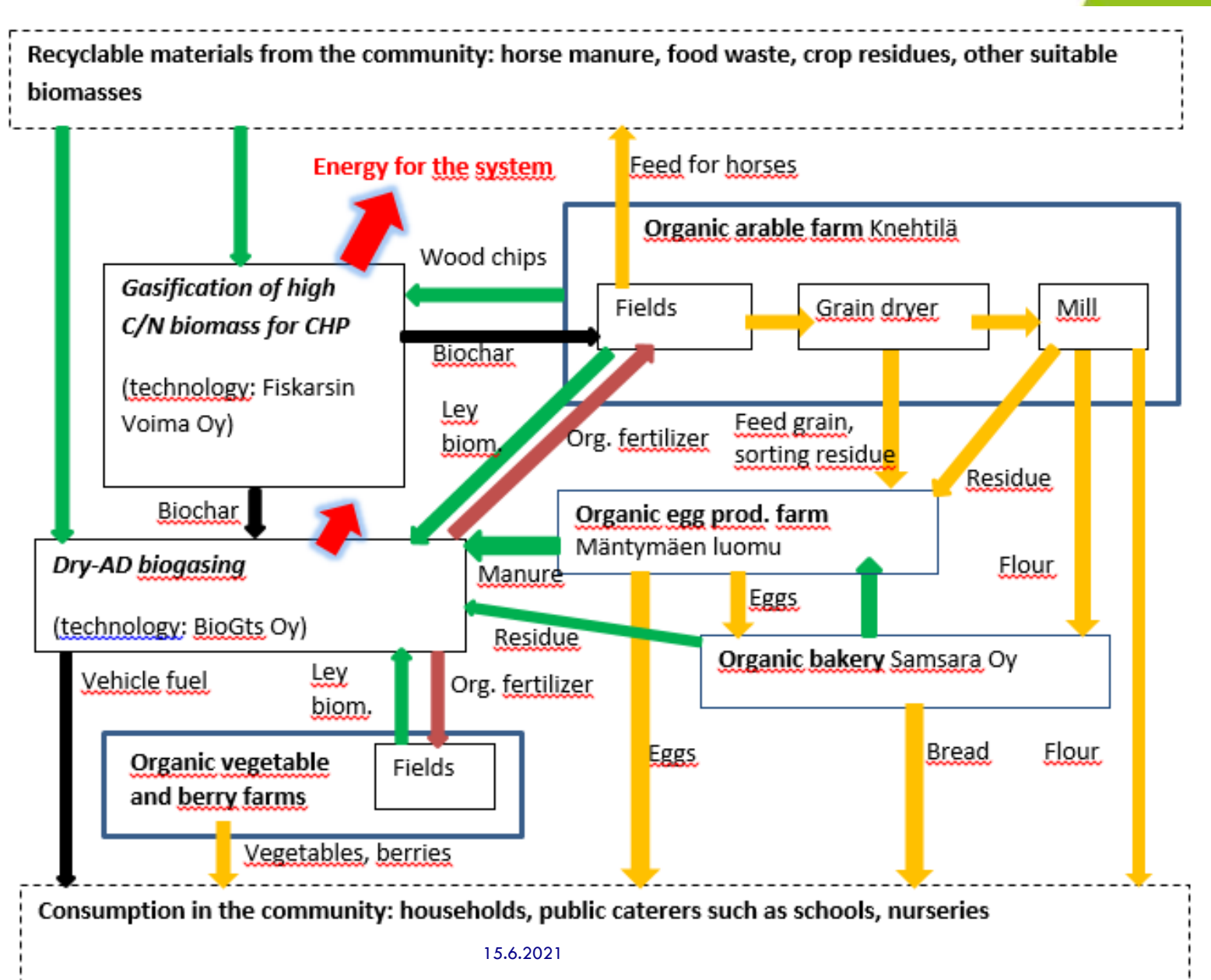


The challenge



Lähde: Ja Isola: Yrviön Kartta at 2014. Regional P stocks in soil and in animal manure as compared to P requirement of plants in Finland. MTT:n raportti 124. <http://www.mtt.fi/raportit/pdf/raportti124.pdf>

Palopuro Agroecological Symbiosis



Nutrient recycling in Finnish policy – step by step

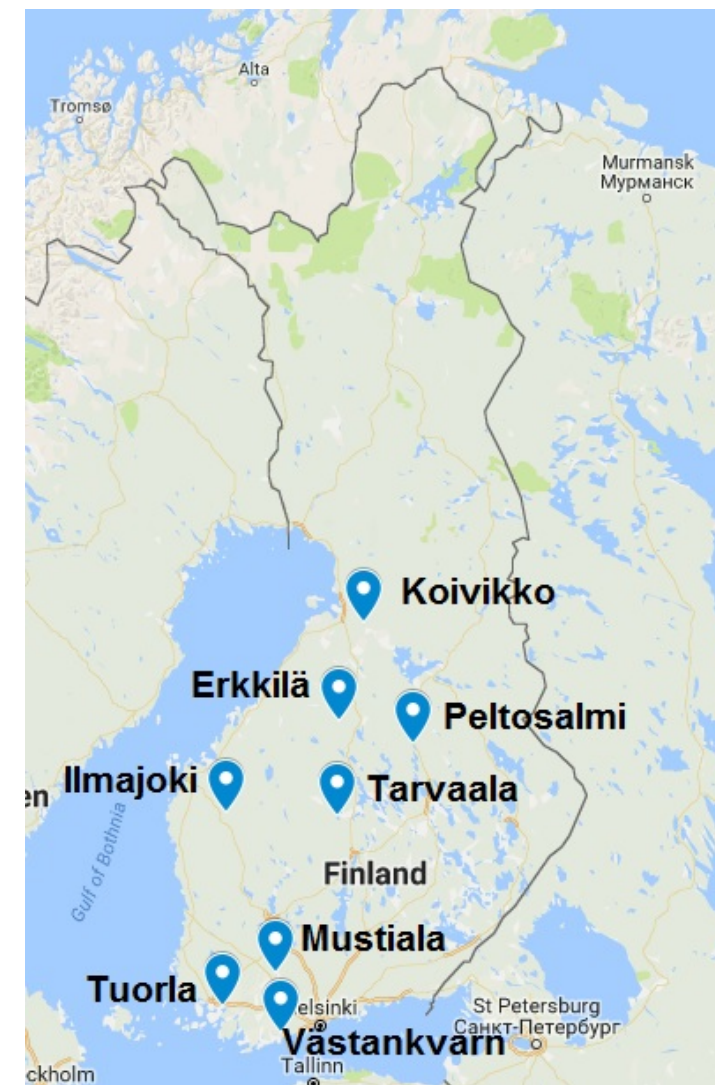


- 2011 roadmap to nutrient recycling – many activities identified and implementation begins
- RAKI- funding in ministry of Environment (2011-2015) for projects to develop ideas and practices for nutrient recycling – wide scope – important beginning – great learning opportunity for different stakeholders
- Government programme for nutrient recycling 2016-2019 implemented by Ministry of Environment and Ministry of Agriculture and Forestry – Innovation funding for technology development for recycled fertilizer products, new technologies for wastewater treatment, wide range of development projects to put nutrient recycling into practice
- 2021-2023 the nutrient recycling program was continued under present government, – continuing support for technology development, strong political support to biogas development



Carbon, Nutrient and Energy Efficient Farm – the future farmers grow here

- 8 agricultural Universities of Applied Science and vocational schools with their educational and research farms learning and working together
- Starting the transformation of educational farms towards more sustainable practices
- Measuring, learning, changing practices, trying out and testing new farming practices and technologies
- Project homepage with real time follow up and sharing of information
- New online educational material



Educational and Research Farm Cooperation and Interaction

Regular meetings

Common discussions

Per-support

Meetings

Seminars

Webinars

Distributing information

Biogas
Energy efficiency
Biofules
Composting
Manure logistics
Own manure
Nutrient recycling
Nutrient management
New technologies
Protein self-sufficiency
Water protection
Low carbon plant production



Experience and skills from educational
and research farm environments





What next

- **Vision for 2030: A breakthrough has occurred in nutrient circulation, leaching to the environment is small and nutrients are circulated efficiently. Nutrients already in the water formations can be recirculated and import of nutrients is small. New businesses have been developed based on nutrient circulation.**
- Competitive recycled fertilizer market
- Innovative use of side streams
- Agro-ecological complexes

Thank You!

