

BIOPROX INNOVATION 2022

BIOPROX L135

The natural solution against
late blowing defect in
cheeses

Selected lactic acid bacteria to inhibit the development of *Clostridium tyrobutyricum* responsible for late blowing defect in cheeses

- Culture selected after 3 years research program
- Validation in collaboration with the French scientific network

- Clean label solution
- Lysozyme or Nitrate alternative

- In addition or in association to the acidifying culture
- No impact on the end product characteristics

Effective



Natural



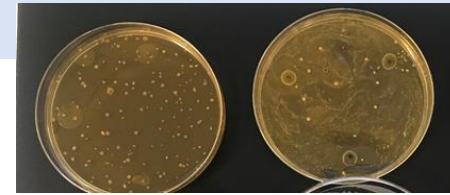
Easy to use



EFFICIENCY

SCREENING

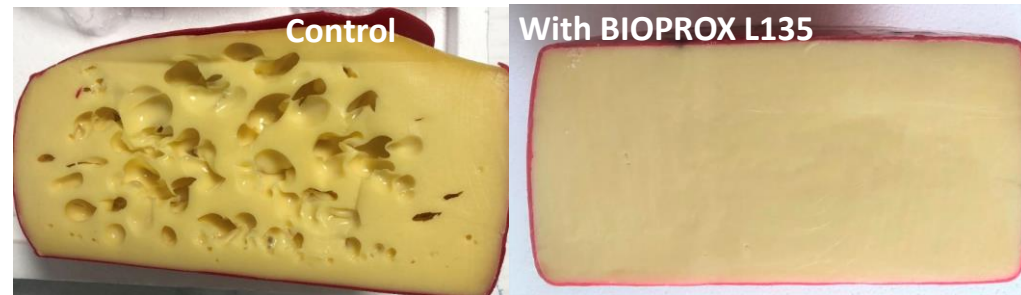
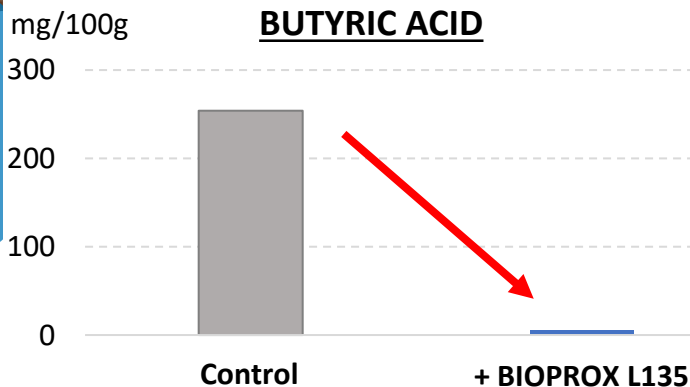
- Acquisition of strains of interest
- Development of an effective method for evaluating anti-Clostridia performance in the laboratory
- Selection



Control + BIOPROX L135

VALIDATION

- Evaluation of the non-influence on acidification kinetics
- Validation of efficacy in application with INRAE Poligny*
- Cheese follow up & evaluation of VFA**



*Cheeses inoculated with 10^{E+4} spores/L of *Clostridium tyrobutyricum*

** Volatil fatty acids

NATURALNESS



- ❖ Bioprotective solution, 100% natural
- ❖ Clean label : No declaration needed on the packaging
- ❖ Allergen free*
- ❖ In replacement of lysozyme or nitrates

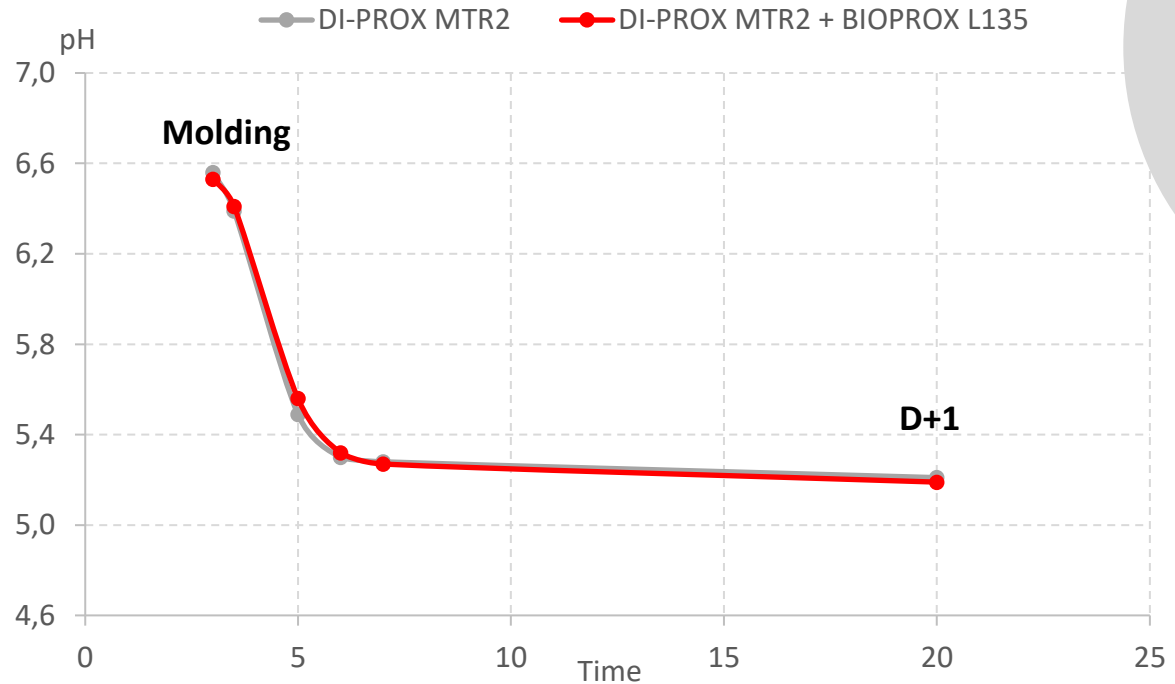
→ Simplified labelling and additive free solution



USER FRIENDLY

➔ Used in association with BIOPROX acidifying cultures, the use of BIOPROX L135 does not disturb acidification

pH evolution during cheese production (Gouda type)



➔ Ease of implementation (small sachet, dosage...) and storage (freeze dried form)

BENEFITS



- ❖ Optimized ripening process by protecting cheeses from downgrading
- ❖ Respect of the organoleptic qualities of end products
- ❖ Clean label and natural solution in replacement of lysozyme or nitrates usages
- ❖ Ease of implementation and storage into the factory
- ❖ Stability of cost in use

Outlook for the new 3 months:

- ❖ Industrial production of the culture
- ❖ Sampling possible for industrial validation

THANKS

FOR YOUR ATTENTION