

## Objectives of Effective Silage Making:

- Harvesting at the bud stage (alfalfa, clover) and heading stage (grasses)
- Ensuring high nutrient utilization, palatability, and feed intake
- Suppression of undesirable bacteria activity
- Use of suitable machinery and adaptation of the silage line organization to spreading and compaction capabilities
- Suppression of yeast and mold activity
- Keeping losses at an acceptable level
- Rapid pH drop during fermentation
- No negative impact on animal health
- Easy and efficient application of the solution – use of low-volume applicators



Experiment Formasil®



Watch the video verifying the effectiveness of VVS silage inoculants.

**Effective Preservation with the Formasil Product Line®**



*Traditional Czech producer*

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a line of preservatives

# Formasil®

## Bacterial-enzymatic preparation

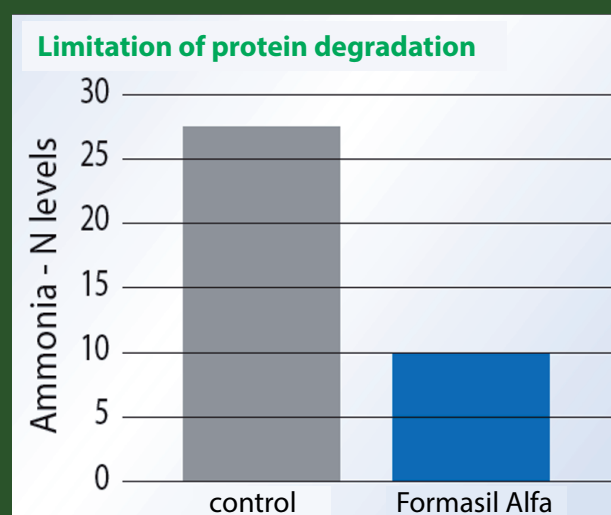
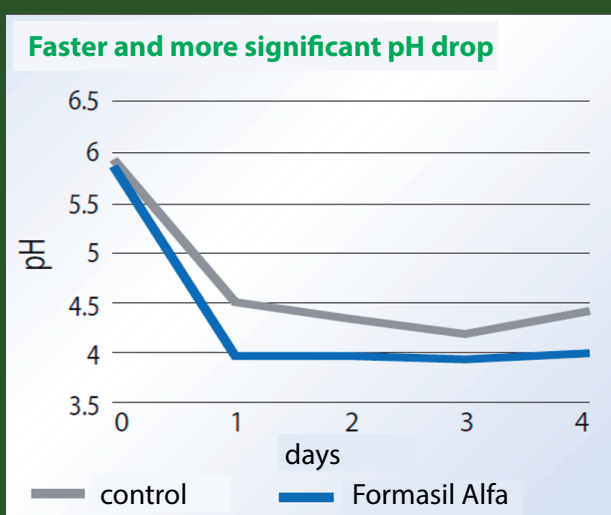
### Strain *Pediococcus pentosaceus*:

It is not competitive with lactic acid bacteria; on the contrary, it creates an environment at the beginning of fermentation that promotes their rapid development. It has a short generation interval. It thrives in a pH range of 4.5 to 8, ideally between pH 5 and 6.5. Once it establishes a low pH, it makes way for *Lactobacillus plantarum*, which prefer the more acidic environment.

It is more tolerant of high dry matter content, has a broader optimal temperature and pH range for growth, and therefore performs well even in colder seasons (spring and autumn). It has the ability to produce bacteriocins, which inhibit the growth of certain other bacteria and destroy listeria.

It can also utilize five-carbon sugars, resulting in increased lactic acid production!

## Reduced dry matter losses due to rapid acidification and higher nutrient content in the final feed silage



### Recommended dry matter content for ensiling

Grasslands: 30 – 45 %,

Clover-grass mixtures: 32 – 42 %, jetel: 34 – 40 %

Alfalfa: 33 – 45 %,

Peasch: 30 – 45 %, GPS: 25 – 35 %

### Security measures

It is neither corrosive nor toxic

### Stability and Storage Conditions

Store in a dry place, at a maximum of +20°C

(ideally up to 4°C) in the original packaging.

Stability: 24 months from the date of manufacture

### Packaging and Dosage

A sachet (paper/polyethylene/aluminium/polyethylene) containing 100g (70g) of freeze-dried powder for treating 100t (70t) of fresh forage.

## Benefits

- Reduces heating and increases aerobic stability
- Minimizes feed losses
- Rapid pH drop
- High enzyme activity, releasing energy sources from hemicellulose and cellulose
- Limits the development of molds and yeasts
- Minimizes the occurrence of unwanted microorganisms
- The bacteria used in the specified amount contribute to faster fermentation
- Treated silage increases palatability and dry matter intake
- Suitable for biogas plants
- Suitable for organic farming



# Formasil® Alfa

**Composition:** **Pediococcus pentosaceus** NCIMB 12455 (1k) > 1,50 x 10<sup>11</sup> CFU/g  
**Lactobacillus plantarum** CNCM I-3736 (1k) > 1,50 x 10<sup>11</sup> CFU/g  
**Endo-1,4-betaxylanase** (EC 3.2.1.8) (1k107) > 3 841 DNS/g  
**Endo-1,3(4)-betaglucanase** (EC 3.2.1.6) (1k106) > 7 011 DNS/g

**Recommended dosage:**

### For the preservation of easily and moderately silageable crops (grasses, clover-grass mixtures)

#### Standard applicators

- 1) Dissolve the contents of 1 sachet in 100 liters of clean water
- 2) Apply 0.5 liters of the solution per ton of forage

#### Low-volume applicators

- 1) Dissolve the sachet in 5 liters of clean water at room temperature.
- 2) Add the solution to the pre-filled applicator.
- 3) Dose with the solution in such a quantity that it corresponds to the dosage in grams.

### For the preservation of hard-to-silage and moderately silageable crops (alfalfa, clover)

#### Standard applicators

- 1) Dissolve the contents of 1 sachet in 100 liters of clean water
- 2) Apply 1 liter of the solution per ton of forage

#### Low-volume applicators

- 1) Dissolve the sachet in 5 liters of clean water at room temperature.
- 2) Add the solution to the pre-filled applicator.
- 3) Dose with the solution in such a quantity that it corresponds to the dosage in grams.

*Pour lukewarm water into the preparation (not the other way around!) in the container. It is recommended to use the diluted solution within 8 hours, and no later than 48 hours after dilution. Store the solution in a cool and shaded place.*



# Formasil® Cool

## For high dry matter forage

This product was specifically developed for grasses and protein-rich forages harvested with a higher dry matter content.

- Controls the growth of undesirable molds and yeasts
- Improves aerobic stability
- Prevents overheating of the forage mass
- Reduces dry matter losses
- Increases nutrient content
- Limits alcoholic fermentation
- Suitable for organic farming

## Composition:

**Pediococcus pentosaceus**

NCIMB 12455 (1k2106) >  $7,14 \times 10^{10}$  CFU/g

**Unique strain Lactobacillus buchneri**

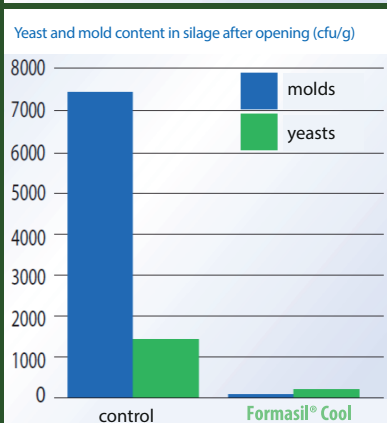
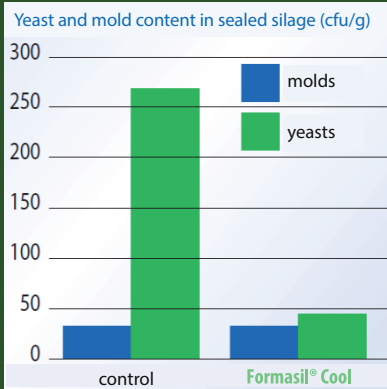
NCIMB 40788 (1k20739) >  $1,43 \times 10^{11}$  CFU/g

**Endo-1,4-betaxylanase**

(EC 3.2.1.8) (1k107) > 2 735 DNS/g

**Endo-1,3(4)-betaglucanase**

(EC 3.2.1.6) (1k106) > 4 995 DNS/g



### Recommended dosage:

1 sachet (70 g) is sufficient for treating 70 tons of fresh forage.

**Can be combined with other types of Formasil products.**

### Standard applicators

- 1) Dissolve the contents of 1 sachet in 100 liters of clean water
- 2) Apply 1.4 liters of the solution per ton of forage

### Low-volume applicators

- 1) Dissolve the sachet in 5 liters of clean water at room temperature.
- 2) Add the solution to the pre-filled applicator.
- 3) Apply the solution in such a quantity that it corresponds to the dosage in grams.

*Dosage and application can be discussed with a VVS consultant.*

*Pour lukewarm water onto the preparation (not the other way around!) in the container. It is recommended to use the diluted solution within 8 hours, and no later than 48 hours after dilution. Store the solution in a cool and shaded place.*





# Formasil® Maize Propio

For the preservation of corn

## Benefits

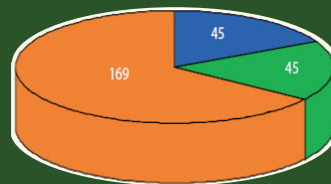
- Reduces heating and increases aerobic stability
- Minimizes feed losses
- Suitable for biogas plants
- Limits the development of molds and yeasts
- Minimizes the occurrence of unwanted microorganisms
- Limits alcoholic fermentation
- Suitable for organic farming

## Composition:

**Pediococcus acidilactici** CNCM I-3237 (1k21009) 5,00 x 10<sup>10</sup> CFU/g

**Acidipropionibacterium acidipropionici** CNCM I-4661 (1k2111).. 5,00 x 10<sup>10</sup> CFU/g

**Unique strain** **Lactobacillus buchneri** NCIMB 40788 (1k20739) > 2,00 x 10<sup>11</sup> CFU/g



Number of hours of aerobic stability

45 - control

45 - acid

169 - Formasil Maize Propio

*When ordering the preservative, it is possible to also order practical load bags.*



## Recommended dosage:

100 grams is sufficient for treating 100 tons.

For CCM, 100 grams is sufficient for 50 tons (2 grams per ton).

**Recommended dry matter for silaging:** Corn: 32 – 37%, CCM wet corn grain 62 – 68%, LKS: 60 – 65%

## Standard applicators

- 1) Dissolve the contents of 1 sachet in 100 liters of clean water
- 2) Apply 0.5 liters of the solution per ton of forage

## Low-volume applicators

- 1) Dissolve the sachet in 5 liters of clean water at room temperature.
- 2) Add the solution to the pre-filled applicator.
- 3) Dose with the solution in such a quantity that it corresponds to the dosage in grams.

*Pour lukewarm water onto the preparation (not the other way around!) in the container. It is recommended to use the diluted solution within 8 hours, and no later than 48 hours after dilution. Store the solution in a cool and shaded place.*



# Silage program from firmy Rani Plast

Rani Plast is one of the largest global manufacturers of agricultural films. In 2017, the company made a significant investment in a new extrusion line and now offers films up to 22 meters wide.

The RANI Group owns nine factories in five different countries, has an annual turnover of over 200 million EUR, and exports to more than 50 countries.

## Tips for silaging in pits:



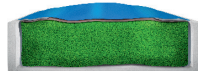
Ensure a clean substrate for the surface of the silage pit. Contaminants will affect the quality of the silage. After cleaning, we recommend using RaniSidewall wall film. This film protects the walls of the silage pit from acids in the silage juice and protects the feed from oxygen passing through the concrete wall of the pit.



Place the RaniSidewall wall film over the RaniCover base film to function as additional protection at the most sensitive area of the silage pit. The correct width of the RaniSidewall wall film is twice the height of the wall.



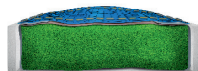
In silage pits with concrete walls, we recommend filling the pit in thin layers of silage. To achieve the best compaction, pile the pit higher near the walls than in the center.



Cover the silage pit with the appropriate silage film. To find the right product, check our range of silage covers.



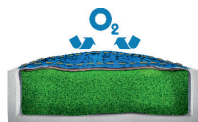
Once you are above the side walls, create a slight rise towards the center to allow for easier water drainage.



To protect the silage cover from damage caused by animals and birds, we recommend using a protective net and weighting it down and sealing it with sandbags. After covering the pit, we strongly recommend checking the silage cover to ensure it is not damaged.



We highly recommend using the RaniCover base film. When used correctly, it will improve the quality of your feed and provide additional protection against potential damage to the top silage film.



For optimal preservation, use our barrier film. The following options are available: the RaniPrO2 base film with standard silage film RaniSilo or RaniCover with RaniSilO2.

## Products Rani:

- Silage film
- Stretch film
- Base films
- Silage film with oxygen barrier
- Wall films



RANI  
SILO<sub>2</sub> 7  
NEW GENERATION  
MULTILAYER



**EURO  
BAGGING**  
*Just bag it!*