

GRO-TEC, INC.

GRO-TEC understands that producers must get the full feed value from their silage. AG SILE can deliver that. The goal of making good silage is to deliver a palatable feed with the nutrient values preserved. Not unlike cheese or yogurt where preservation is top priority in a quality product.

Forage management is a must to obtain this goal, like:

PLANT MATURITY-MOISTURE-LENGTH OF CHOP FILLING-PACK

CONTAMINATION-TESTING-TYPE OF STORAGE

The key to top quality is forage management and a quality silage inoculant.

SILAGE FERMENTATION

The process where bacteria convert plant sugars into acid. The major acid needed to produce is LACTIC ACID. The need is to produce enough LACTIC ACID to inhibit the growth of harmful bacteria and molds. LACTIC ACID can also increase palatability resulting in higher energy intake. The key is to produce LACTIC ACID fast, which reduces the pH of the silage and reduces spoilage if it is done quickly, to reduce the losses from heating.

FACTORS FOR GOOD FERMENTATION

NO AIR-PROPER MOISTURE-ENOUGH PLANT SUGAR-BACTERIA.

Good silage fermentation occurs under ANAEROBIC CONDITIONS (no air). The forage to be ensiled must have the proper moisture and maturity level. GRO-TEC AG SILE will provide the levels of good bacteria to get the job done. The bacteria in AG SILE are fast growing and produce LACTIC ACID fast and overwhelm the spoilage producing bacteria.

A TOTAL OF 300 BILLION CFU/LB LACTIC ACID PRODUCING BACTERIA

The bacteria strains work well together in starting the fermentation process, growing at lower temperatures and finalizing fermentation. The good bacteria in AG SILE ferment the plant sugars producing LACTIC ACID fast, gaining control of the fermentation within 48 hours of ensiling and preserving feed value.

AG SILE will work in all types of silos, inducing oxygen limited, stave, bunks, pits or even piles. Silage inoculants have been tested in many types of forage crops and different structures at major universities and independent research trials.

The following graphs of research are designed to show the effects of treated versus untreated in various moisture levels and types of structures. It is not a question anymore if using a silage inoculant is effective, but which one is more effective. GRO-TEC has over 30 years of experience at producing, testing, and researching the products that are offered to you, the producer. In addition to less nutrient loss and overall increased quality, you'll see less heating, less seepage, less discoloration when using bags and less dry matter loss. Rapid pH lowering in treated silage also reduces mold growth that happens in the first 48 hours of ensiling. You may also see longer bunk life and unloading will be uniform and easier.

We at GRO-TEC are here to serve you with quality products and service that helps you to better manage your individual livestock operations. We appreciate every opportunity.

THE AG SILE ADVANTAGE

AG SILE is a microbial and enzyme product used to speed and control the fermentation process in corn silage and haylage.

AG SILE uses the lactic acid producing organisms; Lactobacillus Plantarum and Streptococcus Faecium, to quickly take control of the fermentation process, lowering the pH to a point that stops the activity of molds and other spoilage causing organisms. This saves much of the nutritional value of the forage that is normally lost. The AG SILE system decreases the normal amount of shrink that is seen with a slower fermentation. AG SILE uses a multiple enzyme system of cellulase and amylase to break down the more complex carbohydrates into readily fermentable starches and sugars.

The AG SILE system is available in both DRY & LIQUID FORMULAS

Corn silage dry matter typically loses anywhere from 10-20% of its value from the time of harvest until feedout, which is an average of 15%. The cost per ton of silage will vary, but based on our example cost of \$30.00 per ton,

$(150 \text{ bushels per acre} \times \$4.50 \text{ per bushel} = \$675.00 \div 22.5 \text{ tons of corn silage per acre} = \$30.00 \text{ per ton})$

A SIGNIFICANT SAVINGS MAY BE ACHIEVED!

For every 500 tons of corn silage there is a potential loss of \$2,250.00,

$(500 \times 15\% = 75 \text{ tons} \times \$30.00 = \$2,250.00)$.

By using AG SILE you can see as much as a 50-60% savings in dry matter; more than paying for the AG SILE inoculant.

ACTIVE INGREDIENT

Total lactic acid producing bacteria.....300 billion CFU/LB

FEATURES:

- More Live Bacteria
- Plus Enzyme Action
- Less Cost Per Ton
- Completely Safe to Use

BENEFITS:

- Reduced Shrink
- Save
 - Protein
 - Beta Carotene
 - Key Nutrients
- Lower Ensiling Temperatures
- Longer Bunk Life

DIRECTIONS FOR USE

AG SILE is designed to be used as a forage inoculant and preservative and is to be applied at the rate of one-half to one pound of AG SILE per ton of silage or haylage, as indicated below.

Product	Maturity	Rec. Min.	Moist. Max.
Corn Silage	Soft Dough to		
	Hard Dough	65%	75%
Alfalfa Haylage	1/10 Bloom	50%	65%
Oat Silage	Soft Dough	70%	80%
High Moisture Ear Corn	Soft Dough	32%	42%
Sorghum Silage	At least 50% of		
	Grain in Soft Dough	65%	80%

RATES

AG SILE has been developed to work in all forage crops and silage making structures. The rate varies by crop, due to varying concentrations of soluble carbohydrates, and by structure, due to varying oxygen limiting ability.

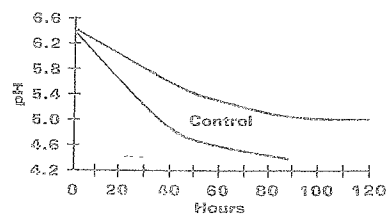
	Haylage	Silage
	Alfalfa, Grass, Small Grains	Corn, Sorghum
Trench/Bunker	50-100 Tons	75-100 Tons
Conventional/Concrete	50-100 Tons	75-100 Tons
Oxygen Limiting Structure	75-100 Tons	100 Tons

Depth of Silage (Feet)	Inside Diameter (Feet)					
	16	20	22	24	28	30
20	65					
30	121	186	225	268		
40	177	276	332	394	538	617
50	238	373	452	538	732	840
60	306	478	579	689	937	1076
70	379	592	716	852	1162	1332

Capacities refer to corn or grass silage at the same moisture. As moisture content increases so will the total tonnage. Use the depth after settling when making calculations. When silage is wetter add 10% to above capacities. Subtract 10% when silage is a bit dry.

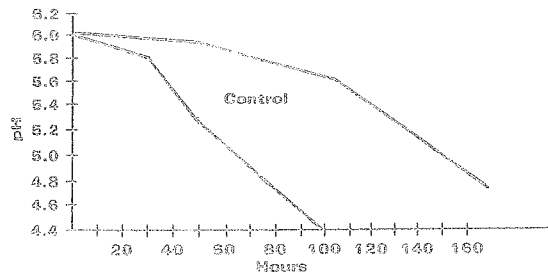
Trench or Bunker Silos (Tons per Foot of Length)					
Bottom Width (Feet)	Depth (Feet)				
	8	10	12	16	20
20	3.1	4.0			
30	4.6	5.9	7.1	9.6	
40	6.1	7.7	9.3	12.6	16.0
50	7.6	9.6	11.6	15.6	19.8
60		11.5	13.8	18.6	23.6
70			16.1	21.6	27.4
80			18.3	24.6	31.0
100				30.6	38.6

HAYLAGE BUNKER TRIAL University of Wisconsin



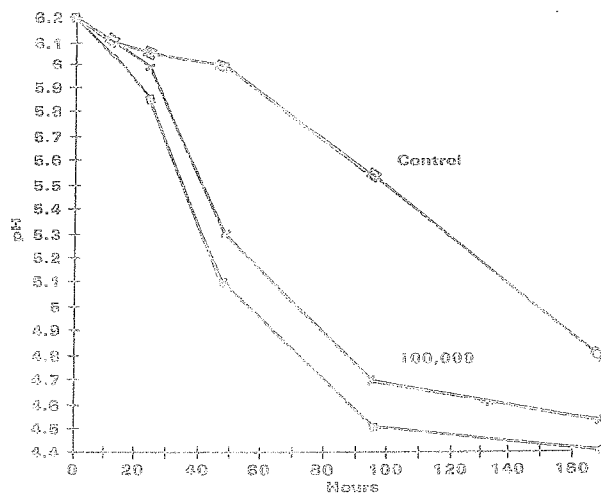
This University of Wisconsin bunker trial documents fast pH reduction compared to untreated silage using 1,000 ton bunker silos.

HAYLAGE 50% MOISTURE Kansas State University



Representing a moisture more typical of an oxygen-limiting silo,

HAYLAGE 50% MOISTURE Kansas State University



In the same research trial as Kansas State University on lower moisture haylage,

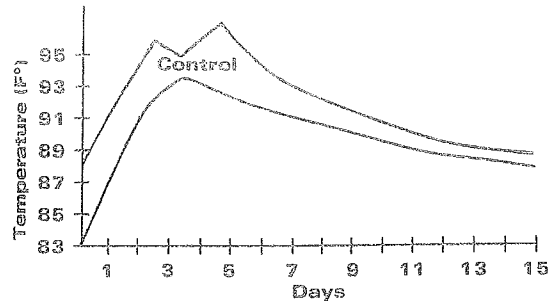
SILAGE CHEMISTRY 90 Day Alfalfa Silage — 50% Moisture

Item	Treatments		
	Control	100,000	
pH	4.97	4.65	4.43
Percent of Silage DM			
Lactic Acid	6.05	7.76	9.99
Acetic Acid	1.41	1.24	1.00
Ethanol	0.17	0.10	0.09
NH ₃ — Nitrogen	0.22	0.19	0.13

A "clean" silage fermentation is noted by higher lactic acid on of acetic acid, ethanol and ammonia nitrogen.

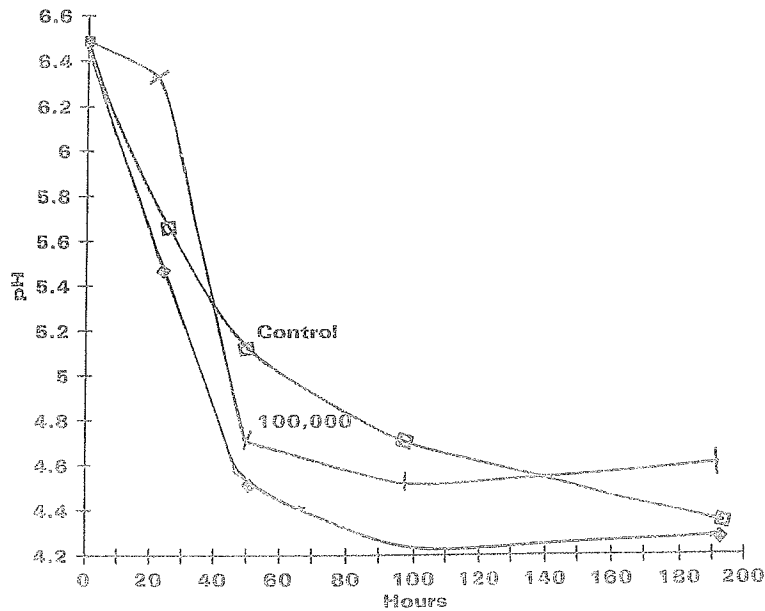
treated alfalfa and lower levels

ALFALFA BUNKER 70% MOISTURE University of Wisconsin



Heating occurs early in every silo, but excess heat can cause loss of feed value. Gaining control of the germination decreases temperature and subsequent nutrient losses caused by excessive heating.

HAYLAGE BUNKER University of Wisconsin



outperforms a typical 100,000 CFU product and untreated haylage, attaining a pH of less than 5 within 48 hours.

DAIRY PRODUCTION

Research trials show that silage inoculated.

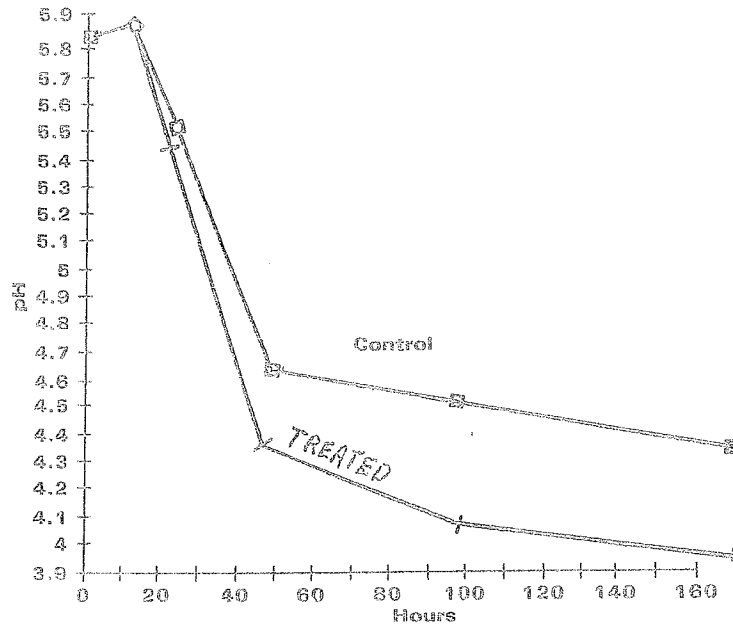
can increase milk production.

MILK PRODUCTION

Treatment	Lbs/Head/Day
Control	60.13
100,000 CFU/gm Program	60.35
	62.42

Based on a University of Wisconsin trial, milk production increased 2.29 pounds per day with treated haylage.

LOW TEMPERATURE ENSILING — SORGHUM Kansas State University



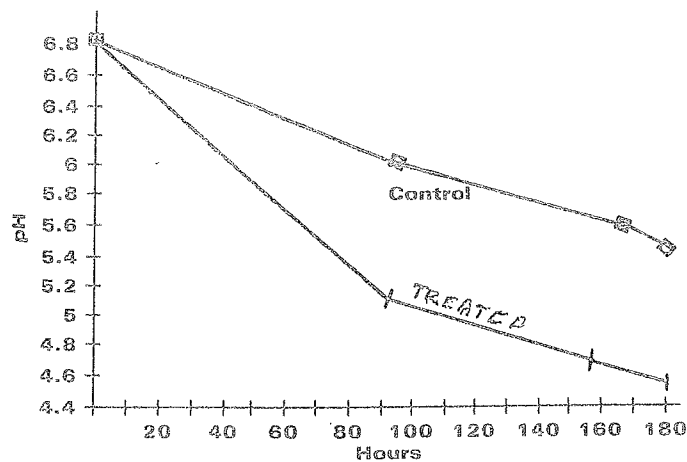
If you are feeding sorghum or corn silage, this Kansas State University trial conducted at 60° F shows excellent performance with treated sorghum silage.

SILAGE CHEMISTRY 90 Day Sorghum Silage — 90° F Kansas State University

Item	Control	Treated
pH	3.98	3.88
Lactic Acid	4.99	6.12
Acetic Acid	1.34	0.83
Enthanol	0.35	0.23

This Kansas State University trial conducted at a higher 90° F ensiling temperature also reflects clean silage chemistry with treated silage.

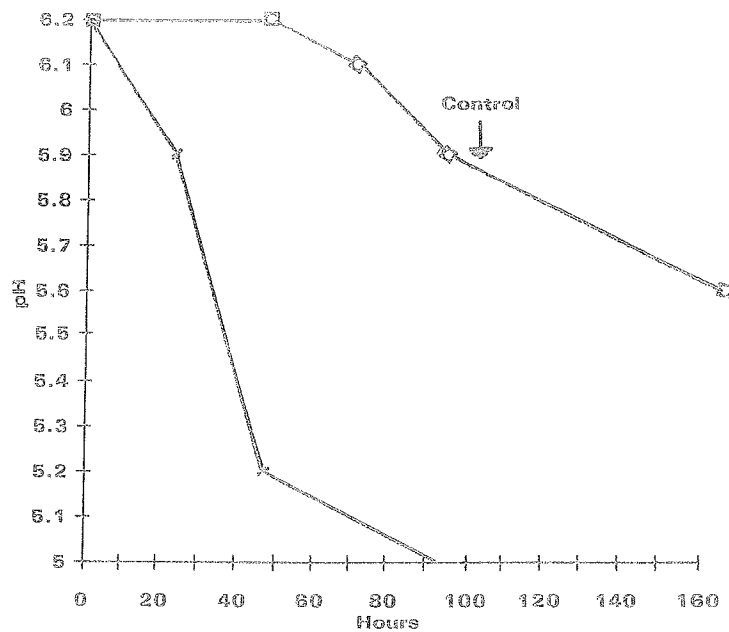
HIGH MOISTURE GRAINS — 24.5% MOISTURE



Cracked shelled corn was ensiled at 24.5% moisture and treated. Even at this low moisture, pH declined readily when compared to the untreated grain.

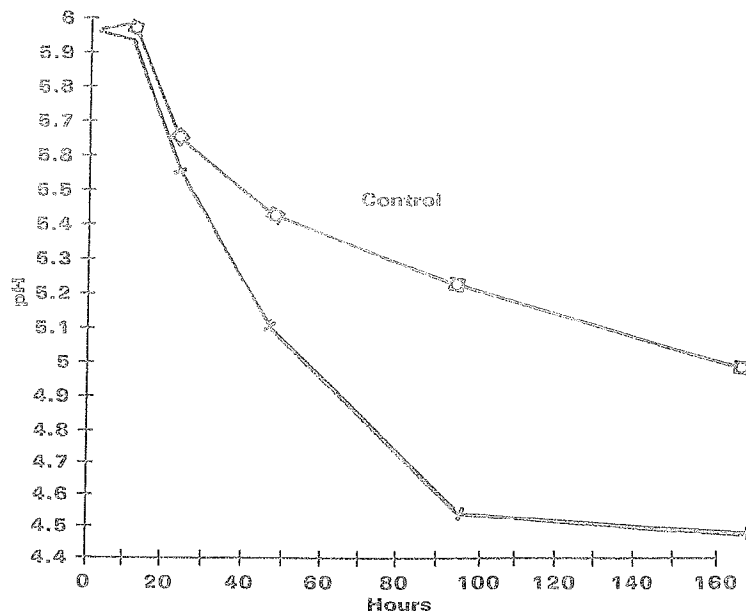
Even at this low

HAYLAGE — 50% MOISTURE Polyethylene Bags University of Utah



If you are using polyethylene bags to store your silage, this Utah State University trial shows superior performance and control of fermentation with treated haylage versus untreated.

LOW TEMPERATURE ENSILING Kansas State University



This Kansas State University trial conducted at the 60° F ensiling temperature — a common first-cut haylage temperature — again shows control of the fermentation with treated versus untreated haylage.

AG SILE

"LIQUID OR DRY FORMULA"

LIQUID: 300 BILLION DVU/GRAM

DRY: 300 BILLION CFU/POUND

***AG SILE LIQUID OR DRY WILL DELIVER OVER 300,000 CFU'S
PER GRAM OF SILAGE AT THE 50 TON RATE.***

Ag Sile is a complete fermentation aid, used to speed and control the fermentation process in both corn silage and haylage. Ag Sile uses the lactic acid producing organisms, *Lactobacillus Plantarum* and *Streptococcus Faecium* to quickly lower the pH to a point that stops the activity of molds and other spoilage causing organisms. The organisms in Ag Sile are microencapsulated, freeze dried, and packaged for peak viability and performance.

RATES

Ag Sile has been developed to work in all forage crops and silage making structures. The rate varies by crop, due to varying concentrations of soluble carbohydrates, and by structure, due to varying oxygen limiting ability.

PRODUCT	RECOMMENDED MIN.	MOISTURE MAX.
Corn Silage	65%	75%
Alfalfa Haylage	50%	65%
Oat Silage	70%	80%
High Moisture Ear Corn	32%	42%
Sorghum Silage	65%	80%

TREATS 50-100 TONS

	HAYLAGE	SILAGE
	Alfalfa, Grass, Small Grain	Corn, Sorghum
Trench/Bunker	50-100 Tons	75-100 Tons
Conventional/Concrete	50-100 Tons	75-100 Tons
Oxygen Limiting Structure	75-100 Tons	100 Tons

BENEFITS OF AG SILE

- Greater Dry Matter Preservation
- Greater Preservation of Protein, Beta Carotene, and other key Nutrients
- Lower Ensiling Temperature
- Better Bulk Life
- Completely Safe to Use

AG SILE-C

"LIQUID OR DRY FORMULA"
Designed for use in Chlorinated Water

LIQUID: 300 BILLION DVU/GRAM

DRY: 300 BILLION CFU/POUND

***AG SILE LIQUID OR DRY WILL DELIVER OVER 300,000 CFU'S
PER GRAM OF SILAGE AT THE 50 TON RATE.***

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	HAYLAGE Alfalfa, Grass, Small Grain	SILAGE Corn, Sorghum
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AG LAND AG SILE

ACTIVE INGREDIENT

Total Lactic Acid Producing Bacteria.....300 Billion CFU/lb

GUARANTEED ANALYSIS

Calcium (Ca), Min.....30.00%

Calcium (Ca), Max.....35.00%

INGREDIENTS

Calcium, Lactobacillus Plantarum Fermentation Product Dehydrated, Pediococcus Pentosaceus Fermentation Product Dehydrated, Pediococcus Acidilactici Fermentation Product Dehydrated, Enterococcus Faecium Fermentation Product Dehydrated, Lactobacillus casei Fermentation Product Dehydrated, Streptococcus Lactis Fermentation Product Dehydrated, Dried Aspergillus Oryzae Fermentation Extract, Dried Bacillus Subtillis Fermentation Extract and Dextrose.

FEEDING DIRECTIONS

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TREATS 50 TO 100 TONS

	<u>HAYLAGE</u>	<u>SILAGE</u>
Trench/Bunker	Alfalfa, Grass	Corn
Conventional/Concrete	Small Grain	Sorghum
Oxygen Limiting Structure	50-100 Tons	75-100 Tons
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	75-100 Tons	100 Tons

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