

Well-balanced micronutrient additive for biogas plants

jbs progas® se come in two forms, as **liquid products** or **powder**. Common to both is a high level of essential trace elements, including a good source of iron. The latter increases the availability of trace elements, which could otherwise be bound by sulphur, and become unavailable during processing.

Which trace elements are the right choice? At jbs we always recommend the analysis of a sample from the fermenter as the most useful basis for the decision as to whether, which and how many trace elements can be used for the support of the biological processes. Individual mixes are possible. However, experience over the years shows, that in over 90 % of installations the standard mix **se 1800** is reliable to meet your needs. For supportive analysis, we have been working together for a long time with biogas industry-renowned and accredited laboratories.

Optimal results through automatic dosing systems

In the fermenter, all stages of the biogas process run at the same time. Therefore, a homogeneous distribution of the trace element additive is particularly important.

An automatic dosing system achieves not only a uniform and continuous feed over 24 hours, but also a rapid distribution in the fermenter.

The effectiveness of each product is improved through using an automated dispenser rather than the dosing "by hand". In addition, the user is better protected and does not come into direct contact with the products. So automatic dispensers are safer to use, and guarantee the best possible results.



photo: ProMinent®



Caution in handling

When dealing with the manufacture of biogas, you regularly come in contact with substances which require special caution in handling. Whether iron supplements, trace elements or other additives – many are already classified as hazardous substances; more will follow. No matter whether these additives are in powder form, a chelate, or dissolved in acid; you should try to avoid contact with skin, eyes, lungs etc.

Unfortunately, it often happens that the potential risk is not properly displayed on the products, or the hazard is played down. For us, it is important to note that trace elements and iron supplements in high concentrations are always hazardous, regardless of the product warnings or the risk class classification.



At a glance

- optimizes microbiological processes
- improves substrate utilization / saves substrate
- increases methane production and gas yield
- increases CHP running time
- reduces stirring time
- reduces the risk of floating and sinking layers
- accompanying analytics provided by accredited laboratory





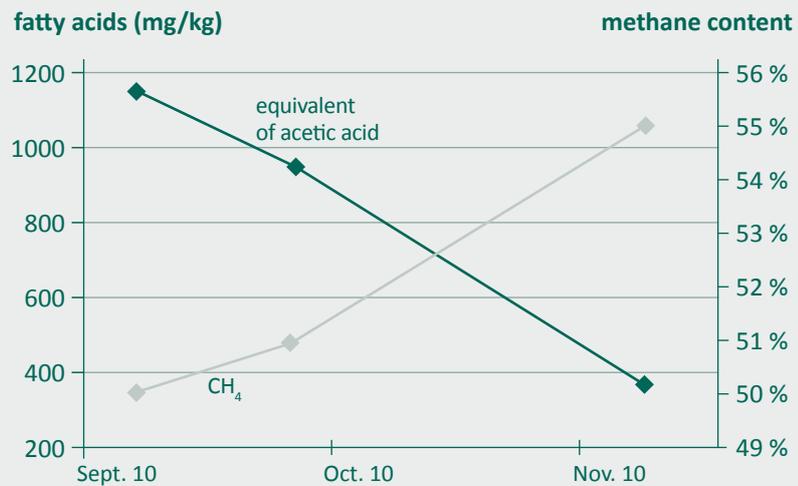
Field trial

Biogas plant close to Husum, Germany, 250 kW/h

Substrates used: 9 - 10 tonnes of maize silage
16 m³ of cow manure
2 tonnes of cow dung.

After seeing the results of a fermenter analysis, the owner of the plant decided to give **jbs progas[®] se** a try – at first for a period of three months. The initial dosage was 1.5 litre per day. First results could be seen after just one week: The acetic acid concentration dropped, as the bacteria were able to convert more acid into methane due to their improved nutrient supply.

Degradation of fatty acids increases methane content



In due consideration of the analyses, the dosage was gradually adjusted to 0.5 l/day. The methane content increased continuously from an initial 50 to 55 %. In addition, the substrate supply of maize could be reduced from 10 tonnes to 9 tonnes per day without loss of power.

Substrate savings

