

Agronomical performance and ecological effects of recycling-derived carbon (organic matter) fertilisers

The more nutrient cycles are closed locally, the better for the climate. Recycling-derived fertilisers are a good example. They are produced locally by innovative technologies and often have a similar fertilising effect to mineral fertilisers.

This was validated in the Interreg NWE-project ReNu2Farm, where agronomical and ecological effects were tested in the lab, pot and field. The carbon fertilisers examined were composts of household waste and animal manure.

Agronomical performance

In barley and maize, use of composts did not have a negative effect on crop yields, compared to cattle slurry or mineral fertiliser. However, they did have a positive effect on the stability, moisture retention capacity and water infiltration capacity of the soil.

Ecological impact

Neither increased nitrate leaching nor residual phosphorous was observed in the use of composts, compared to mineral fertiliser.

Conclusion

In summary, application of recycling-derived carbon fertilisers such as composts – in compliance with legislation – are a great way to supplement the soil with organic matter and increase soil health in the long term, while it has no effect on crop yield nor the environment, compared to mineral fertilisers.