EASTMAN

Animal nutrition

AIV® silage additives

Producing silage as palatable and nutritious as fresh grass

AIV®

Did you know a diet dominated by grass silage can yield up to 14,000 kg of energy-corrected milk (ECM) per cow as an annual herd average?

AIV80
NOBEL PRIZE IN CHEMISTRY

What's the secret?

The secret is offering cows silage that resembles fresh grass, and that can be best achieved by using AIV silage additives.

When grass silage is half of the dry matter intake of high-yielding dairy cows, there can be no compromises on its palatability to ensure maximal feed intake. Grass is ensiled for preservation, and the ideal silage closely resembles fresh grass. This is achieved by minimizing changes to the grass during fermentation. Proper ensiling technique, together with AIV silage additive, will create grass silage with the highest production potential.

The result is silage with excellent palatability and high nutrient availability, maximizing microbial protein synthesis in the rumen. Restricting in-silo fermentation increases milk yield as well as milk fat and protein concentrations.

Rooted in Nobel Prize-winning innovation

The original innovation of Artturi Ilmari Virtanen earned him the Nobel prize in chemistry in 1945. These formic acid-based AIV silage additives immediately drop the pH of the crop and restrict fermentation. AIV preserves both sugars and protein, and it prevents harmful microbial growth.

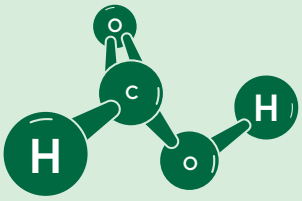
The AIV portfolio includes formulations with formic acid, propionic acid, sodium benzoate and potassium sorbate. These formulations effectively combat yeasts and molds to improve silage aerobic stability. AIV additives are buffered with sodium formate to reduce corrosiveness.

Artturi Virtanen works in his biochemical laboratory. (Photo courtesy of Helsinki City Museum)

Impact of AIV on silage quality and cow performance

AIV silage additive composition

Main ingredient
Formic acid



Additional ingredients to enhance properties

- Sodium formate
- Propionic acid
- Sodium benzoate
- Potassium sorbate

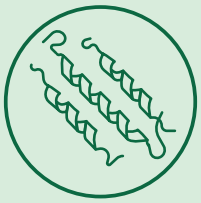
Effects in silage

Sugars and protein are spared.

Harmful fermentations and losses are minimized.

Results for ruminant

Feed intake is increased.



The efficiency of microbial protein synthesis is enhanced.

Restricting silage fermentation results in higher yield

- +3% milk kg
- +9% milk fat kg
- +7% milk protein kg
- +7% ECM kg

Huhtanen et al. 2003. Relationships between silage fermentation characteristics and milk production parameters: analyses of literature data. Livestock Production Science 81: 57–73.

Rinne, M. et al. 2016. Effects of seven formic acid-based additives on grass silage fermentation and aerobic stability. In: Rajčáková, L. (ed.) Proceedings of 17th International Conference Forage Conservation Slovak Republic. pp. 115–116.

Eastman — more than 70 years in animal nutrition

3 Animal nutrition research and development centers

Backward integration and full traceability

1951

Eastman was founded in 1920, and the first acid feed additive was produced in 1951.

ISO 9001:2015
ISO 14001:2015

Sustainability and quality

We're committed to sustainability, and we actively collaborate with suppliers and customers to meet sustainability requirements. We've taken significant steps to reduce our carbon footprint through initiatives like the change in raw material source to liquefied natural gas at our Oulu site. We remain dedicated to driving sustainability across our operations and the industry.

All our feed products adhere to FAMI QS or GMP+ and are therefore quality assured at the highest industry standards.

10 Production sites for animal nutrition

Europe: Belgium, Finland, Estonia, the Netherlands (3) and Spain
U.S.: Florida, Louisiana and Tennessee

Learn more about Eastman's AIV silage additives.

Certain statements may not be applicable in all geographical regions.
Product labeling and associated claims may differ based on government requirements.

EASTMAN

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