

Selko-BE+

Liquid feed preservation

For liquid feed quality and safety

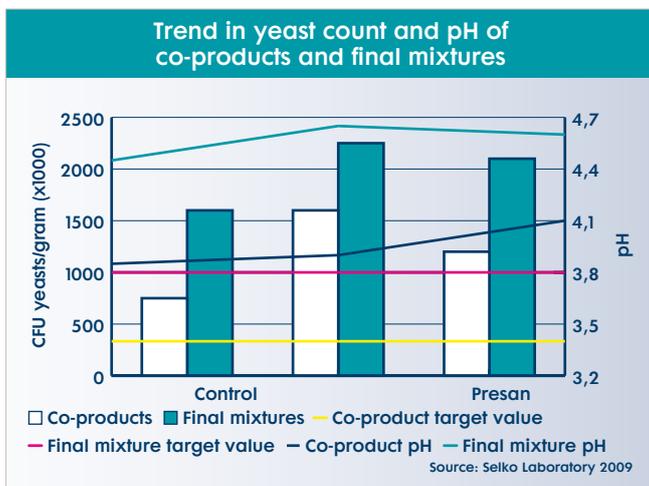
Selko®-BE+ protects liquid feed ingredients and liquid feed rations against deterioration by micro-organisms such as yeast, moulds and bacteria. This preserves the nutritional value for longer periods of time.

Fermentation leads to loss of nutrients

Liquid feed systems are attractive for pig farmers due to the low feed costs involved. These financial benefits are only achieved if the quality of the liquid feed is safeguarded. Unfortunately, microbial quality has decreased in recent years due to high yeast and Enterobacteria counts in co-products. This trend is the result of reduced acidification by the lactic acid bacteria present, which causes an increase in the pH of the products, allowing yeasts and Enterobacteriaceae to thrive, resulting in insufficient microbial quality of the final mixtures at the farm. This in turn results in loss of nutritional value, causing a decreased feed conversion and growth in the animals.

Preservation of the nutritional value of co-products

Insufficient preservation of liquid feed leads to yeasts converting the sugars and starches present into carbon dioxide. Lysine and other amino acids are broken down by Enterobacteriaceae, resulting in a decrease in dry matter content in liquid feed, and therefore, in the nutritional value. The various organic acids in Selko-BE+ protect co-products against deterioration caused by yeasts, moulds and Enterobacteriaceae, extending the shelf life for longer periods of time. Brewer's yeast is a product that has a high yeast count immediately after production, preventing the fermentation process by lactic acid bacteria from progressing appropriately and allowing the Enterobacteriaceae to metabolise the essential amino acids present. Research has demonstrated that treatment of brewer's yeast with Selko-BE+ immediately after beer production preserves the nutritional value.



CFU = colony forming units. Results are based on samples of 4103 by-products and 2613 final mixtures.

Selko-BE+ protects against loss of dry matter and lysine breakdown in brewer's yeast

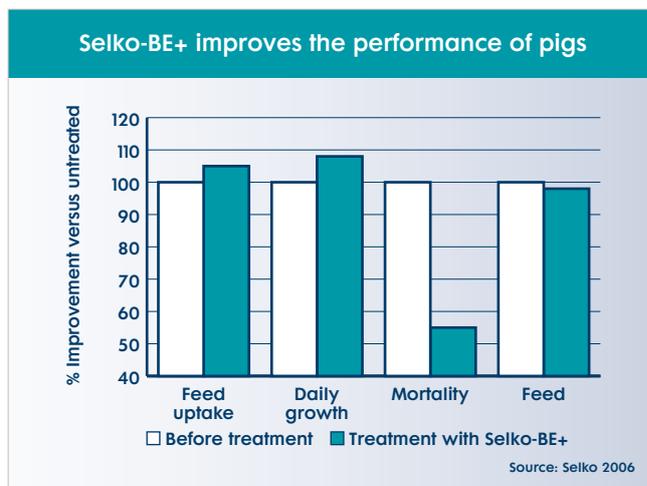
Nutritional value analysis	Baseline situation	Untreated	Selko-BE+ treatment
	Day 1	Day 14	
Lysine in dry matter (%)	3.2%	1.1%	3.5%
Dry matter (%)	17.0%	11.8%	15.4%
Dry matter difference: Untreated/Selko-BE+		3.6%	
Financial benefit due to good preservation by Selko-BE+		+/- € 7.74/ton *	

*Based on the value of brewer's yeast (€ 3.40/% dry matter) and corrected for the cost of the Selko-BE+ treatment.

At the farm, correct storage of the co-products is essential for feed hygiene. Silos with residual products or residual feed provide a constant breeding ground for undesirable micro-organisms in the feed system. Mixing these residues with newly delivered co-products results in exponential growth of yeasts, moulds and Enterobacteriaceae. Selko-BE+ protects new deliveries against micro-organisms by creating a favourable environment for Lactobacilli and preserving nutritional value.

Liquid feed quality results in improved animal performance

Micro-organisms present in liquid feed can form biofilms in the liquid feed system. These biofilms constantly recontaminate the liquid feed, resulting in a loss of nutrients and dry matter and leading to compromised growth and higher feed conversion. Treatment of the final mixtures and positioning liquids with Selko-BE+ preserves the quality of the liquid feed and allows it to fully contribute to animal performance. Microbiological tests at a pig farm showed that the liquid feed contained a large number of yeasts, causing a 9% loss of dry matter and moderate technical results. Cleaning the liquid feed system by preserving the liquid feed with Selko-BE+ maintains good palatability and therefore feed uptake.



Service

We want to help our customers maximise the benefits of Selko-BE+.

- Selko labservice:**
- Customer support and microbial analyses
 - Evaluation of the microbiological quality of liquid products and liquid feed
- Dosing systems:**
- Dosing system for automatic addition of Selko-BE+ to silos and liquid feed systems
- Selko-BE+ calculator:**
- Calculation tool to determine optimal cleaning and application schedules

Selko-BE+ portfolio

Selko-BE+ protects against micro-organisms in liquid feed, safeguarding the nutritional value of the feed.

Selko-BE+ portfolio

Product	Key features of the product	Application in	Customer Benefit
Selko®-BE+	<ul style="list-style-type: none"> • Broad-spectrum synergistic mixture of organic acids • Protects against deterioration by micro-organisms such as yeasts, moulds and Enterobacteriaceae • Extends shelf life and preserves nutritional value • Creates a favourable environment for Lactobacillus 	<ul style="list-style-type: none"> • Co-products • Final mixtures • Preliminary mixtures • Liquid feed systems 	<ul style="list-style-type: none"> • Broad-spectrum preservative • Preservation of nutrients • Hygienic feed • Lowers yeast gas production

