Maize silage for biogas - the key properties

Time of harvest

Crops harvested at the ideal harvesting time show good compaction properties, a low tendency to heat generation and thus a reduced susceptibility to mould growth and fusarium toxins.

Harvesting figures:

State of plant	Starch accumulation in the corn completed
Dry substance contentof whole plant	29-34 %
Dry substance content or corn	53-58 %
Starch/sugar content	300 g of starch, 40 g of sugar

In silo: Compact thoroughly!

In order to achieve anaerobic conditions, the material must be quickly compacted and covered. Depending on the dry substance content of the harvested plants, different target densities should be met.

Key figures for the ensiling of silage maize:

Layer thickness:	25-30 cm before rolling
Roller pressure:	2.5-3 bar tyre pressure, moving slowly
Storage density (28 % dry substance content):	230 kg/m^3
Storage density (33 % dry substance content):	250 kg/m^3
Storage density (35 % dry substance content):	approx. 10 kg /m^3 more for each additional 1 % of dry substrate content

Shredder chip length

The recommended density of > 230 kg of dry substance per m^3 of silage can be reached by adhering to the optimum shredder chip length for silage maize of 5 to 8 mm. Material that meets these requirements can be easily processed, causes minimum energy loss and thus offers high gas yields.

Use of ensiling agents

By adding SILASIL ENERGY, the growth of undesired microorganisms such as acetobacter, yeast, mould and other organisms that cause rot and produce toxins can be suppressed. Heat generation and faulty fermentation can be prevented, and the fermentation process can be precisely controlled, as defined quantities of acetic acid and propandiol are produced. SILASIL ENERGY reduces the loss of dry substance from the usual 8-12 % to a more desireable level of 2-3 %.

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