New Clean-label Solutions for Bread Preservation

Bread is a primary source of carbohydrates, fibres, proteins, vitamins and minerals and a popular staple food throughout the world. However, bakery products, including bread, are subject to microbiological spoilage and to extend their shelf-life many producers still use calcium propionate. Calcium propionate is an E number (E282) that causes an off-flavour in bread and it is linked to neurological side effects in humans which is pushing manufacturers to replace it for clean label alternatives.

To respond to this market need, Galactic has developed two clean-label solutions to block the growth of yeasts and molds without the use of calcium propionate: **Galimax™ Ferment CP™** and **Galimax™ Ferment CP™ GF**.

Both solutions are produced by natural fermentation of sugar. **Galimax™ Ferment CP™** is declared as “fermented wheat” and **Galimax™ Ferment CP™ GF** is declared as “fermeted rice”.

Benefits

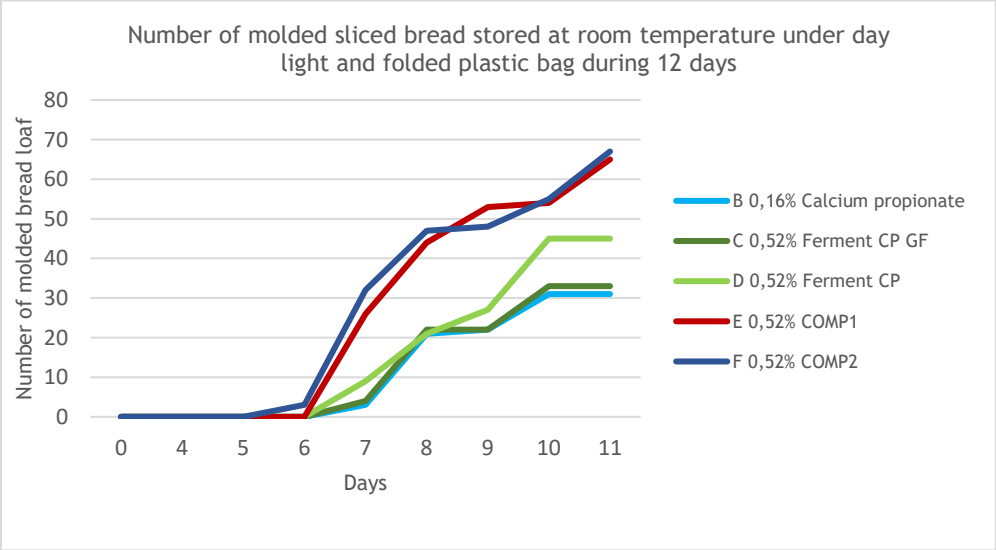
- Clean-label
- Easy to use
- Natural product
- Highly effective against yeasts & molds
- No off flavor

Galactic has carried out trials to compare the efficiency of **Galimax™ Ferment CP™** and **Galimax™ Ferment CP™ GF**, against calcium propionate, as well as two other clean label alternatives available on the market. The study has been conducted for a period of 11 days, with a visual evaluation on the development of yeasts and molds.

Ingredients	Formulations in %				
	Calcium propionate	Ferment CP GF	Ferment CP	COMP1	COMP2
Wheat flour	54,42	54,24	54,24	54,24	54,24
Water	37,52	37,34	37,34	37,34	37,34
Whole milk powder	3	3	3	3	3
Dehydrated yeast	1,09	1,09	1,09	1,09	1,09
Salt	1,09	1,09	1,09	1,09	1,09
Butter	1,63	1,63	1,63	1,63	1,63
Sugar	1,09	1,09	1,09	1,09	1,09
Calcium propionate	0,16				
Galimax™ Ferment CP™ GF		**0,52**			
Galimax™ Ferment CP™			**0,52**		
COMP1				0,52	
COMP2					0,52
Total	100	100	100	100	100

Process:

1. Pour all dry ingredients except salt in the bowl of the spiral mixer.
2. Add water at about 35°C.
3. Mix for 1 minute at low speed.
4. Add the salt and mix for 8 minutes at low speed.
5. Stop mixing and let it rest for 15 minutes in the bowl.
6. Weigh 4 times 550g of dough, form balls and place them in greased molds (fat spray).
7. Let them rest for 15 minutes.
8. Place them in the fermentation chamber for 45 minutes at 32°C and 75% humidity.
9. Bake in a double turbine air pulsed oven at 220°C for 8.5 minutes and then at 170°C for 15 minutes.
10. Take the bread out of the oven and then out of the molds and place them at room temperature for cooling down on 2 metallic bars.
11. The next day, cut each bread in 10 slices of 10mm width and put them individually in see-through plastic bags, without closing them.
12. Count every day for 11 days the number and colors of molds that have developed on each sliced bread.



The results showed that the **Galimax ™ Ferment CP™** is the closest clean label solution to calcium propionate in terms of functionality to inhibit the growth of moulds & yeasts.

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Source: GIC - Food Application Laboratory - Visual evaluation

Our FOOD Development team remains at your disposal for further trials, information, training etc.