



ProMyr®

Making a difference to
silage quality

Silage additives that give key benefits

- Immediate reduction of pH value
- Improve silage palatability
- Preserves nutritional value
- Effectively counteract spores
- Function in all weathers

Highly effective additives for better silage quality

A natural method

Ensiling is a natural method of preserving the nutrient content of feed crops. In an oxygen-free environment lactic acid bacteria ferment various types of sugar into lactic acid, which reduces the pH value. The combination of a low pH value and an oxygen-free environment prevents other unwanted microorganisms from growing, consuming nutrients in the silage and forming unwanted decomposition products.

Until the pH value has been stabilized at a low level unwanted microorganisms can grow; consequently, it's essential for the ensiling process to be as rapid as possible.

A more reliable process

It is quite possible to produce silage without additives, but there are numerous uncertain factors to consider. These include a negative effect on the ensiling process, such as poor weather, a high proportion of leguminous plants, and molehills and manure. ProMyr® ensures an efficient process and provides silage of a high, uniform quality.

A more rapid process

Even with favorable conditions for ensiling, it takes weeks for the silage to stabilize and for unwanted microbial processes to cease. Using ProMyr® ensures a more rapid ensiling process and minimizes formation of unwanted decomposition products during the initial phases of ensiling. A more rapid ensiling process also means considerably lower dry matter losses.

Continuous development

Perstorp has been manufacturing and developing silage additives for improved feed quality for almost 50 years. A continuous development project in partnership with the Swedish University of Agricultural Sciences has led to some highly valued products known for their excellent and reliable results.

New technology has led to further improvements in the ProMyr® formula, with the pH value being reduced more rapidly and to a greater extent, which is crucial to the quality of the silage. At the same time, ProMyr® has been made more gentle and safer to handle.

Our new formulas make ProMyr® more cost-effective. Combined with even better results, this makes ProMyr® an attractive product for producing excellent silage.



ProMyr® NT

Silage additive based on acids and salts of acids developed for ensiling pasture feed. The products in ProMyr® NT are suited to normal conditions and low to medium solids content.

ProMyr® XR

Silage additive based on acids and salts of acids developed for those who specifically require extra help with overheating problems or hard-to-ensile material. ProMyr® XR contains special products developed for those who want extra help during the ensiling process. There are special products for corn ensilage, whole crop ensilage and high clover content.

ProMyr® CQ

Silage additive based on acids and salts of acids developed for ensiling crimped grain. These products have been specially adapted for the conditions prevalent during grain ensiling.

ProMyr® TR

Products based on acids and salts of acids developed to counteract overheating in total mixed ration (TMR) prepared in advance before feeding.

ProMyr® LB

Silage additive based on specific strains of lactic acid bacteria and enzymes. ProMyr® LB was developed to facilitate optimal growth and development of the desired microorganisms.

ProMyr® combats unwanted microorganisms

Yeast, fungi and butyric acid bacteria are three examples of microorganisms that can have devastating effects on feed quality.

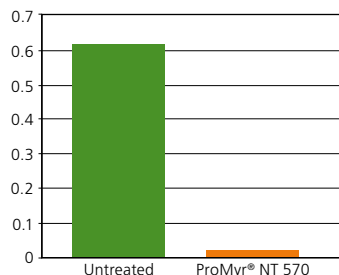
Yeast and fungi grow by consuming nutrients in the form of sugars and protein and are the principal cause of heat generation during ensilage. The elevated temperature triggers a chemical process that makes proteins less accessible, thus drastically reducing the nutritional value of the silage. ProMyr® effectively inhibits yeast and fungi thereby reducing overheating during storage and handling, and in mixed feed.

Butyric acid bacteria give rise to clostridium spores and cause major problems in the form of taste problems with milk and gassy fermentation of cheese. The very rapid pH reduction achieved using ProMyr® effectively inhibits butyric acid bacteria.

Improved quality

ProMyr® provides comprehensive protection for feed – from preservation and storage through to feeding. Adding an acid-based ProMyr® product immediately reduces the pH value, effectively stopping cell respiration and heat generation.

Butyric acid (% of solids content)

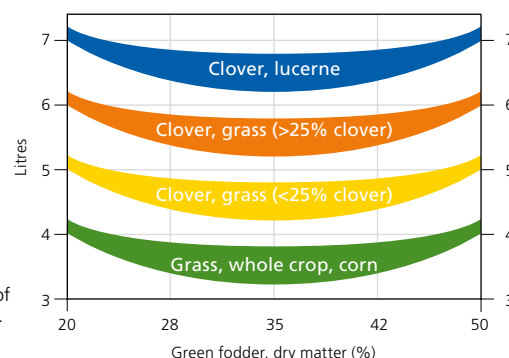


Butyric acid in ensiling trials at the Swedish University of Agricultural Sciences 2005-2006, average from 7 trials.

Growth of unwanted microorganisms is inhibited or halted, while simultaneously providing optimum conditions for desirable lactic acid bacteria.

By preserving sugars and protein in the feed and minimizing unwanted decomposition products, ProMyr® provides a tasty and highly nutritious feed. Use of ProMyr® always yields better feed, compared with untreated silage, provided that you follow the dosage recommendations. It is therefore wise to use ProMyr® regardless of whether the ensiling conditions are difficult or favourable.

Dosage

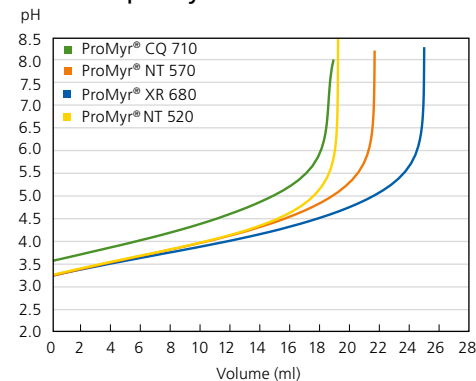


Always follow the dosage table. Avoid underdosing as this can cause unwanted results.

Crop litres/tonne green fodder

Clover-lucerne	>6
Clover-grass (>25% clover)	5-6
Clover-grass (<25% clover)	4-5
Grass, whole crop, corn	3-4

Buffer capacity



Green fodder containing a lot of clover or lucerne is difficult to ensile due to its resistance to pH reduction. Successful results require an silage additive that will resist these buffering properties, i.e. with a high buffer capacity. ProMyr XR 680, which shows the best values in the diagram, is therefore the most appropriate choice for clover-rich crops and lucerne.



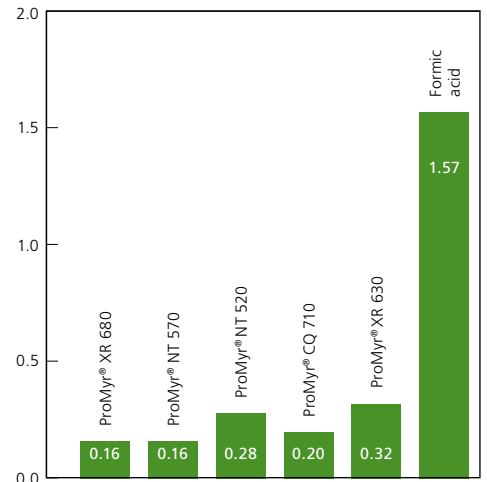
ProMyr® preserves nutritional value

Because the nutritional value of the feed and its content of decomposition products are of great significance to animals' performance and feed intake, there is a direct link between ensiling using ProMyr® and higher levels of production. Silage treated with ProMyr® has substantially lower percentages of ammoniacal nitrogen, and thus has a very positive effect on feed intake.

A higher nutritional value and feed intake stimulates growth and milk production, and may yield increased fat and protein content in milk. ProMyr® thus directly generates greater profitability for your operation.

ProMyr® provides the basis for good feed and a high level of production.

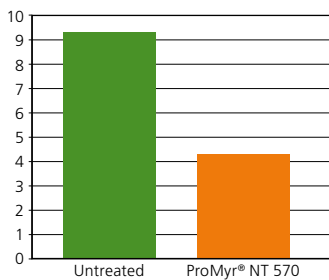
Corrosive properties



The corrosive properties of formic acid always spring to mind when acid-based ensiling agents come up. The diagram above shows relative figures for the various acid-based ensiling agents' corrosive properties.



Ammoniacal nitrogen (% NH3-N/N)



Ammoniacal nitrogen in ensiling trials at the Swedish University of Agricultural Sciences 2005-2006, average from 7 trials.



An innovative leader in the feed additive market

For nearly fifty years Perstorp has been involved with developing a range of highly effective feed additives to improve the performance of farm animals.

During the 1960s Perstorp was one of the first companies to introduce acid-based silage additives to the market. And in the '80s, Franklin Products International – now integrated with Perstorp – was pioneering the use of lactic acid in formulas for acidifiers and antibacterials in the European market.

Today, the range, quality and properties of our feed additives make a real difference in helping you to become more competitive. As a world leader in this arena, we aim to keep it this way.

Maintaining feed value and animal health

There are a number of ways that Perstorp feed additives maintain the nutritional and economic value of feed, and protect animal health:

- Inhibiting microbial growth to preserve the nutritional value of feed.
- Specifically inhibiting the growth of pathogenic bacteria like *Salmonella*, *Campylobacter* and enteric bacteria like *Escherichia coli* to protect animal and human health along the food chain.
- Acidifying the gastrointestinal tract for rapid adjustment of farm animals to compound feed after weaning.
- Prevention of diarrhea in animals.
- Prolonging shelf-life.
- Improving the digestibility of feed.
- Stabilizing feed ingredients.



Our “Pro” lines for professionals

The core product lines and benefits of Perstorp feed additives are:

ProSid®

Mould inhibitors, toxin binders and immune stimulants for preventing and overcoming mould-related problems.

ProMyr®

Silage additives for the preservation of nutrients, minimizing bacterial spores and increasing the storage life of roughage.

ProPhorce®

Acidifiers, antibacterials and feed preservatives that result in healthier animals and higher performance.

ProFare®

Enzymes for increasing the digestibility of feed and the nutritional value of feed ingredients.

ProTain®

Antioxidants for stabilizing feed ingredients and prolonging product shelf-life.

An extensive program of customer care

As our product knowledge is complemented with thorough technical support, you can depend on us for your feed needs along the food chain. Perstorp employs several application specialists to promote good customer care through personal contact, discussing relevant feed topics, and following up our activities with you.

As we like to form a partnership with you, we do our best to satisfy your feed additive requirements and foster long-term relationships. Through our unique raw material position and know-how with formic acids, formates, propionic acids and propionates, we are able to continue developing cost-effective customer solutions.

When you choose Perstorp as your partner, we strive to safeguard your investment.



Your Winning Formula

The Perstorp Group is the world leader in several sectors of the specialty chemicals market. Few chemical companies in the world can rival its 125 years of success. Today we have a rich performance culture distilled from our long history and extensive knowledge in the chemical industry. That culture and knowledge base enables us to produce Winning Formulas for a wide variety of industries and applications.

Our products are used in the aerospace, marine, coatings, chemicals, plastics, engineering and construction industries. They can also be found in automotive, agricultural feed, food, packaging, textile, paper and electronics applications.

Our production plants are strategically located in Europe, North and South America and Asia and are supplemented by sales offices in all major markets. We can offer you speedy regional support and a flexible attitude to suit your business needs.

If you want a partner for feed additives who can offer you focused innovation to enhance your product or application, which is delivered reliably and responsibly, look no further. We have a winning formula waiting for you.