

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

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

- Clean label solution
- Lysozyme or Nitrate alternative

Effective



Easy to use



Natural



EFFICIENCY

SCREENING

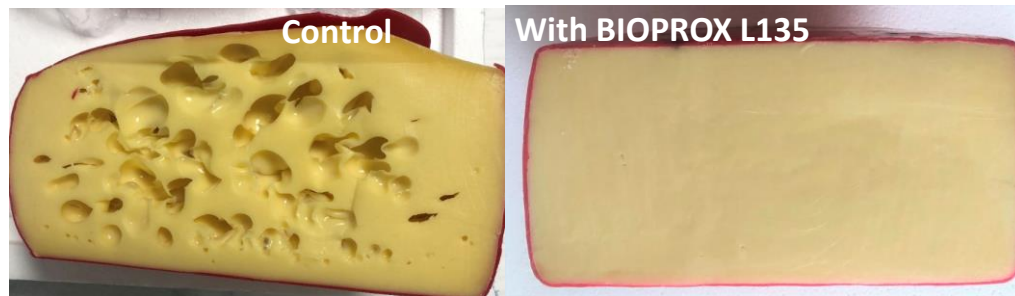
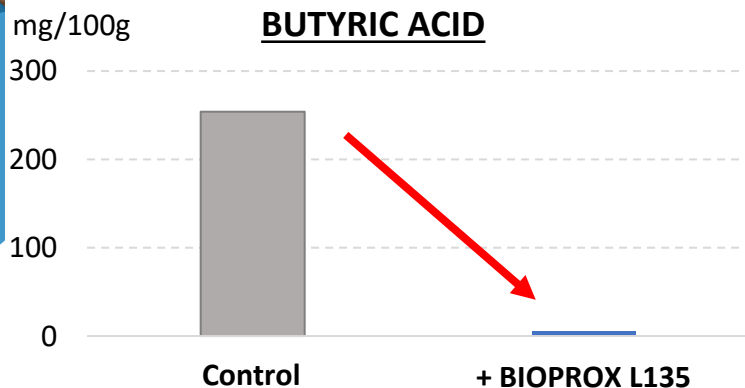
- Acquisition of strains of interest
- Development of an effective method for evaluating anti-Clostridia performance in the laboratory
- Selection



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

USER FRIENDLY



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

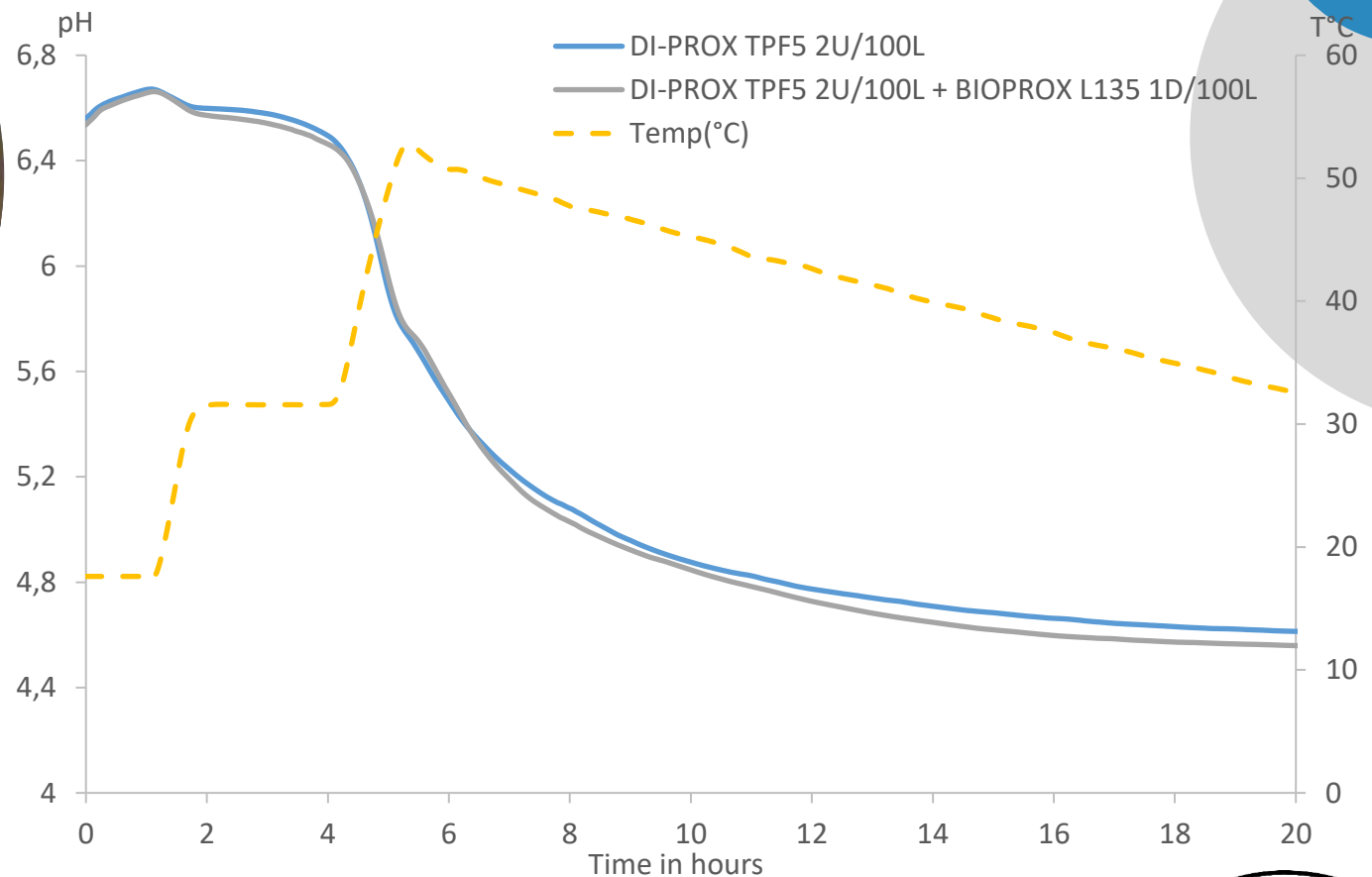
- ❖ In hard cheeses – eg Comté type
- ❖ In semi hard cheeses – eg Gouda
- ❖ In different mesophilic specialties

➔ Ease of:

- ❖ Implementation: small sachet, dosage...
- ❖ Storage: freeze dried format

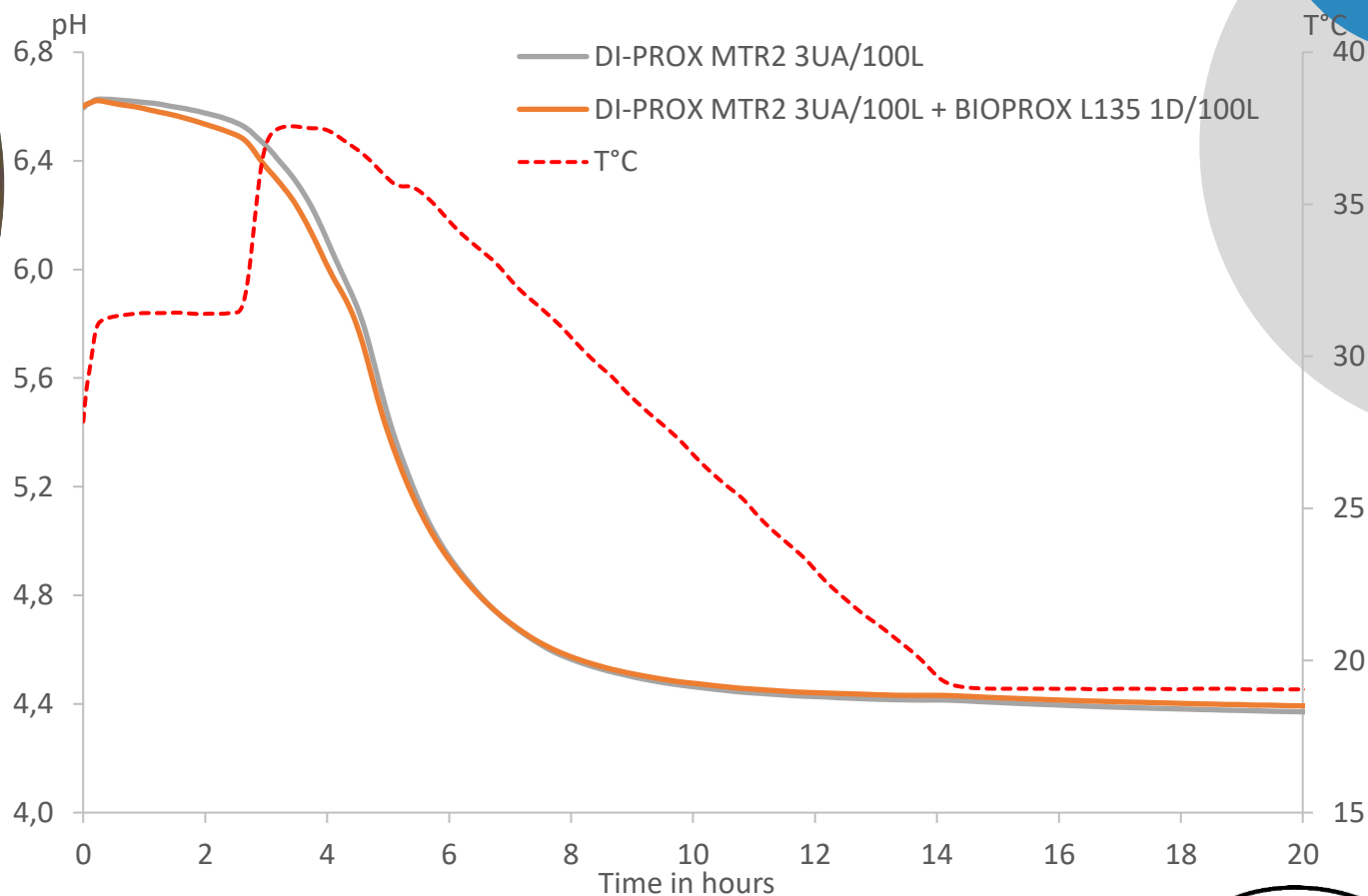
USER FRIENDLY

Influence of BIOPROX L135 addition on pH evolution in Comté thermic cycle



USER FRIENDLY

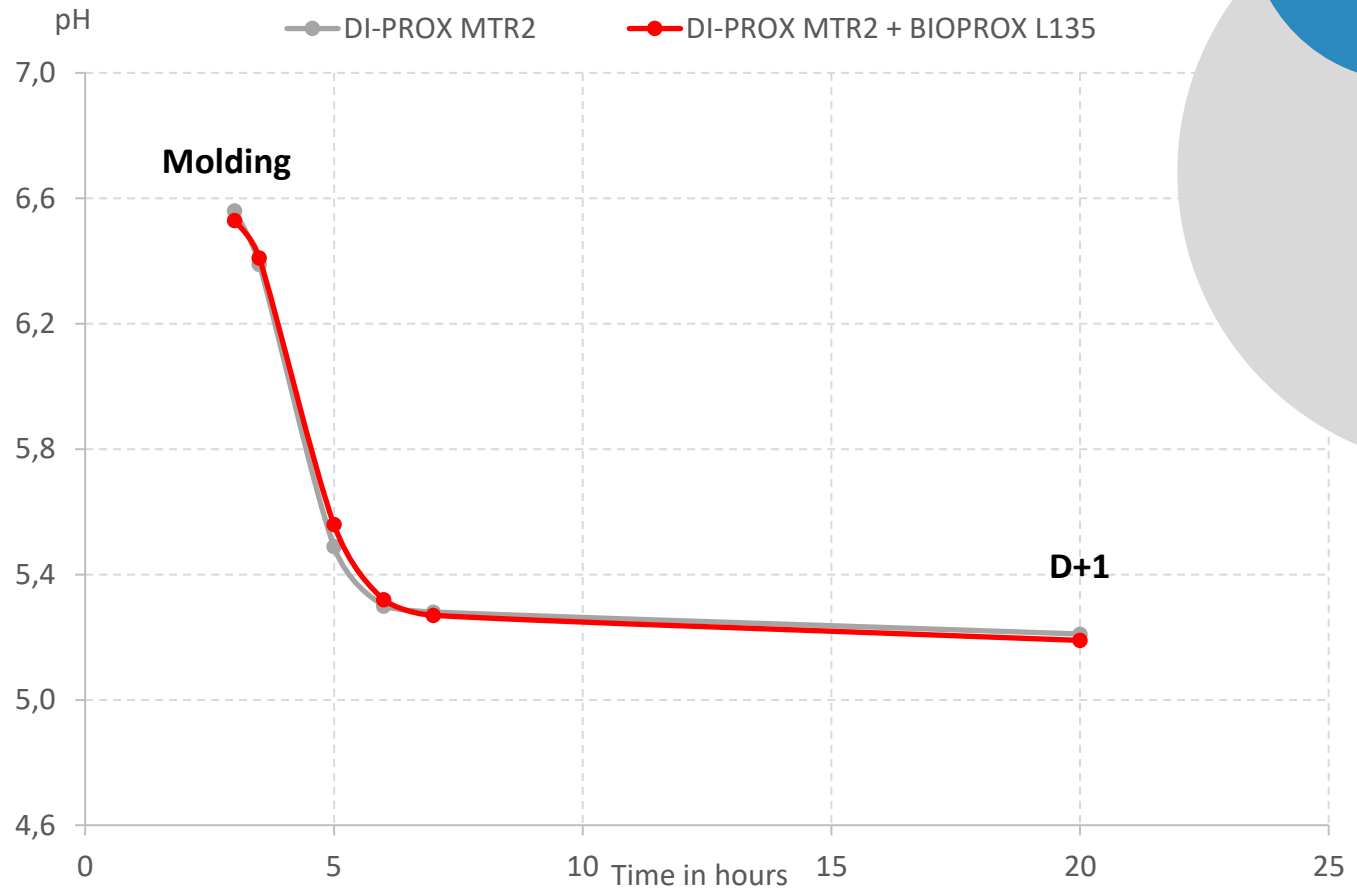
Influence of BIOPROX L135 addition on pH evolution in Gouda thermic cycle



USER FRIENDLY



pH evolution during cheese production (Gouda type)



NATURALNESS

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

→ Simplified labelling and additive free solution



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

Available products: 10D & 50D bags

Level of inoculation: 10D/1000L

THANKS
FOR YOUR ATTENTION