MarinBio®

Silage-in™

Silage Inoculant

Fermentable

Silage-in™ speeds up the fermentation process, allowing for a faster reduction in pH, reduced nutrient breakdown and an increase in dry matter recovery. Ensiling involves lactic acid bacteria fermenting sugars into lactic acid and preventing the growth of undesirable bacteria, molds and yeasts.

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Silage-in™

SILAGE IN™ Silage Inoculant for All Grain Types	
BACTERIAL STRAIN	**COLONY (CFU/L)**
Lactobacillus casei ATCC 7469 Bacillus subtilis MBS-BS-01 Lactobacillus rhamnosus NCIMB 30121 Lactococcus lactis CCM 4754 Pediococcus pentosaceus NCIMB 30171 Lacrtobacillus casei ATCC 7469 Lactobacillus buchneri 40177 Lactobacillus brevis IFA 92	2×10^{11}

CONTENT (ENZYMES)	
Alpha Amylase	1000 U/Kg
Beta Xylanase	8000 U/Kg
Beta Glucanase	5000 U/Kg
Protease	1000 U/Kg

CONTENT (ORGANIC ACIDS)	
Acetic Acid	5000 mg/Kg
Formic Acid	2000 mg /Kg
Citric Acid	4000 mg /Kg
Propionic Acid	4000 mg /Kg

CONTENT (MINERALS)	
Magnesium Sulphate	800 mg /Kg
Potassium Phosphate	500 mg /Kg
Sodium Sulphate	600 mg /Kg
Calcium Chloride	200 mg /Kg

SILAGE AMOUNT	IDEAL DOSES	AMOUNT OF WATER
5 TON	250 ML	12,5 LT
10 TON	500 ML	25 LT
20 TON	1 LT	50 LT
50 TON	2 LT	100 LT
100 TON	5 LT	250 LT

KEY BENEFITS

· Matures silage earlier.

· Increases silage digestability.

· Suppresses the reproduction of pathogens in silage.

· Eliminates toxins in silage.

· Enriches the intestinal flora of the animal.

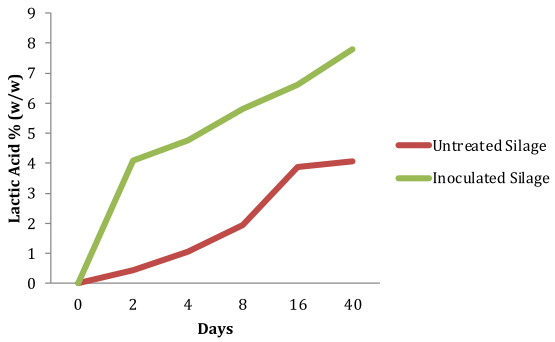
Effect of Silage-in™ Inoculation on Alfalfa Silage pH and Lactic Acid Fermentation

Silage Preparation

A second-cut alfalfa (Medicago Sativa) was harvested on 15 July 2022 at early maturity stage and wilted for 24 h. The wilted forage was chopped to a theoretical cut length of 0.90 cm using a flail forage harvester. Silage-In™ inoculum (MarinBio Ltd, Turkey) containing multiple stains of Lactobacillus sp. and Bacillus sp. was applied (liquid application) to portions of the chopped forages following the recommendations of the manufacturer as 1 liter product which has 10 ^ 9 colony forming units/ml for 20 metric tons alfalfa silage ensuring 5 x 10 ^ 7 cells inoculated per gram of silage. The inoculated and untreated forages were ensiled in two separate, upright concrete towers-silos (capacity of 100 tons DM each) for 2 months.

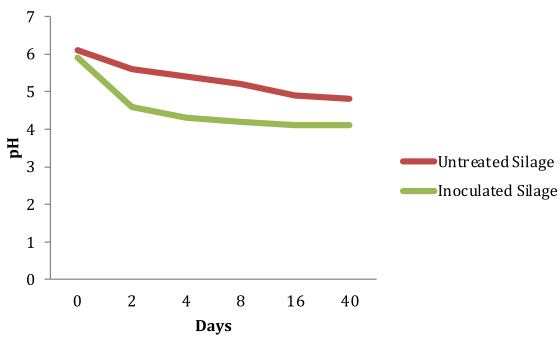
Trial Results

Lactic acid concentration in alfalfa silage has been measured for 40 days. In the end of the period Silage-In™ treated sample had nearly double amount (7,8%) of untreated one (4,05%). Change of lactic acid concentration is illustrated on Graphic 1.



Graphic 1. Change of lactic acid concentration on alfalfa silage

pH of silage has been measured also for 40 days and inoculated silage reached to pH value of 4,1 in the end of the period, while untreated sample could reach until 4,8 as shown on Graphic 2.



Graphic 2. Change of pH values on alfalfa silage

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