



DSM Biogas

A stable process and increased biogas production

Climate and energy are very important issues in today's world and as such are key strategic drivers of governments, industry and business. DSM recognizes this and is putting its experience and knowledge to work in addressing issues such as waste stream management, renewable energy and valorization of biomass. A very promising area within the climate and energy issue is biogas. Biogas is produced by a complex biotechnological process of anaerobic fermentation using different materials originating from, for example, the agriculture, food and paper industry and waste water treatment. DSM contributes to the improvement and optimization of this process using the DSM Biogas concept, which builds on the company's knowledge and experience of enzymes and biotechnology.

Stability and better economic performance

- "Every biogas plant is different" (plant builder)
- "I want to achieve a better conversion of biomass" (plant owner)
- "I need a stable and reliable process" (plant operator)

These three quotes more or less sum up the starting points in the biogas market, a market which is still in its infancy, with new insights and knowledge emerging every day. Key challenges here are the type of substrate, variation in substrate quality, plant design, stability problems, viscosity and the economics of the operation. The balance of nutrients is essential to all biological processes and a lack of certain ingredients can reduce the stability of the fermentation process. By combining scientific knowledge (*over 100 years of experience in biotechnology*) with practical application know-how (*servicing over 200 biogas plants*), DSM employs a tailored portfolio of additives (enzymes, trace elements), analytical services and practical advice to improve the economic performance of your biogas plant. This integrated approach provides a full-service package which ensures the smooth operation of your agricultural, industrial or waste water biogas plant. We take care of the biotechnology and stability of your biogas plant.





Your profile

Owners and operators of biogas plants active in the agriculture industry, waste (water) treatment companies and industrial installations.

Our products and services

- In-depth analysis of the fermentation process
- Additives such as trace elements, enzymes and macro elements
- Advice about substrate composition and process/microbiological conditions

Your benefits

- Up to 20% increase in biogas output or reduced substrate intake
- Improved stability and reliability of your biogas plant
- Faster throughput and reduced average reaction time
- Higher conversion of substrate
- Reduced viscosity of reactor material

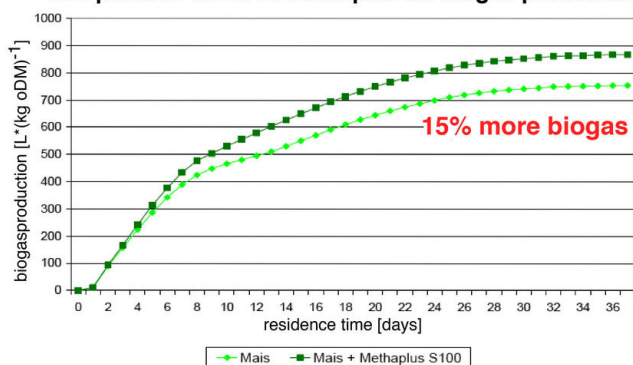
Our pragmatic approach

The steps involved in the process are as follows:

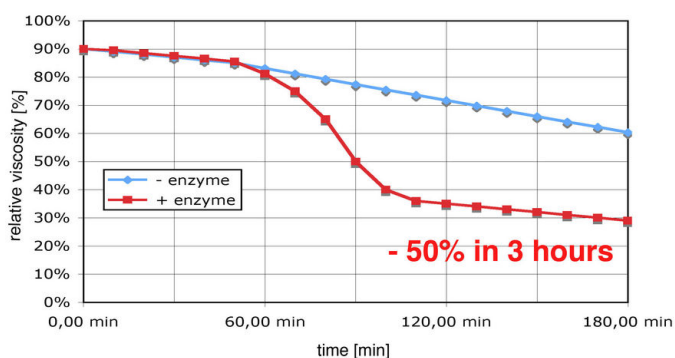
- An intake form is filled out by you, or together with one of DSM's specialists during an intake meeting. This gives a brief outline of the relevant parameters, the problems identified and the potential performance improvement of your biogas plant.
- After this intake, you will receive an initial recommendation from DSM.
- This approach may involve carrying out a test with enzymes or other additives in your biogas plant. This test will identify the gain in plant performance in terms of substrate use, conversion, biogas production and stability that can be achieved by using the DSM additives.
- After this test, DSM can offer you a tailored package of additives, analytical services and advice, with each step being carefully evaluated.

DSM Biogas Services is able to establish and exploit the link between a biogas plant's economic and operational performance and the underlying biotechnology, resulting in an optimal process and improved output.

The positive effect of Methaplus on biogas production



The fast response in viscosity after Methaplus treatment



More information is available from:

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