# HARFIEL S. I.







## LACTOSIL 3.0: THE DOMINANT STRAIN



### **LACTOSIL THREE GENERATIONS**

In 1983 LACTOSIL 1.0 was a blend of lactobacilli selected from forage and silage.

LACTOSIL 2.0 was a blend of four of the best lactobacilli, developed after a series of "in field experimental trials".

**LACTOSIL 3.0 is born from scientific evidence** of co-fermentation in many substrates that allowed CSL to identify the "**DOMINANT**" strain.

- Today it provides the best performing lactobacillus in all types of silage, summer and spring, of grasses and legumes: *Lactobacillus plantarum* 14D/CSL DOMINANT strain.
- 2 It is the result of over 30 years of CSL experience in ensiling forages and allows to DRIVE FERMENTATION TO THE RIGHT DIRECTION.



### CSL: ABOUT US

A COMPANY OF SACCO SYSTEM



 $\mathsf{CSL}\ \mathsf{is}\ \mathsf{a}\ \mathsf{global}\ \mathsf{point}\ \mathsf{of}\ \mathsf{reference}\ \mathsf{for}\ \mathsf{the}\ \mathsf{agro-zootechnical}\ \mathsf{sectors},\ \mathsf{food},\ \mathsf{nutraceutical}\ \mathsf{and}\ \mathsf{pharmaceutical}.$ 

Since 1948 CSL isolates, selects and produces a range of specific lactic acid bacteria for each application field.

From 2016 CSL is a Company of Sacco System, as International Biotech Centre of food, nutraceutical and pharmaceutical industries.

**Caglificio Clerici, Sacco, CSL and Kemikalia operate synergycally** as a unique business system, maintaining their autonomy and specific characteristics.

Final purpose is to provide **innovative and tailored solutions** to our customers.



# A SILAGE IS A WELL FERMENTED FOOD IF...



### LACTOSIL 3.0: THE RIGHT DIRECTION

The silage fermentation can take two wrong directions (both due to the NON-LAB germs) and only one right direction (acidification, due to the LAB).

# SILO FERMENTATION RIGHT DIRECTION! ALCOHLIC (yeasts)

The good ensiling results are obtained only by **driving the fermentation**, orienting it towards the **right direction**, so you have <u>to use</u>:

- 1 The right technique
- 2 Right lactic acid bacteria
- 3 Right LAB dose

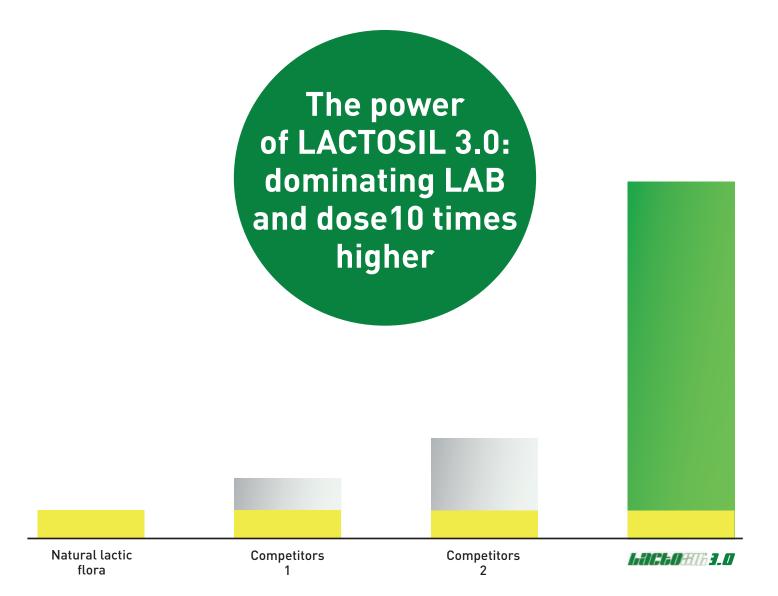
# THE FUNDAMENTAL RULE TO DRIVE FERMENTATION:

# Add a high dose of selected acid lactic bacteria in the forage mass.

Higher is the number of UFC/g of the starter dose at the beginning of the ensiling, earlier you can reach the safety goal.

The fermentation piloted by LACTOSIL 3.0 ensures:

- Fast acidification in lactic acid
- No gas (CO<sub>2</sub>) production
- Fast drop in pH and inhibition of NON-LAB germs



### **GOALS: SAFETY AND QUALITY**

LACTOSIL 3.0 makes silage safer, more palatable and nutritious, improving livestock health, company profitability and the quality of end products.



LACTOSIL 3.0 ensures to reach imporant goals:

- 1 Silo's early opening
- 2 Safet and nutritional value of silage
- 3 Health and productive lenght of livestock
- 4 Quantity and hygiene of the milk produced

