

Digestate quality assurance system

Latvia

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LATVIAN BIOGAS ASSOCIATION

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SUMMARY

The European Green Deal and actions within it require that more and more attention should be paid to the condition of the soil, ensuring not only that it contains the right amount of nutrients, but also that it does not contribute to eutrophication, does not harm human health, and uses the potential of recycled nutrients to reduce the consumption of fertilisers in the EU.

Several actions are taken to maintain and improve soil health. One of actions is to ensure that nutrient levels are sufficient, and that soil has adequate nutrient uptake, while at the same time not being over-fertilised. The use of organic fertilisers can ensure that the principles of the circular economy are respected and that nutrients taken from nature are returned to it in a sustainable way.

In many countries, recycled nutrients are included in waste strategies and quality systems have been developed. Recycled nutrients quality systems have been established in countries such as Sweden, Estonia, Belgium, Germany, and Finland, thereby promoting public and consumer confidence in this natural fertiliser, increasing the use of recycled nutrients in agriculture, landscaping and hobby gardening and contributing to a reduction in mineral fertiliser consumption.

In the framework of the EU Interreg Central Baltic Programme project "Sustainable Biogas" fundamentals for the digestate quality assurance system establishment in Latvia were set. During the project implementation period Latvian Biogas association implemented following tasks:

- 1) has carried out a situation analysis of the opportunities and barriers for establishing a digestate quality assurance system in Latvia
- 2) took digestate samples from 9 biogas plants in Zemgale region for laboratory testing to analyse digestate compliance to certain parameters and define quality criteria for digestate for use as fertiliser.
- 3) made desk research of different digestate quality assurance systems operating in the European countries.
- 4) developed proposal for the digestate quality assurance system in Latvia.
- 5) developed market development plan for implementing digestate quality assurance system in Latvia.

Digestate quality assurance system proposal provides following information:

- quality assurance process steps and what is important in each step. In the digestate quality assurance system it is important that necessary actions are implemented in full biogas and digestate production cycle, starting from input material quality assurance and till the digestate quality assurance.
- proposed digestate quality criteria.
- digestate marketing aspects.
- certification process.

The proposal for the digestate quality assurance system in Latvia has been created based on the experience of various European countries in implementing and maintaining such quality systems, the experience of the European Compost Network and the existing Latvian legislation.

Table 1. Proposed digestate quality criteria in Latvia

	Criteria	Value
Hygiene	Salmonella	Absent in 25 g
	E. Coli	Absent in 1 g
Inorganic pollutants	Lead (Pb)	130 mg kg dry matter
	Cadmium (Cd)	1,3 mg kg dry matter
	Chrome (Cr)	60 mg kg dry matter
	Copper (Cu)	300 mg kg dry matter
	Nickel (Ni)	40 mg kg dry matter
	Mercury (Hg)	0,45 mg kg dry matter
	Zinc (Zn)	600 mg kg dry matter

All other results and deliverables developed in the Sustainable biogas project are available in project web page www.sustainablebiogas.eu.

sustainablebiogas.eu

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The Sustainable Biogas project worked together with the biogas sector and various stakeholders to reduce nutrient discharges from the whole production chain of the biogas production: from the handling of raw materials to the production and to the safe utilisation of nutrient-rich digestates.

According to the results of the project, sustainable nutrient management in biogas production requires careful consideration when planning, permitting and operating the biogas facilities so that the regional nutrient balance is considered, storages for the feedstocks and digestates are adequate and appropriate, and digestate application is based on the plant needs.

Improving the quality of recycled nutrients and promotion of their use are needed. In addition, the reconciliation of the partly contradictory objectives for sewage sludge management - pollution prevention, nutrient recycling and climate change mitigation - should be continued.

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