Grass Silage Handbook

A guide to successful grass silage
A guide to successful grass silage

1. Target values

This Grass Silage Handbook addresses all major management factors involved in producing grass silage of superior feed quality.

The target values for the most important parameters of outstanding grass silage are set out below.

### Requirements for grass 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>4.0-4.8</td>
</tr>
<tr>
<td>Sugar</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>ESÖM</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!*
Effective grassland maintenance includes not only routine springtime works such as levelling and rolling, but also appropriate fertilisation and regular re-seeding in spring or autumn.

The sward is exposed to a number of possible sources of damage throughout any year of cultivation. Intensive use, late cuts, winter kill damage and damage caused by rodents, trampling and tyre tracks, for example, can all cause undesirable gaps in the sward. Both DM yields and energy concentrations decrease gradually over time. Regular repair and re-seeding with grass and legume mixtures from SCHAUmann's GREENSTAR range ensures high grassland quality.

GREENSTAR STRUKTUR with soft-leaf tall fescue is an excellent example for the high-performing GREENSTAR range, as extended three-year trials conducted by Landwirtschaftskammer Niedersachsen (Chamber of Agriculture) have shown.

### Crude protein and energy yields – a comparison of field data

<table>
<thead>
<tr>
<th></th>
<th>Energy yield, MJ NEL/ha</th>
<th>Crude protein yield, kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GREENSTAR STRUKTUR</strong></td>
<td>89,278</td>
<td>2,189.1</td>
</tr>
<tr>
<td>Average of other tested varieties</td>
<td>75,684</td>
<td>1,492.2</td>
</tr>
<tr>
<td><strong>Local average</strong></td>
<td>76,144</td>
<td>1,675.5</td>
</tr>
</tbody>
</table>

Source: Landwirtschaftskammer Niedersachsen (Chamber of Agriculture)

**Note:** Regular repair and re-seeding is a standard measure for maintaining consistently high grassland quality.

The optimal cutting time is just before panicle heading of the main crop grasses, which then have a crude fibre content of <25% in DM. After this time, both digestibility and feed intake deteriorate gradually due to increasing lignin deposition. This effect is observed more acutely in extensively managed crops, as grasses then have a higher stalk content. In this case, the cutting time intervals are even shorter.

**Change in grass dry matter digestibility during the vegetation stage**

- During the main vegetation stage of the 1st growth, crude fibre content increases by 3-8 g/kg DM/day, causing a cow’s theoretical performance potential to decrease by 150 kg milk/year.
- The optimal crude protein content is 16-18% in DM with as little free nitrogen compounds as possible, as these act as buffers during the ensiling process.
- An early first cut establishes the basis for high quality of all subsequent cuts.

**Note:** Quality over quantity in every cut increases annual milk yields.
4. Cutting height

The minimum cutting height is 7 cm, but this can be increased depending on crop conditions and rodent populations. Adhering to this cutting height helps preserve the sward during subsequent work processes.

**This minimum cutting height:**
- Promotes rapid grass re-growth
- Reduces dirt and thus increases energy contents
- Reduces the introduction of unwanted spores
- Prevents the displacement of desirable grasses due to insufficient cutting heights

**Degree of damage caused to a range of grass varieties when cut too short**

<table>
<thead>
<tr>
<th>Damage Level</th>
<th>Cocksfoot</th>
<th>Perennial ryegrass</th>
<th>Red clover</th>
<th>Lucerne</th>
<th>Smooth meadow-gr.</th>
<th>White clover</th>
<th>Meadow fescue</th>
<th>Timothy</th>
<th>Rough-stalked meadow-gr.</th>
<th>Couch grass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreasing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Grass stock is improved sustainably in the long term by cutting and harvesting it more frequently with less damage to the sward.*

5. Wilting

Keeping wilting times to 28-35 % DM as short as possible provides a basis for optimal ensiling with low losses and high feed intake (40-45 % DM in rations). Excessively wet silages result in butyric acid fermentation, while excessively dry silages are difficult to compact and therefore tend to spoil.

**Relationship between the degree of wilting and losses**

- **Fermentation gas losses**
- **Effluent losses**
- **Field losses**

**2 days maximum wilting time**

- **Dry matter losses**
  - Degree of wilting, % DM
  - 20
  - 30
  - 40
  - 50

**3-4 days maximum wilting time**

- **Dry matter losses**
  - Degree of wilting, % DM
  - 20
  - 30
  - 40
  - 50

- **Note:** Rapid wilting is the basis for minimal losses and optimal performance.
Field curing should be limited to less than 24 hours to minimise energy losses, as any additional night in the field causes sugar losses due to respiration. Weather risks (rain) are also reduced.

**Dry matter losses relative to field curing times**

- **Shatter losses**
- **Leaching losses**
- **Respiration losses**

**Short field curing:**
- Reduces respiration, shatter and leaching losses
- Prevents carbohydrate losses and promotes crop suitability for ensiling
- Reduces proteolysis and improves protein quality
- Improves energy density and digestibility
- The use of mower-conditioners accelerates wilting, and the optimal DM content in crops may be rapidly exceeded in warm weather.

*Note: Short field curing optimises the energy yield per hectare.*

**Optimum chop length for grass silage:** 30-40 mm
Excessive chop length hampers compaction.
Blades and shear bars should be sharpened regularly.

**Optimum chop length is essential for:**
- Precise compaction, efficient silo utilisation and reduced losses
- Improved plant cell digestion and thus more intensive and rapid lactic acid fermentation
- Reduced gas exchange after silo opening and thus reduced risk of secondary fermentation
- Improved feed intake

*Note: Optimum chop length forms the basis for thorough compaction, intensive fermentation and high feed intake.*
8. Silage additive – BONSILAGE BASIC

An effective fermentation process is promoted by adhering to the fundamental principles of ensiling and can be further enhanced by applying silage additives for a range of action categories.

**The professional silage additive for wet silages**

**Active ingredients:** homofermentative lactic acid bacteria  
**Purpose:** rapid, stable pH reduction, utilisation of the full carbohydrate spectrum, inhibition of the growth of clostridia  
**Field of application:** ryegrass 18-30 % DM, other grasses 22-30 % DM, clover grass 25-30 % DM, lucerne 25-35 % DM  
**Package size:** granules 25 kg, liquid  100 g  
**Application rate/t:** granules 0.5 kg, liquid  2 g  
**Recommended compaction:** min. 180-270 kg DM/m³ depending on DM  
**Minimum storage period:** 3 weeks

**For greater stability and energy**

**Active ingredients:** combination of homofermentative and heterofermentative lactic acid bacteria  
**Purpose:** rapid lactic acid formation, more digestible energy, aerobic stability  
**Field of application:** grass, clover grass, lucerne, WCS: >28 % DM  
**Package size:** granules 25 kg, liquid  50 g  
**Application rate/t:** granules 0.5 kg, liquid  1 g  
**Recommended compaction:** min. 180-270 kg DM/m³ depending on DM  
**Minimum storage period:** 8 weeks

**Special combination for lucerne silages (clover grass)**

**Active ingredients:** combination of homofermentative and heterofermentative lactic acid bacteria  
**Purpose:** reliable pH reduction in material that is difficult to ensile, improved palatability, protection against butyric acid formation and heating  
**Field of application:** lucerne, clover grass with 25-40 % DM  
**Package size:** liquid 100 g  
**Application rate/t:** liquid  2 g  
**Recommended compaction** min. 180-270 kg DM/m³ depending on DM  
**Minimum storage period:** 8 weeks

All BONSILAGE products are approved for organic farming.
8. Silage additive – BONSILAGE SPEED

**NEW**

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

The new *Lactobacillus diolivorans* strain in SPEED products accelerates silage maturity to two weeks while minimising losses and maximising energy contents.

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

**Purpose:** rapid silage maturity within two weeks, high stability of grass, clover grass, lucerne and forage rye silages

**Field of application:** grass, clover grass, forage rye, lucerne with 28-50 % DM

**Package size:** liquid 100 g

**Application rate/t:** liquid 2 g

**Recommended compaction:** min. 190-270 kg DM/m³ depending on DM

**Minimum storage period:** 2 weeks

---

8. Silage additive – BONSILAGE FIT

**NEW**

**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 aerobic stability in energy-rich grass silages, improved cow fitness

**Field of application:** grass and clover grass with 28-50 % DM

**Package size:** liquid 100 g

**Application rate/t:** liquid 2 g

**Recommended compaction:** min. 190-270 kg DM/m³ depending on DM

**Minimum storage period:** 8 weeks
8. Silage additive – SILOSTAR

**SILOSTAR**

**A highly effective combination for the targeted protection of silage**

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

**Purpose:** minimal losses at silage surfaces and edges, protection against moulds and yeasts, rapid protection, easy application

**Field of application:** silage surfaces and edges

**Package size:** 25 kg

**Application rate/t:** grass and maize silage and others: 200 g/m² or 2 kg/t; industrial by-products (e.g. brewers grains, stillage): 300-500 g/m² or 2-5 kg/t

**SILOSTAR**

**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, CCM and high-moisture maize meal, 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

9. Dosing technology

**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:** 12 V DC

**Field of application:** Forage harvesters

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. However, proven, conventional forms of applying silage additives from a water tank or granule spreader also continue to be used, especially with silage trailers and baling presses. The SCHAUMANN dosing technology range offers practical solutions that have proven their worth in the field with any harvest technology.

**SCHAUMANN dosing systems ensure the precise application of any BONSILAGE and SILASIL ENERGY products.**
**LACTOSPRAYER JUNIOR E**

*Application:* Liquid  
*Design:* Self-priming pump with filter, flow meter and speed controller  
*Dosing rate:* 16-160 l/h  
*Motor:* 12 V DC  
*Field of application:* Silage trailers and baling presses

**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 bis 160 l/h  
*Motor:* 12 V DC  
*Field of application:* Forage harvesters, silage trailers and baling presses

**SILAMAT SPEZIAL / SILAMAT KOMBI** (with agitator)

*Application:* Granules  
*Design:* Corrosion-resistant VA tank with mounting brackets and electronic speed controller Ready to use with all fittings.  
*Dosing rate:* Up to 150 kg/h  
*Motor:* 12 V DC  
*Field of application:* Forage harvesters, silage trailers and baling presses
10. Compaction

Measures for optimal compaction:

- Max. 15-20 cm layer depth
- The higher the crude fibre and dry matter contents, the smaller the layer depths.
- Tyre pressure at least 2 bar and as high as possible
- No twin tyres
- Max. 3-4 km/h rolling speed
- Rolling from the start, as the effect remains superficial otherwise
- No excessive rolling towards the end, as this can cause a pumping effect due to silage springing back.

Note: Well compacted silage minimises the risk of heating.

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:

\[
\text{Pick-up rate in t FM per hour} \quad \frac{\text{4}^*}{\text{Compaction tractor weight}}
\]

* for forage harvesters; for silage trailers = 3

Target values Compaction:

<table>
<thead>
<tr>
<th>DM</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 %</td>
<td>177.50 kg DM/m³</td>
</tr>
<tr>
<td>40 %</td>
<td>230.00 kg DM/m³</td>
</tr>
</tbody>
</table>

Rule of thumb for compaction:

\[(3.5 \cdot \text{DM} \% \%)) + 90\]

Example: \((3.5 \cdot 40) + 90 = 230 \text{ kg DM/m}^3\)
11. Cover

Ensure that the silage is appropriately sealed as soon as rolling has been completed.

- Underlay film, adheres directly to silage (strength: 40-50 μ).
- Main film, must be gas-tight (strength: 150-250 μ).
- SCHAUMANN silage netting; protects films against mechanical damage and provides additional weight.
- SCHAUMANN silage sandbags as additional weights for a snug fit. SCHAUMANN silage sandbags allow air-tight barriers to be created at 5 m intervals to prevent air entering at silo faces.
- Side walls should be covered with side wall film, where applicable.

Examples of good silage sealing:

![Diagram of silage sealing]

12. 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)**

![Graph of temperature differences]

**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 of air flow]

*Note: Tailor the silo face to farm needs to prevent heating.*
13. Aerobic stability

BONSILAGE products with Lactobacillus buchneri promote the increased formation of acetic acid and 1,2-propanediol (propylene glycol), depending on strain composition. The growth of moulds and yeasts is strongly inhibited, resulting in a highly significant increase in the aerobic stability of silage, also when compared to chemical treatments.

**Number of yeasts and aerobic stability after 90 days of storage, comparison between an untreated control and BONSILAGE FIT G in grass silage (first cut, 32 % DM)**

<table>
<thead>
<tr>
<th>log CFU/g FM or days</th>
<th>Yeasts</th>
<th>Aerobic stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>6.8</td>
<td>&gt;7</td>
</tr>
<tr>
<td>6</td>
<td>&gt;7</td>
<td>&gt;7</td>
</tr>
<tr>
<td>5</td>
<td>&lt;2</td>
<td>&gt;7</td>
</tr>
<tr>
<td>4</td>
<td>&lt;2</td>
<td>&gt;7</td>
</tr>
<tr>
<td>3</td>
<td>&lt;2</td>
<td>&gt;7</td>
</tr>
<tr>
<td>2</td>
<td>&lt;2</td>
<td>&gt;7</td>
</tr>
<tr>
<td>1</td>
<td>&lt;2</td>
<td>&gt;7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Yeast category</th>
<th>Control</th>
<th>BONSILAGE FIT G</th>
<th>BONSILAGE SPEED G</th>
</tr>
</thead>
<tbody>
<tr>
<td>log CFU/g FM</td>
<td>6.8</td>
<td>&gt;7</td>
<td>&gt;7</td>
</tr>
<tr>
<td>Aerobic stability</td>
<td>&gt;7</td>
<td>&gt;7</td>
<td>&gt;7</td>
</tr>
</tbody>
</table>

Heating losses are thus minimised sustainably and more cost effectively compared to chemical treatment. At the same time, high silage feed intake is achieved for maximum forage milk yields.

14. Economic efficiency

A model calculation illustrates the increased profitability of grass silage production using the example of BONSILAGE PLUS silage additive.

This calculation does not take protein quality into account.

**Harvest yield from first and second cut:** 23 t fresh mass (FM) grass per hectare with 35 % DM, equivalent to 8.05 t DM per hectare

**Energy content:** Grass 1st/2nd cut: 6.3 MJ NEL/kg DM

**Increase in energy yield in MJ NEL/ha by using BONSILAGE PLUS**

DM losses: reduced by 7 % with the use of BONSILAGE PLUS

Higher energy content is not taken into account.

1 kg milk = 3.3 MJ NEL

**Dairy concentrate (DC) savings potential**

<table>
<thead>
<tr>
<th>DC savings potential with 7.0 MJ NEL/kg</th>
<th>3.551 : 7 = 507 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost reduction with DC prices of</td>
<td>€24.00/quintal</td>
</tr>
<tr>
<td>€122.00</td>
<td>€86.00</td>
</tr>
<tr>
<td>Silage additive costs</td>
<td>-€40.00/ha</td>
</tr>
<tr>
<td>Additional yield from using BONSILAGE PLUS</td>
<td>+ €82.00/ha</td>
</tr>
</tbody>
</table>

For detailed calculations, please do not hesitate to ask your SCHAUMANN consultant.
15. Protein quality

**BONSILAGE products improve protein quality**

Results from trials conducted by Hohenheim University and Landwirtschaftskammer Niedersachsen (Chamber of Agriculture) have shown that the use of BONSILAGE products for ensiling reduces proteolysis of NPN compounds and therefore increases UDP contents by 2-5%.

**BONSILAGE PLUS reduces proteolysis** (DM range between 30 and 40% DM)

![Graph showing BONSILAGE PLUS's effect on % CP]

- C = protein, no availability in the rumen and small intestine
- B3 = membrane-bound protein, slow availability
- B2 = protein, medium availability
- B1 = protein, rapid availability
- A = NPN compounds

**Effect of improved protein quality in grass silage treated with BONSILAGE, using a sample ration per cow and day**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Control</th>
<th>BONSILAGE PLUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UDP content in grass silage</td>
<td>+ 4 %</td>
<td></td>
</tr>
<tr>
<td>Soy/oilseed rape savings</td>
<td>0.28 kg = 8.4 ct</td>
<td></td>
</tr>
<tr>
<td>BONSILAGE costs</td>
<td>3.4 ct</td>
<td></td>
</tr>
<tr>
<td>Savings potential with BONSILAGE</td>
<td>5.0 ct **</td>
<td></td>
</tr>
</tbody>
</table>

* Assumptions: 33 kg milk; 18 kg FM intake of grass silage; 18 kg FM intake of maize silage; performance-related supplementation with soy/oilseed rape; soy/oilseed rape (50/50) costs = €30/quintal; BONSILAGE costs = €1.70/t ** Effects of reduced DM losses and substantially higher energy contents are not taken into account.

16. Protein quality/biogenic amines

**BONSILAGE products reduce the contents of biogenic amines.** Protein digestion, for example during the ensiling process, produces substances such as biogenic amines, which are causally related to depressed feed intake and metabolic strain when affected silages are fed. Silage should therefore contain as little biogenic amines as possible.

**Effect of BONSILAGE FORTE on biogenic amine contents in silage produced from a 1st cut of perennial ryegrass** (Halle University, 2015)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Control</th>
<th>BONSILAGE FORTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Lactic acid</td>
<td>% DM</td>
<td></td>
</tr>
<tr>
<td>Acetic acid</td>
<td>% DM</td>
<td></td>
</tr>
<tr>
<td>Butyric acid</td>
<td>% DM</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLG fermentation quality rating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biogenic amines, total</td>
<td>g/kg DM</td>
<td></td>
</tr>
<tr>
<td>GABA</td>
<td>g/kg DM</td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05 ** p < 0.01

BONSILAGE FORTE reduces biogenic amine contents to a highly significant extent, by 15%, even when compared to the excellent fermentation quality obtained from the untreated control. This ensures higher feed intake and healthier cows.
### 17. Product Overview for Grasses

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BON SILAGE FORTE</strong></td>
<td>For any forage silage in the lower DM range. Inhibits clostridia.</td>
</tr>
<tr>
<td><strong>BON SILAGE PLUS</strong></td>
<td>For any forage silage in the upper DM range. Improves stability and digestibility.</td>
</tr>
<tr>
<td><strong>BON SILAGE ALFA</strong></td>
<td>Special combination of strains for lucerne and clover grass silages.</td>
</tr>
<tr>
<td><strong>BON SILAGE SPEED G</strong></td>
<td>Rapid silage maturity and high aerobic stability for grass, clover grass, lucerne and forage rye silages.</td>
</tr>
<tr>
<td><strong>BON SILAGE FIT G</strong></td>
<td>Reliable protein quality and high aerobic stability in energy-rich grass silages.</td>
</tr>
</tbody>
</table>

**NEW**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SILOSTAR PROTECT</strong></td>
<td>For silage surface and edge treatment. Inhibits moulds and yeasts along edges.</td>
</tr>
<tr>
<td><strong>SILOSTAR LIQUID</strong></td>
<td>Special liquid, pH-neutral product for improved aerobic stability.</td>
</tr>
<tr>
<td><strong>SILOSTAR LIQUID HD</strong></td>
<td>Concentrate for improved aerobic stability. Liquid, pH-neutral and user-friendly.</td>
</tr>
</tbody>
</table>

### 18. Product Overview for Maize and Cereals

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BON SILAGE MAIS</strong></td>
<td>For maize silages and WCS. Improves stability and digestibility.</td>
</tr>
<tr>
<td><strong>BON SILAGE CCM</strong></td>
<td>For maize grain meal and CCM. Protects against uncontrolled yeast proliferation.</td>
</tr>
<tr>
<td><strong>BON SILAGE GKS</strong></td>
<td>For treating whole-kernel maize silages in gas-tight tower silos.</td>
</tr>
<tr>
<td><strong>BON SILAGE SPEED M</strong></td>
<td>Rapid silage maturity and high aerobic stability for maize silages and WCS.</td>
</tr>
<tr>
<td><strong>BON SILAGE FIT M</strong></td>
<td>High aerobic stability for energy-rich maize and WCS silages.</td>
</tr>
</tbody>
</table>

**NEW**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SILOSTAR MAIS</strong></td>
<td>Biological/chemical silage additive for maize, CCM and WCS. Accelerates silage maturity.</td>
</tr>
<tr>
<td><strong>SILOSTAR PROTECT</strong></td>
<td>For silage surface and edge treatment. Inhibits moulds and yeasts along edges.</td>
</tr>
<tr>
<td><strong>SILOSTAR LIQUID</strong></td>
<td>Special liquid, pH-neutral product for improved aerobic stability.</td>
</tr>
<tr>
<td><strong>SILOSTAR LIQUID HD</strong></td>
<td>Concentrate for improved aerobic stability. Liquid, pH-neutral and user-friendly.</td>
</tr>
</tbody>
</table>
For further information please visit www.bonsilage.com