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**Attention: Editor**  
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**PRESS RELEASE**



## Three Tips for Better Biogas Production from Start to Finish

Biogas is an exciting form of renewable, clean energy production that society has not yet fully tapped. It is an ideal example of resource conservation because it puts waste materials to use to generate heat, electricity, and fuel. Unfortunately, biogas power plants often have difficulty operating efficiently and may face odor problems. Bionetix® International has found a way



to help the biogas industry solve these problems through the use of biological products containing naturally occurring bacteria, enzymes, and nutrients. The interesting case of a manure-powered biogas power plant in Japan demonstrates the beneficial role biologicals can play and provides several tips for biogas plants to implement—sometimes even before the animal waste reaches the plant!

**Tip Number One:** Get manure suppliers to feed their cows probiotics.



Probiotics have been a popular trend for people who want to improve their gut health and boost their immune system. A similar concept is tapped when farmers add direct-fed microbials to livestock feed. For example, Bionetix® DAIRY-FEED™ can supply a blend of viable yeast cultures, fermentation extracts, and probiotic bacteria (including, but not limited to,

*lactobacillus* and *bacillus subtilis*) to dairy cattle. The product supports development and stability of the GI tract and proper functions of rumen. It also encourages the development of the immune system. The benefits appeared to go even farther when the Japanese biogas plant in question noticed greater power generation while using manure from livestock fed with DAIRY-FEED™. This suggests that direct-fed microbials may still be active even beyond their primary intestinal benefit to the herd.

**Tip Number Two:** Boost biogas production and reduce bad odors by adding biological products to raw waste material.

Once in the biogas plant, manure is broken down by anaerobic digestion, which usually results in production of about 60% methane, 40% carbon dioxide, and less than 1% hydrogen sulfide and other impurities. The methane is used as a source of energy to produce heat, electricity, or fuel. Often, biogas power plants can have difficulty operating efficiently and



may have odor problems. This happened at the Japanese manure biogas power plant, which was only producing 40% methane and was facing bad odor problems because of excess H<sub>2</sub>S generation.

As a result, the plant was only reaching 100 kW, even though it was designed to produce 300 kW of power. The problems were identified as impediments in the hydrolysis and acidogenesis stages.



BCP12™, BCP80™, and STIMULUS™ were added to the manure biogas plant. BCP12™ contains a powerful blend of bacteria, enzymes, and nutrients that support good hydrolysis and acidogenesis, boosting conversion to methane formers to speed up biogas production. BCP80™ accelerates the biological digestion of animal wastes and

reduces odors. STIMULUS™ is a natural biostimulant derived from natural plant extract. It serves as a rich source of nutrients to energize the microorganisms that need to break down the waste and contains natural plant surfactant that makes waste more bioavailable. It also inhibits odor formation.

By using these microorganisms and stimulants, the manure biogas plant was able to get rid of the odor problem, reduce H<sub>2</sub>S, and increase methane production from 40% to 60%. The end result was that plant operation ramped up to the desired 300 kW of energy production.

**Tip Number Three:** Raise awareness about the benefits of biologicals for better biogas production.

With today's strong concern about implementing renewable forms of energy and cutting down on waste, it is important to bring biologicals into the conversation about maximizing the efficiency and effectiveness of biogas production. Since biogas plants often have problems with efficiency and odor, these solutions could be the



impetus for making biogas a more viable resource across the globe. Contact Bionetix® for help getting that conversation going to improve biogas from start to finish in your locale:

<http://www.bionetix-international.com/contact-us/>.

Read the full case history for more details on the Japanese biogas plant application:

[http://www.bionetix-international.com/wp-content/uploads/Restricted\\_Case\\_Histories/ch029.pdf](http://www.bionetix-international.com/wp-content/uploads/Restricted_Case_Histories/ch029.pdf)

To learn more about DAIRY-FEED™, please visit:

<http://www.bionetix-international.com/products-2/dairy-feed/>

To learn more about BCP12™, please visit:

<http://www.bionetix-international.com/products-2/bcp12/>

To learn more about BCP80™, please visit:

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