

ATCZ42 – INTEKO



EVROPSKÁ UNIE

Innovation of technologies in composting, compost use and soil protection

Dr. Eva Erhart





Project partners



ZERA

Regional agency for ecology and agriculture
Náměšť nad Oslavou, CZ



Bio Forschung Austria
Vienna, A



Mendel University
Brno, CZ



Federal Agency for Water Management
Petzenkirchen, A



Strategic partners

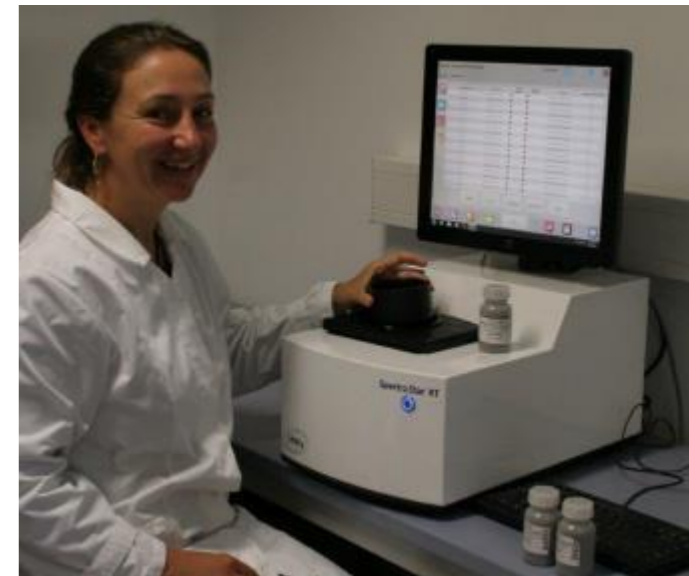
- Agroklastr Vysočina z.s., CZ
- Stadt Wien, Magistratsabteilung 48 Abfallwirtschaft, Straßenreinigung und Fuhrpark, A
- Kompost & Biogas Verband Österreich, A
- Niederösterreichische Agrarbezirksbehörde, A
- European Compost Network, DE

Project duration

September 2016 – August 2019

Project aims

- innovative technologies for composting and for quality control of compost using NIR-spectroscopy
- Recycling of phosphorus: secondary raw materials from sewage sludge and biochar
- Development of a cost-effective method for measuring nitrate leaching into the groundwater using ion exchange resin technology





Innovation in composting technology

-Input materials

organic (household) wastes, sewage sludge, biochar

-process management

monitoring of the composting process (critical points C:N, pH)

-Compost quality

system for quality assessment – N fixation – compost stabilization





Innovation in composting technology

- **Input materials**

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- **process management**

monitoring of the composting process (critical points C:N, pH)

- **Compost quality**

system for quality assessment – N fixation – compost stabilization

Planned results:

- laboratory equipment and NIRS for CETT
- definition of compost quality
- methods for determining compost maturity
- quality criteria for compost
- methods for the production of organic fertilizers from renewable sources





Recycling of phosphorus

- **Improving the availability of phosphorus in secondary raw materials from sewage sludge**
experiments on laboratory scale and on practical scale,
chemical analyses,
plant experiments
- **biochar from sewage sludge**
co-composting with organic wastes
effects on plant growth and on nitrogen leaching

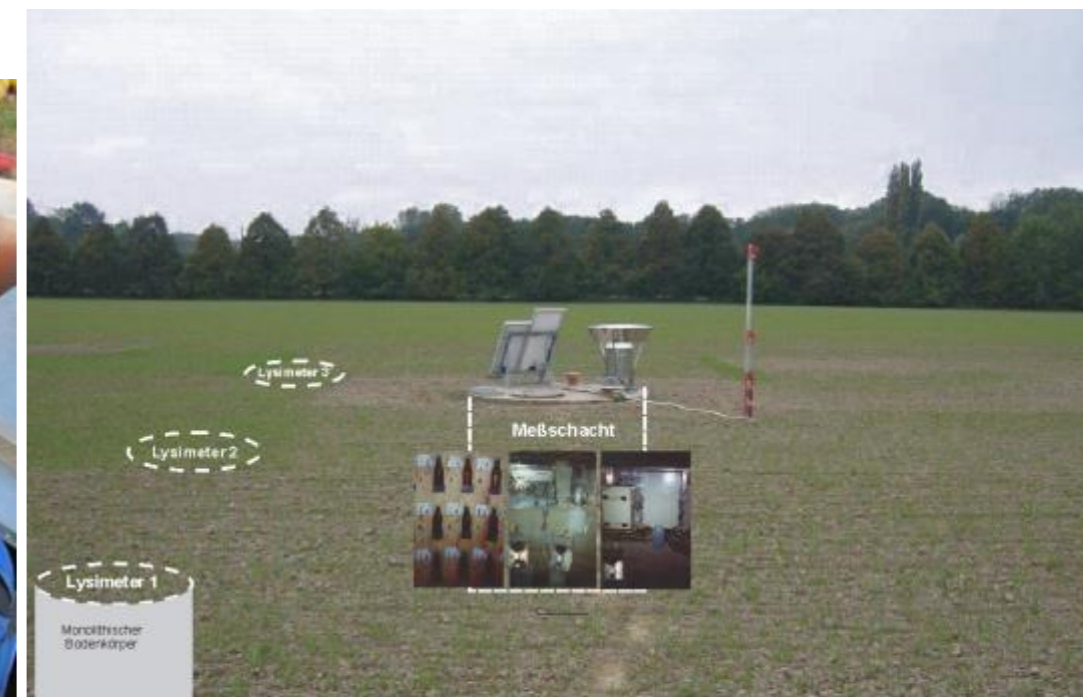




Innovation in measuring nitrate leaching

for evaluation of the effect of compost on groundwater quality

- **development of innovative sensors for recording nitrate leaching to the groundwater**
using ion exchange resin
cost effective
- **measuring nitrogen concentration and water movement in the soil**
in the lysimeter station Lobau of BFA
- **Experiments for testing the sensors**
with compost fertilization





Thank you for your attention!

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