Maize Silage Handbook

A guide to successful maize silage
A guide to successful maize silage

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   - Low crude protein content
   - High content of fermentable carbohydrates (beneficial fermentation properties)
   - Low buffering capacity
   - High fermentability coefficient
   - DM contents in maize kernel and maize cob products near the upper limit of biological ensilability
   - High surface yeast loads
   - Extremely high spoilage potential (mould and yeast activity, heating)

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Target values for whole-crop maize and CCM silages:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Target value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry matter</td>
<td>%</td>
</tr>
<tr>
<td>pH level (dependent on DM)</td>
<td>3.8-4.2</td>
</tr>
<tr>
<td>Starch</td>
<td>% DM</td>
</tr>
<tr>
<td>CP</td>
<td>% DM</td>
</tr>
<tr>
<td>CF</td>
<td>% DM</td>
</tr>
<tr>
<td>NDF</td>
<td>% DM</td>
</tr>
<tr>
<td>CA</td>
<td>% DM</td>
</tr>
<tr>
<td>NH₃-N</td>
<td>% of total N</td>
</tr>
<tr>
<td>ESOM</td>
<td>% DM</td>
</tr>
<tr>
<td>Gas formation</td>
<td>ml/200 mg DM</td>
</tr>
<tr>
<td>Energy density</td>
<td>MJ NEL/kg DM</td>
</tr>
</tbody>
</table>

Note: High silage quality is the basis for optimal forage milk yield!
2. Harvest time (whole-crop silage maize)

**Harvest time recommendation:**
- DM content of whole plants between 29 and 34%
- Completed starch deposition in kernels
- High cob portion and easily digested vegetative parts
- Maize is considered to be ready for ensiling when its dry matter in kernels has reached 56-60%
- The target is silage with about 300 g starch and 40 g sugar (depending on the intended silage ration)

**Compliance with these harvest time recommendations delivers:**
- Optimal compaction characteristics
- Reduced susceptibility to heating and moulds
- Reduced susceptibility to the formation of Fusarium toxins
- Good feed qualities

3. Chop lengths (whole-crop silage maize)

**Optimum for cattle:** 6-8 mm  
**Optimum for biogas:** 4-6 mm (theoretical chop length)

As a rule: The dryer the material, the shorter the chop length

**Compliance with these recommendations delivers:**
- Basis for optimal compaction (above 230 kg DM per m³ silage)
- Minimal energy losses during ensiling and removal
- Increased feed intake (+ 0.7 kg DM intake/day compared to 20 mm particle length)
- Improved digestibility (larger contact surface for ruminal microorganisms)
Yeast loads are always higher in maize silage

High yeast loads frequently result from high surface yeast loads of maize plants in the field, as has been confirmed by annual silage analyses conducted by various laboratories.

Example:
Studies conducted by ISF Schaumann Forschung have shown that 71% of untreated silages carry excessive yeast loads. This has been confirmed by analyses performed as part of the ensiling competition of the LUFA North-West Institute of Agricultural Analysis and Research, where 62% of maize silages exceeded the threshold of 100,000 CFU/g FM.
As a result, the official consultancy agencies issued a general recommendation that silage additives should be used as a matter of principle in order to improve aerobic stability.

5. Effects of silage additives

The SCHAUMANN range comprising BONSILAGE MAIS, BONSILAGE GKS, BONSILAGE CCM, BONSILAGE SPEED M and BONSILAGE FIT M includes the right product for any maize silage.

Objectives of using silage additives in silage maize and maize kernel products

- Suppression of undesirable microorganisms (acetobacter, yeasts, moulds and other toxin-forming spoilage agents)
- Prevention of heating and fermentation failure
- Improved feed qualities (palatability)
- Increased digestibility (substrate digestion)
- Targeted control of the fermentation process (development of defined quantities of acetic acid, propanediol and lactic acid)
- Substantial reduction of dry matter losses
6. Whole-crop maize ensiling

**BONSILAGE MAIS**

**High-performance silage, easy handling**

**Active ingredients:** Homofermentative and heterofermentative lactic acid bacteria

**Purpose:** Optimised fermentation process, increased energy density, aerobic stability

**Field of application:** maize whole-crop silage, cereal WCS

**Package size:** granules 25 kg, liquid 100 g, powder

**Application rate/t:** granules 0.25 kg/t silage, liquid 1 g/t silage

**Recommended compaction:** min. 250-330 kg DM/m³ depending on DM

**Minimum storage period:** 8 weeks

**BONSILAGE MAIS optimises the fermentation process for more energy**

<table>
<thead>
<tr>
<th>pH level</th>
<th>Lactic acid</th>
<th>Acetic acid</th>
<th>1,2-propanediol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>3.8</td>
<td>2.35%</td>
<td>1.63%</td>
</tr>
<tr>
<td>BONSILAGE MAIS</td>
<td>3.8</td>
<td>0.68%</td>
<td>0.31%</td>
</tr>
</tbody>
</table>

**Improved aerobic stability has been repeatedly demonstrated**

The quality of maize silages is often highly unsatisfactory and results in high losses. BONSILAGE MAIS optimises the fermentation process, increases energy density and improves aerobic stability.

**Extract from trial results for the DLG quality mark**

<table>
<thead>
<tr>
<th><strong>Control</strong></th>
<th><strong>BONSILAGE MAIS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DM (%)</strong></td>
<td><strong>Aerobic stability (hours)</strong></td>
</tr>
<tr>
<td>IFA-Tulln*</td>
<td>40.4</td>
</tr>
<tr>
<td></td>
<td>41.4</td>
</tr>
<tr>
<td>Swiss Federal Research Station for Animal Production</td>
<td>26.5</td>
</tr>
<tr>
<td></td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>26.5</td>
</tr>
<tr>
<td></td>
<td>25.5</td>
</tr>
<tr>
<td>Landwirtschaftskammer Schleswig-Holstein (Chamber of Agriculture)</td>
<td>33.9</td>
</tr>
<tr>
<td></td>
<td>33.6</td>
</tr>
<tr>
<td></td>
<td>38.8</td>
</tr>
<tr>
<td></td>
<td>38.2</td>
</tr>
<tr>
<td></td>
<td>34.7</td>
</tr>
<tr>
<td></td>
<td>32.6</td>
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<td>31.2</td>
</tr>
<tr>
<td></td>
<td>29.9</td>
</tr>
<tr>
<td></td>
<td>31.8</td>
</tr>
<tr>
<td></td>
<td>30.1</td>
</tr>
<tr>
<td></td>
<td>32.3</td>
</tr>
<tr>
<td></td>
<td>32.2</td>
</tr>
<tr>
<td></td>
<td>36.0</td>
</tr>
<tr>
<td></td>
<td>36.1</td>
</tr>
</tbody>
</table>

*IFA-Tulln: Dept. of Agrobiotechnology, University of Natural Resources and Life Sciences, Vienna
The new *Lactobacillus diolivorans* strain in SPEED products shortens silage maturity to two weeks while delivering high stability of high-energy maize silages and WCS.

**Active ingredients**: combination of homofermentative and heterofermentative lactic acid bacteria.

**Purpose**: Rapid silage maturity and high aerobic stability for maize and WCS silages.

**Field of application**: all starchy silages (maize, cereal WCS etc.) with a DM content of 25-45 %

**Package size**: liquid 100 g powder

**Application rate/t**: 1 g/t silage

**Recommended compaction**: min. 210-370 kg DM/m³ depending on DM

**Minimum storage period**: 2 weeks

---

**BONSILAGE SPEED accelerates the ensiling process markedly.**

Stable silage after only 14 days of ensiling

Temperature, °C

Day

<table>
<thead>
<tr>
<th>Day</th>
<th>Temperature, °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>7</td>
<td>25</td>
</tr>
</tbody>
</table>

**BONSILAGE FIT delivers a marked increase in cow fitness.**

FIT products shift fermentation acid patterns towards more acetic acid and propylene glycol while maintaining excellent aerobic stability. Metabolic stability is optimised.

**Active ingredients**: combination of homofermentative and heterofermentative lactic acid bacteria.

**Purpose**: High stability for energy-rich maize silages and WCS for enhanced cow fitness.

**Field of application**: all starchy silages (maize, cereal WCS etc.) with a DM content of 25-45 %

**Package size**: liquid 100 g powder

**Application rate/t**: 1 g/t silage

**Recommended compaction**: min. 210-370 kg DM/m³ depending on DM

**Minimum storage period**: 8 weeks

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**Acetic acid ensures high aerobic stability**

**Impressive propylene glycol contents deliver easily metabolised energy**

<table>
<thead>
<tr>
<th>% DM</th>
<th>Lactic acid</th>
<th>Acetic acid</th>
<th>Propylene glycol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>5</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>BONSILAGE FIT M</td>
<td>6</td>
<td>3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% DM</th>
<th>Ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>0.5</td>
</tr>
<tr>
<td>BONSILAGE FIT M</td>
<td>1.0</td>
</tr>
</tbody>
</table>
7. Silaging CCM/high-moisture maize

Target values
- Cob portion: < 10%
- Particle size: > 80% of particles < 2 mm
- The higher the DM content, the longer silage should be allowed to mature.

Nutrient protection for maize kernel silage and corn cob mix (CCM)

Active ingredients: Homofermentative and heterofermentative lactic acid bacteria
Purpose: optimised fermentation acid profile, reliable preservation of energy, high storage stability
Field of application: CCM, maize kernel silage, maize ear silage
Package size: liquid 50 g powder
Application rate/t: liquid 1 g/t silage
Recommended compaction: > 500 kg DM/m³
Minimum storage period: 8 weeks

Excellent stability with BONSILAGE CCM
CCM preservation trial, Haus Riswick, 2011

<table>
<thead>
<tr>
<th>Days</th>
<th>Control</th>
<th>Acids A 5 l/t</th>
<th>Acids B 4 kg/t</th>
<th>Acids C 4 l/t</th>
<th>BONSILAGE CCM 1 g/t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>18</td>
<td>16</td>
<td>25</td>
</tr>
</tbody>
</table>

Acids A: Mixture of propionic acid and formic acid
Acids B: Mixture of formic acid, sodium lignosulfate (lignosulfonic acid) and propionic acid
Acids C: Mixture of sodium benzoate and sodium propionate
8. Silaging whole-kernel maize silage

Note that a CO₂ compensation bag is required.

**BONSILAGE GKS**

**Stability for whole-kernel maize silage**

**Active ingredients:** combination of homofermentative and heterofermentative lactic acid bacteria  
**Purpose:** perfectly hygienic whole-kernel silages, better palatability, reduced losses  
**Field of application:** maize whole-kernel silages for storage in gas-tight tower silos  
**Package size:** liquid 100 g powder  
**Application rate/t:** liquid 1 g/t silage  
**Recommended compaction:** > 500 kg DM/m³  
**Minimum storage period:** 3 months

**BONSILAGE GKS reduces yeast loads substantially**

<table>
<thead>
<tr>
<th>Yeasts, CFU/g FM</th>
<th>10,000</th>
<th>1,000</th>
<th>100</th>
<th>10</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BONSILAGE GKS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Grub State Agricultural Institute, 2014

9. Silaging CCM/high-moisture maize using acid salts/acid

**Silaging using acid salts/acid with subsequent foil storage:**

- Acid salt (pH-neutral): application rate for 60-70 % DM: 4-5 l SILOSTAR LIQUID per t silage  
- Acid: application rate for 60-75 % DM: 4-8 l SCHAUMASIL EXTRA/SCHAUMASIL SUPRA NK per t silage.  
- The dryer the material, the higher the application rate.  
- Where base material is hygienically compromised (e.g. corn smut) or contaminated, the application rate needs to be increased by 0.1-0.3 %.

**Technical information:**

The precise determination of dry matter in the base substrate is essential for successful ensiling/preservation.  
As a matter of principle, the moisture content of any incoming batch should be determined, particularly if large quantities are supplied that contain material at different stages of maturity

- Acid must always be metered using acid-proof dosing devices!  
- Adjust (calibrate) dosing devices accurately before use.  
- Always comply with safety regulations. The product-specific safety data sheets (HACCP principle) must be available for this purpose.  
- Any walls and floors that come into contact with treated silage must be protected with acid-proof paint or a layer of acid-proof foil  
- Excessive heating during the milling process must be avoided in order to prevent heat-induced spoilage reactions (brown or black discoloration of the maize product; Maillard reaction).
The turbo starter among silage additives

**Active ingredients:** homofermentative and heterofermentative lactic acid bacteria, active ingredient additive

**Purpose:** accelerated silage maturity

**Field of application:** silage maize, WCS, CCM

**Application rate/t:** 1 kg granules/t silage

**Minimum storage period:** 3 weeks

Liquid, pH-neutral concentrate for improved aerobic stability

**Active ingredients:** combination of active ingredients comprising sodium benzoate, potassium sorbate and sodium acetate

**Purpose:** effective prevention of heating through inhibition of moulds and yeasts. Non-corrosive and user-friendly

**Field of application:** grass, maize and cereal WCS silages, industrial by-products

**Application rate/t:** complete treatment: depending on silage type and DM content: 1.5-2.5 l/t

**Minimum storage period:** 2 weeks

The liquid option for complete and edge treatments

**Active ingredients:** combination of active ingredients comprising sodium benzoate and sodium acetate

**Purpose:** effective prevention of heating through inhibition of moulds and yeasts. Low silage surface losses. Non-corrosive, user-friendly

**Field of application:** CCM and high-moisture maize meal, grass, maize and cereal WCS, edge treatment

**Application rate/t:** 3-5 l/t silage, depending on DM content and silage material; silage surface: 0.3-0.5 l/m²

**Minimum storage period:** 2 weeks

A highly effective combination for the targeted protection of silage

**Active ingredients:** sodium benzoate, sodium formate and potassium sorbate

**Purpose:** protection of silage surfaces against moulds and yeasts

**Field of application:** silage surface and edge treatments

**Application rate/t:** 2-5 kg granules/t or 200 g/m² (surface treatment)
Highly active liquid acid combination for optimal feed hygiene

Active ingredients: organic acids
Field of application: preservation of CCM, maize kernel silage
Application rate: 4-8 l/t with foil storage
Minimum storage period: 2 weeks

Reliable dosing technology for successful ensiling
LAB products can only be effective if they are precisely dosed. The precise, controlled application of lactic acid bacteria is essential if silage is to be successfully treated. Micro-dosers such as the SCHAUMANN MD have long become the industry standard in view of increasing yields and higher efficacy of modern high-performance forage harvesters. The SCHAUMANN dosing technology range offers practical solutions that have proven their worth in the field with any harvest technology. Other electrical and pneumatic devices (e.g. SDG 450 E for grain preservation) are available upon request.

SCHAUMANN dosing systems ensure the precise application of any BONSILAGE and SILASIL ENERGY products.

SCHAUMANN MD 150/300/700
Application: Liquid
Design: Compact micro-doser with 10 l tank and operating terminal. Various control functions such as nozzle monitoring and flow control. Dosing via ultra-fine atomisation. Ready to use with all fittings.
Dosing rate: Up to a max. of 530 t/h
Motor: 12V DC
Field of application: Forage harvester
LACTOSPRAYER 100 ST /200 ST

Application: Liquid
Design: 100/200 l tank with holder, pump with filter, 2-point drainage (residue-free drainage), flow meter Ready to use with all fittings.
Dosing rate: 16-160 l/h
Motor: 12V DC
Field of application: Forage harvesters, silage trailers and baling presses

SDG 450 E / SDG 800 E

Application: Liquid
Design: Self-priming pump with flow meter, 2.5 m suction hose with foot filter, 5 m pressure hose with nozzle holders and set of nozzles. All components made of stainless steel, with on/off switch and emergency off switch
Dosing rate: SDG 450 E 40-450 l/h
SDG 800 E 80–800 l/h
Motor: 230V AC

The entry of oxygen into silage causes heating and thus losses of energy and DM. The better silage is therefore compacted, the less oxygen is able to enter from the air whenever silage is removed.

The weight of the compaction tractor determines the speed of the harvest chain.

Rule of thumb: \[
\text{Pick-up rate in t FM per hour} \quad 4^* \quad \frac{\text{Compaction tractor weight}}{\text{DM Density}}
\]

Target compaction values:

<table>
<thead>
<tr>
<th>DM</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>246 kg DM/m³</td>
</tr>
<tr>
<td>40%</td>
<td>326 kg DM/m³</td>
</tr>
</tbody>
</table>

Rule of thumb for compaction: \[
(8 \cdot \text{DM [%]}) + 6
\]
Example: \[(8 \cdot 35) + 6 = 286 \text{ kg DM/m}^3\]

CORRECT
The tractor angle allows rolling right up to the wall.

INCORRECT
Protruding vehicle parts prevent rolling right up to the wall.

Other electrical and pneumatic devices are available upon request.
12. Cover

For whole-crop silage maize
- Intensive compaction = prerequisite for optimal ensiling processes
- Layer depth for compaction: 25-30 cm before rolling
- Slow speed (2-3 km/h) and high roller pressure (2.5-3 bar tyre pressure)
- At 28 % DM: 230 kg DM/m³
- At 33 % DM: 270 kg DM/m³
- Above 35 % DM about 10 kg DM/m³ greater density per additional percentage point DM

For CCM/maize grain meal
- Storage density: > 500 kg DM/m³
- A removal rate of about 10-15 cm per day is recommended as a matter of principle.

For upper edge and top layers
Use of organic acid mixtures in liquid or granular form
- SCHAUMASIL EXTRA
  (1 l per m², diluted with 3 l water)
- SILOSTAR PROTECT
  (0.2-0.5 kg per m² or 2-5 kg/t), incorporated in the top layer

Examples of good silage sealing:

**Sealing**
- Underlay film, adheres directly to silage (strength: 0.04 mm)
- Main film, must be gas-tight (strength: 0.15-0.25 mm)
- It is recommended to add temporary foil for extended breaks during the ensiling process (over 6 hours).
- SCHAUMANN silage netting; protects films against mechanical damage and provides additional weight
- SCHAUMANN silage sandbags as additional weights for a snug fit. These allow air-tight barriers to be created at 5 m intervals.
- Side walls should be covered with side wall film, where applicable.

**Removal**
- Minimum removal rate: cool seasons: 15-20 cm/day
  warm seasons: 30-35 cm/day
- Maximum open silo face: 1 m² per 10 cows
- Recommended feedstock volume: 20 m³/cow

Note: Well compacted silage minimises the risk of heating.
13. Silo face

The minimum weekly removal rate should be 1.5 m in winter and 2.5 m in summer to avoid heating. Machines used for removing silage should keep the silage face as intact as possible in order to minimise air ingress.

Impact of removal machinery on silage face temperatures (after 20 hours, 20 cm behind the face)

How to prevent heating

- Create summer silos with smaller face areas.
- Ensure that the silo face is away from the prevailing wind direction.
- Remove as little silage film as possible in advance.
- Calculate silo length and removal based on herd size.
- Optimise removal technology.

Air flow at an opened silo

![Diagram showing air flow at an opened silo](image)

Note: Tailor the silo face to farm needs to prevent heating.

14. Economic efficiency

A model calculation illustrates the increased profitability of maize silage production using the example of BONSILAGE MAIS silage additive.

**Harvest yield:** 50 t fresh mass (FM) grass per hectare with 35 % DM, maize silage costs: € 40/t

**Energy content:** Silage maize, start of dough ripeness, high cob portion: BONSILAGE MAIS costs: € 1.20/t

Sample calculation: Increase in energy yield in MJ NEL/ha by using BONSILAGE MAIS

DM losses: reduced by 8% with the use of BONSILAGE MAIS

The higher energy content of maize silage produced with the use of BONSILAGE MAIS has not been taken into account. 1 kg milk = 3.3 MJ NEL

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>BONSILAGE MAIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy</td>
<td>Milk</td>
</tr>
<tr>
<td>Harvest yield</td>
<td>117,250</td>
<td>35,530</td>
</tr>
<tr>
<td>Losses</td>
<td>15,242</td>
<td>4,619</td>
</tr>
<tr>
<td>Yield</td>
<td>102,007</td>
<td>30,911</td>
</tr>
<tr>
<td>Yield increase</td>
<td>+ 9,381</td>
<td>+ 2,843</td>
</tr>
</tbody>
</table>

Dairy concentrate (DC) savings potential

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>BONSILAGE MAIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy concentrate savings potential (DC with 7.0 MJ NEL/kg)</td>
<td>9,381 : 7 = 1,340 kg</td>
<td></td>
</tr>
<tr>
<td>Cost reduction with DC prices of</td>
<td>20.00 €/dt</td>
<td>30.00 €/dt</td>
</tr>
<tr>
<td>Silage additive costs</td>
<td>268.00 €</td>
<td>402.00 €</td>
</tr>
<tr>
<td>Additional yield from using BONSILAGE MAIS</td>
<td>- 59.00 €/ha</td>
<td>- 59.00 €/ha</td>
</tr>
<tr>
<td></td>
<td>+ 209.00 €/ha</td>
<td>+ 343.00 €/ha</td>
</tr>
</tbody>
</table>

For detailed calculations, please do not hesitate to ask your SCHAUMANN consultant.
17. Product overview for grasses

**BONSILAGE FORTE**
For any forage silage in the lower DM range.
Inhibits clostridia.

**BONSILAGE PLUS**
For any forage silage in the upper DM range.
Improves stability and digestibility.

**BONSILAGE ALFA**
Special combination of strains for lucerne and clover grass silages.

**BONSILAGE SPEED G** (liquid)
Rapid silage maturity and high aerobic stability for grass, clover grass, lucerne and forage rye silages.

**BONSILAGE FIT G** (liquid)
Reliable protein quality and high aerobic stability in energy-rich grass silages.

**SILOSTAR PROTECT**
For silage surface and edge treatment.
Inhibits moulds and yeasts along edges.

**SILOSTAR LIQUID**
Special liquid, pH-neutral product for improved aerobic stability.

**SILOSTAR LIQUID HD**
Concentrate for improved aerobic stability.
Liquid, pH-neutral and user-friendly.

18. Product overview for maize and cereals

**BONSILAGE MAIS**
For maize silages and WCS.
Improves stability and digestibility.

**BONSILAGE CCM**
For maize grain meal and CCM. Protects against uncontrolled yeast proliferation.

**BONSILAGE GKS**
For treating whole-kernel maize silages in gas-tight tower silos.

**BONSILAGE SPEED M**
Rapid silage maturity and high aerobic stability for maize silages and WCS.

**BONSILAGE FIT M**
High aerobic stability for energy-rich maize and WCS silages.

**SILOSTAR MAIS**
Biological/chemical silage additive for maize, CCM and WCS. Accelerates silage maturity.

**SILOSTAR PROTECT**
For silage surface and edge treatment.
Inhibits moulds and yeasts along edges.

**SILOSTAR LIQUID**
Special liquid, pH-neutral product for improved aerobic stability.

**SILOSTAR LIQUID HD**
Concentrate for improved aerobic stability.
Liquid, pH-neutral and user-friendly.
For further information please visit www.bonsilage.com