



**Trial Report
n° M3/2006**

**lactium® activity in
Thermised Yaourt**



TRIALS AIM :

To validate lactium® activity in ***thermised yoghurts*** after different shelf life times:

- fresh product
- 28-days shelf life.

Lactium® in thermised yoghurt

1- MATERIAL & METHODS

➤ Recipe

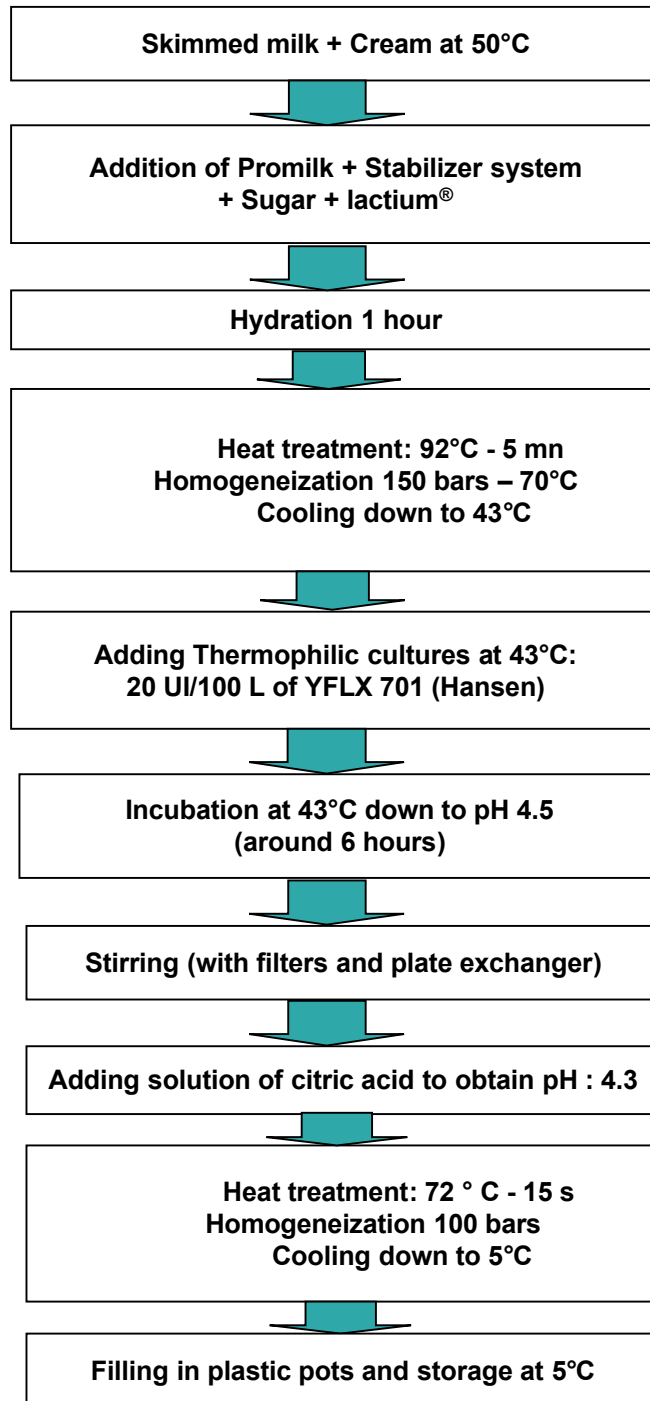
Trial	Fresh thermised yoghurt	Fresh thermised yoghurt with lactium™
Skimmed milk	76%	75.875%
PROMILK	3.8%	3.8%
Cream (42% fat)	8%	8%
Sugar	10%	10%
Grinsted SB 264	2.2%	2.2%
lactium®	0%	0.125%

Total solids	26.4%	26.4%
Fat	3.6%	3.6%
Protein	4.3%	4.3%

Lactium® in thermised yoghurt

1- MATERIAL & METHODS

➤ Process



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1- MATERIAL & METHODS

➤ Conditioned Defensive Burying Method

The Relaxing effect of thermised yoghurts containing lactium® was tested on Conditioned Defensive Burying method just after the youghurts had been processed (day=0) and after a 28-days shelf life.

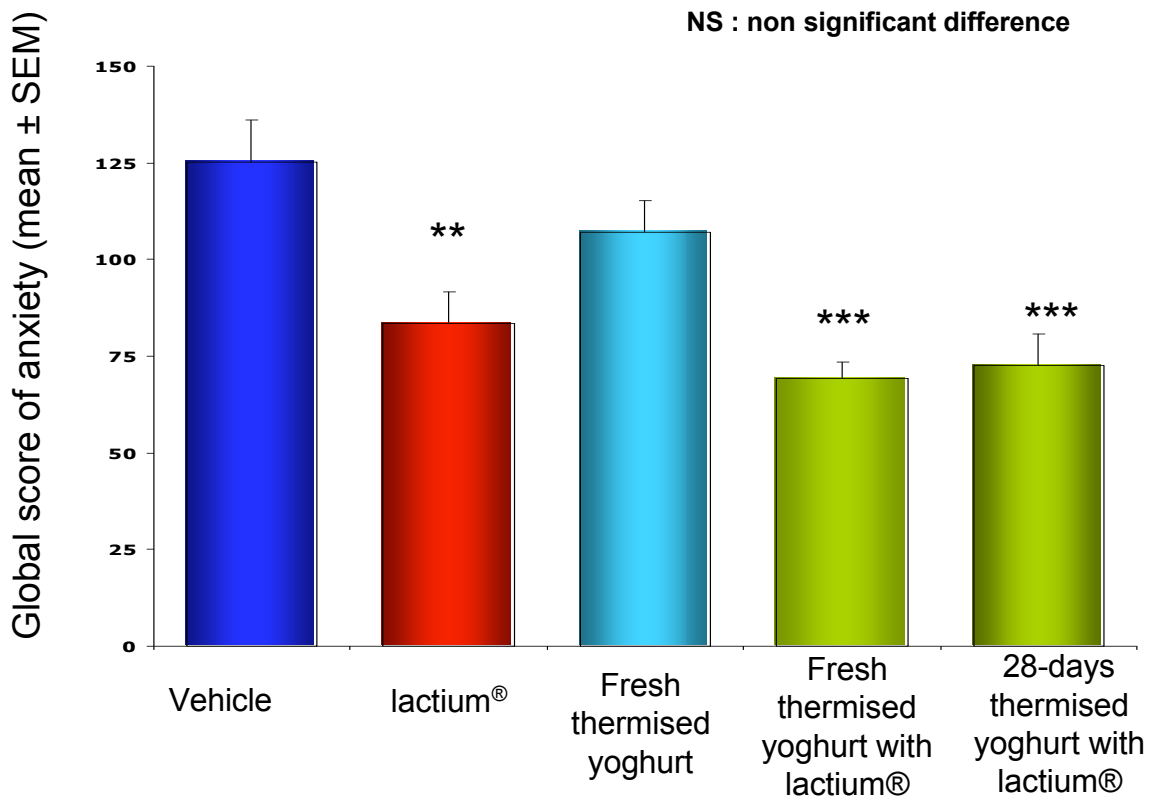
Thermised milks had been orally administered to the male Wistar rat :

- Acclimatization of the rats during a period of 7 days
- 5 groups of 12 rats:
 - => vehicle, lactium® (reference), fresh thermised yoghurt, fresh thermised yoghurt with lactium, 28-days thermised yoghurt with lactium™
- Thermised yoghurts were stored lyophilised after proper ageing (0 or 28 days)
- All the powdered products were solubilized in sterilized water before administration
- Thermised yoghurts were administered at 3 g/kg of rat so thae rats ingested 15 mg of lactium® which corresponds to the active dose in rats
- Oral administration 1 hour before the test
- After shock administration (stressing event), 5 minutes are recorded
- Global anxiety score = Sum of the rankings for three parameters:
 - duration of probe-burying;
 - number of head stretching towards the probe
 - percentage of approaches towards the probe followed by retreats

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2- RESULTS

Products	Vehicle (n = 12)	lactium® (n = 12)	Fresh thermised yoghurt (n = 12)	Fresh thermised yoghurt with lactium® (n = 12)	28-day thermised yoghurt with lactium® (n = 12)
Mean ± SEM	125.08 ± 10.93	83.42 ± 8.19	107.13 ± 8.14	69.29 ± 4.14	72.58 ± 8.05
ANOVA F(4,55)=8.55; P<0.001 Dunnett's t test (vs. Vehicle) Significance		t=3.05 P<0.01	t=1.32 NS	t=4.78 P<0.001	t=3.87 P<0.001



Dunnett's test (vs. Vehicle): **p<0.01 - *** p< 0.001.

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3- COMMENTS

- Fresh and 28 days old thermised yoghurt containing lactium®, orally administered, significantly decrease the global score of anxiety of rats submitted to a conditioned defensive burying test in comparison with vehicle and pure lactium®.
- It is not the case for thermised yoghurt milk without lactium®.
- specific starter cultures do not denature lactium® : this enables the addition of lactium at the beginning of the process and not only after the thermal inactivation.



CONCLUSION:

- ✓ The process of thermised yoghurt does not decrease the activity of lactium®.
- ✓ Moreover, after a 28-days shelf-life, the thermised yoghurt with lactium™ are still active.