



ECOSYL™

Ecocool™

Ecocool™ Grain

*Inoculant for ensiled
forages and grains at
risk of aerobic spoilage
(contains *L. buchneri*)*

**MTD/1™
PJB/1**

volac 

Two in one

Ecocool and Ecocool Grain provide you with two specially selected unique bacterial strains in a single product – *Lactobacillus plantarum* strain **MTD/1** for a fast, efficient fermentation and *Lactobacillus buchneri* strain **PJB/1** for reduced heating and spoilage at feedout.

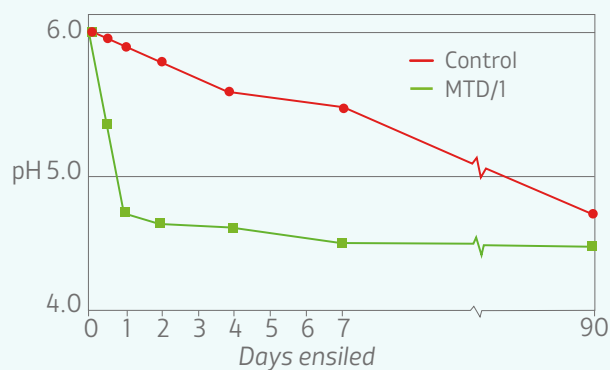
MTD/1 for fermentation

MTD/1 is the unique, high performance strain of *L. plantarum* proven over a wide range of crops and ensiling conditions. It has more trial evidence behind it than any other silage inoculant.

MTD/1 dominates the initial fermentation, producing a faster, more efficient initial fermentation with the following benefits:

- Makes better use of available sugars
- Preserves more nitrogen as true protein
- Reduces fermentation DM losses
- Minimizes undesirable microbial activity

Faster pH fall



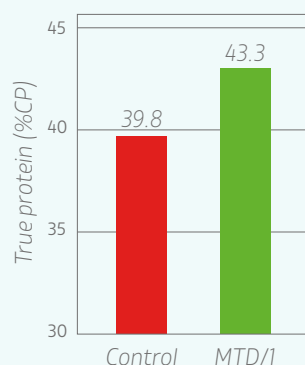
More efficient fermentation

Means of 5 corn silage trials

	Untreated	MTD/1
pH	4.0	3.8
Lactic acid: VFA	2.9	4.9
NH ₃ N (%CP)	7.4	5.6

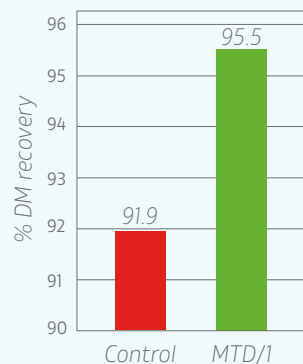
Preserves more nitrogen as true protein

Means of 22 trials



Improved DM recovery

Means of 28 trials



David Davies
Silage Solutions Ltd

'To be effective an inoculant must dominate the natural population of lactic acid bacteria and bring about a rapid, efficient fermentation. This will preserve more of the plant protein, inhibit the activities of undesirable micro-organisms and reduce DM losses.'

PJB/1 for aerobic stability

PJB/1 is a unique strain of *L. buchneri* isolated by Volac and proven on a range of forage crops to inhibit the activities of the yeasts and molds that cause aerobic spoilage of silages, with the following benefits:

- Less heating
- Lower DM losses
- Less feed to discard
- Higher energy feed
- Less risk of mycotoxins

Inhibition of yeasts and molds

It is yeasts that initiate aerobic spoilage in most silages so it is important to minimize their numbers, both during ensiling and after opening the silo. Ecocool is very effective at doing this as can be seen from the corn silage trial below.

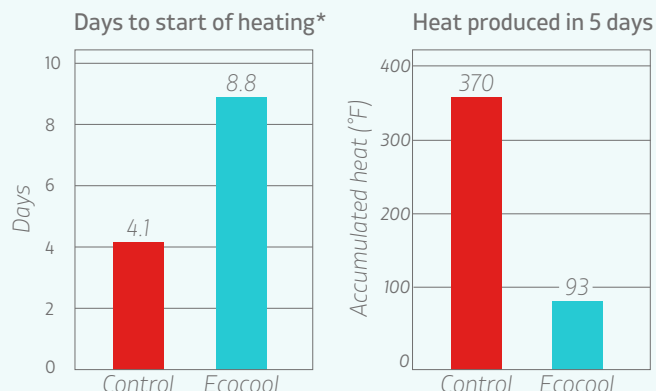
Number of yeasts (cfu/g)

	Control	Ecocool
After ensiling	1,500,000	<1,000
After air exposure	440,000,000	<1,000

Reduced heating

By reducing the numbers of yeasts present in the silage at opening, Ecocool increases the time it takes for silages to begin heating and reduces the extent of any heating that does occur.

Corn silage (33% DM)

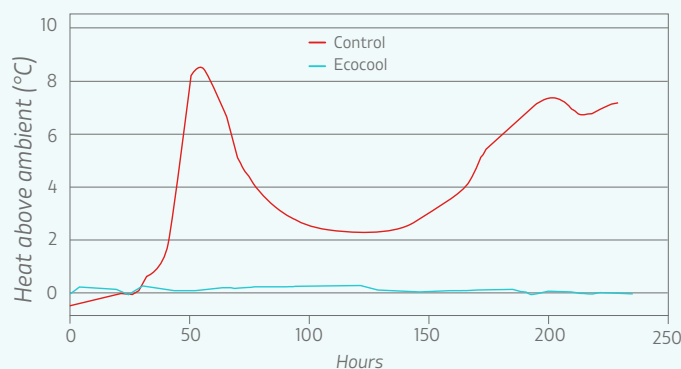


*increase 2°C above ambient



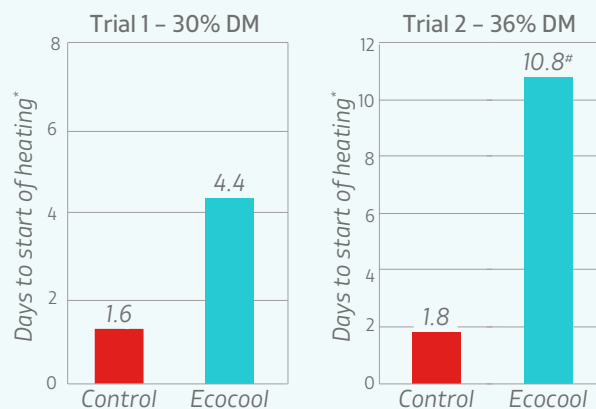
Corn silage (37% DM)

The Ecocool treated silage remained completely stable for more than 10 days.



Kung et al, 2014 - University of Delaware

In both corn silage trials Ecocool treated silages were significantly more stable than the untreated controls.



Still Stable

Ecocool Grain: For High Moisture Grain Crops

High moisture grain crops such as; high moisture corn, snaplage, earlage etc. tend to be at a higher risk of aerobic spoilage because of their make up. Potentially resulting in elevated levels of yeast and molds and increased temperatures. The use of an *L. buchneri* inoculant on these crops has proven to significantly reduce those effects.

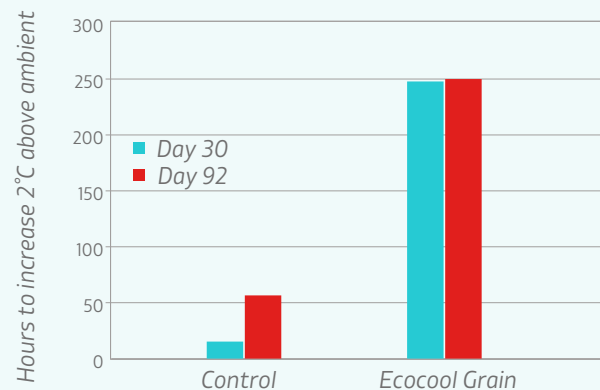
Number of yeasts (cfu/g)

	Control	Ecocool Grain
Day 30	850,000	933
Day 92	11,000	151



Limin Kung - HMCG

Increased aerobic stability



Mixing and application

- Available for liquid application only
- Available in 100 and 400 ton treatment bottles
- Tank mix life: 48 hours
- GMO free



When stored and used in accordance with our recommendations Ecocool applies at least 100,000 L. plantarum and 200,000 *L. buchneri* per gram of forage treated and Ecocool Grain applies at least 100,000 L. plantarum and 400,000 *L. buchneri* per gram of grain crop treated.

REMEMBER: Ecocool and Ecocool Grain cannot be expected to overcome poor silage making practices, highly adverse weather conditions and unsatisfactory feedout procedures.