C.R.O.P.®

Biological manure treatment

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Brief description

The DLR **C.R.O.P.® process** makes it possible to treat the problematic substance manure and convert it into a **readily available fertiliser solution for plants**. Based on a **purely biological method**, cattle and pig manure can be processed without using chemicals and hazardous substances. In addition, applying the solution does not result in the usual odour, thus greatly increasing societal acceptance for the use of this type of fertiliser on farms. This biologically produced fertiliser solution contributes towards **soil and water protection** and prevents the emission of greenhouse gases and pollutants (for example, ammonia) from arable land. This is made possible by **modern microbial filter technology**, which transforms nutrients into stable compounds and thus enables **lossless storage** or **volume reduction**. The technology can easily be integrated into agricultural operations and does not entail any additional expense for farmers due to its **low-maintenance requirements**.

The DLR C.R.O.P.® process (Combined Regenerative Organic-Food Production) combines findings from space research with agricultural sciences and is a promising method for optimising agricultural nutrient cycles in a **sustainable** and **environment-friendly** way, while reducing the need for mineral fertilisers.

Facts and figures

- A purely biological system
- No additional chemicals or hazardous substances used
- Fertiliser solution can be directly applied to plants
- No fine dust or climate pollution
- No odour nuisance during application
- Demonstrated removal of Ibuprofen and Diclofenac – up to 100 percent
- Processing of liquids with a dry matter content of up to five percent
- No nutrient loss during storage
- Low-maintenance operation
- Adaptable based on needs

Uses and prospects

- Processing of liquid manure into an organic fertiliser
- Complete system for recovering all nutrients from animal manure and wastewater
- Soil improvement and water management
- Removal of medication residues (xenobiotics)
- More cost-effective manure processing

Parties involved

DLR Institute of Aerospace Medicine, Cologne,
DLR Technology Marketing

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
SUSTAINABLE DEVELOPMENT GOALS

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