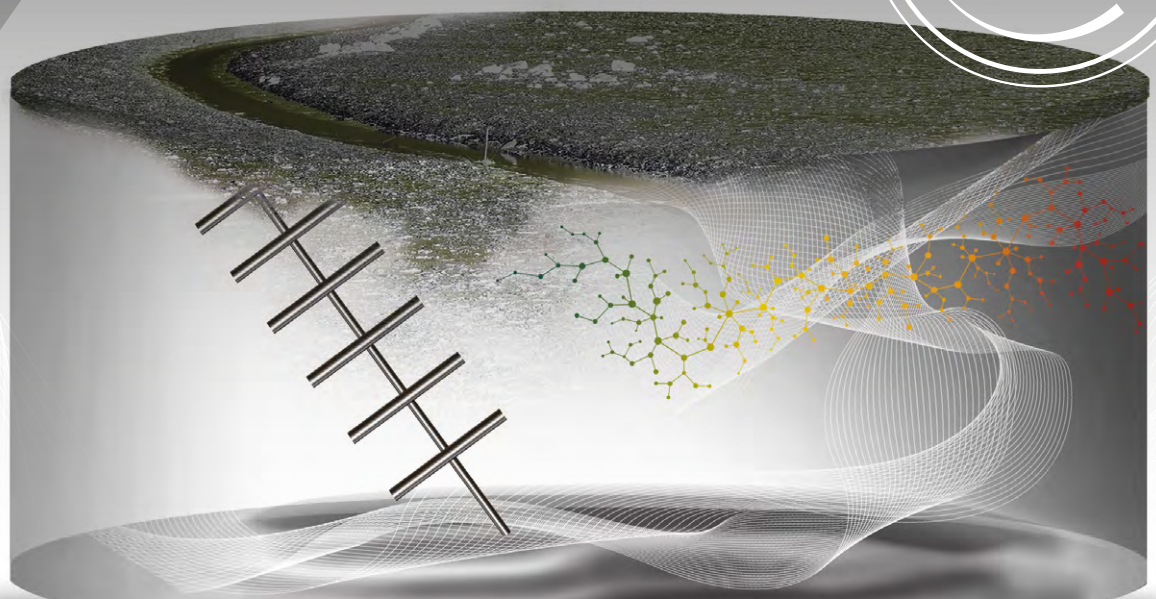
BIOENERGY

The newsletter for biogas production

NEWS



DIGESTER GOT **STUCK?**

When plant technology reaches its limits, we have the solution!

ALGEA HOMOGEN ZYM

Increasingly dry feedstocks pose new challenges for biogas processes and plant engineering. This was illustrated in 2022, a harvest year that, due to hot weather conditions in many regions, produced crop compositions characterized by low energy contents with often high, greatly varying dry matter contents. In order to achieve the necessary energy yields, operators were forced to increase feeding rates frequently reaching the limits of engineering and biological capabilities on site. Dry feedstocks tend to phase-separate and form sinking and floating layers putting both uniform feedstock distribution in the tanks as well as efficient process biology at risk. However, before damage control has to be carried out with external agitators and mobile technology, digester homogeneity can be restored through the targeted use of active ingredients: The efficient alginate-based combination product, in interaction with specifically aimed enzymes, dissolves floating and sinking layers and homogenises digester contents. Metabolism-enhancing properties facilitate the return to optimal operation.

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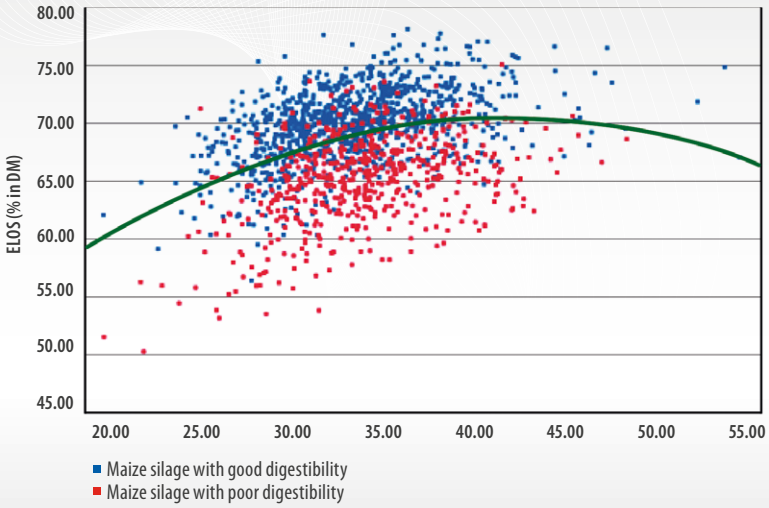
SAVE ENERGY

BIOENERGY NEWS

ELOS AS INDICATOR FOR DIGESTIBILITY

High crude fibre contents always lead to a reduction in enzyme-soluble organic matter (ELOS) and hence to a decrease in rapidly available carbohydrates. In practice, this causes a decrease in gas yields, as the proportion of rapidly available carbohydrates form the basis for any gas yields that can be achieved.
In general, the higher the ELOS value, the higher the degradability of the respective feedstock, illustrated in fig. 1., where the digestibility of maize silages from years characterized by drought stress comes out significantly below the average of previous years (see figure 1).

Figure 1: ELOS against Dry Matter in maize silage



WHEN PLANT TECHNOLOGY **REACHES ITS LIMITS.**

Due to climate and weather conditions, the last harvest years have led to unusual compositions of feedstock qualities:
// high dry matter contents with varying energy contents
// low ELOS values (poorer digestibility)
// high relative crude fibre contents

Feedstocks damaged by drought stress often create procedural challenges for biogas plants, as they tend to phase-separate and form sinking and floating layers in the process.
This impedes both mixing and degradation, reduces flow dynamics and limits stirring behaviour. The digester content thickens and gets stuck.

Dipl. Ing. Jochen Blinn

THIS IS WHERE WE BECOME YOUR PROBLEM SOLVER. **BIOGAS IS OUR CRAFT.**

For more information please contact us at
+49 4101 218 6000 // info@schaumann-bioenergy.com // www.schaumann-bioenergy.com

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