DEPARTMENT OF NUTRITION AND FOOD TECHNOLOGY

The effect of supplement sour cream by addition *L.casei* on characteristics of sour cream during shelf life

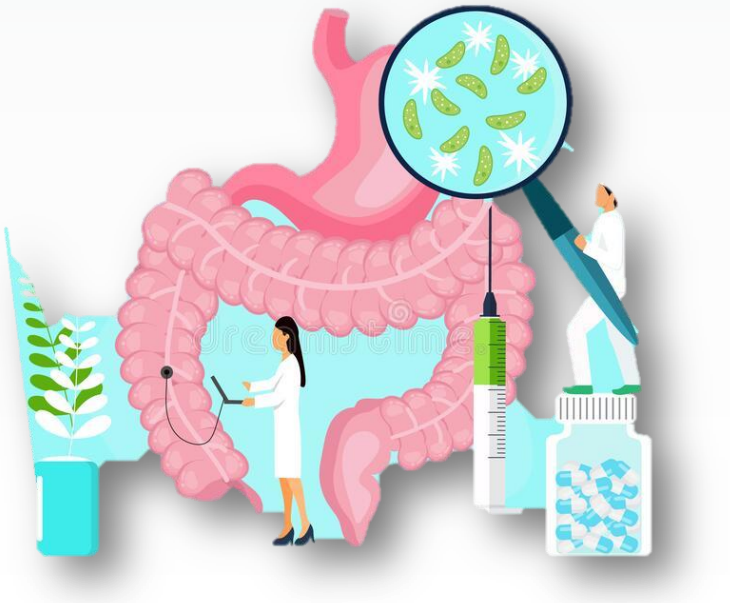
Prepared by: Heba Dawod, Mais Shalabi.

Supervised by:
Dr. Mohammed Al-Tamimi, Dr. Mohammed Sabbah.

INTRODUCTION

Gastrointestinal Tract Diseases:

- Diarrhea.
- Constipation.
- Irritable Bowel Syndrome IBS.
- Inflammatory Bowel Diseases.
- Ulcerative Colitis.
- Crohn's disease.
- Lactose Intolerance. (1)



INTRODUCTION

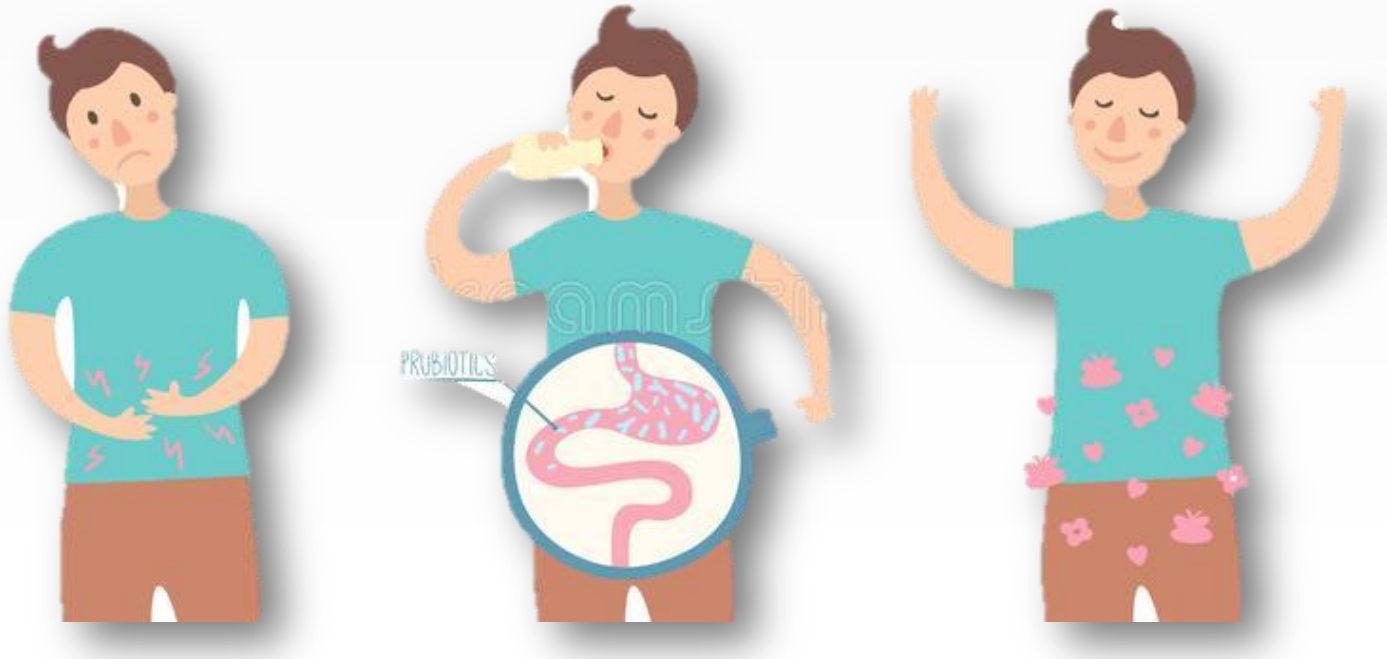
Prevalence Some of Gastrointestinal Tract Diseases

- Retrospective study in Jenin Governorate-Palestine showed that prevalence of intestinal parasite infection ranged from 32.0-41.5%. (2)
- Study among school children in northern districts of West Bank- Palestine showed that prevalence of intestinal parasite was 22.2%. (3)
- Study on adult Lebanese population showed that prevalence of Irritable Bowel Syndrome IBS was 20.1%. (4)

INTRODUCTION

Probiotics and Diseases:

Many study has been tested the efficacy of probiotics, in antibiotic associated diarrhea, infectious diarrhea, ulcerative colitis, crohn's disease, irritable bowel syndrome, among other disorders. (5)



INTRODUCTION

What are Probiotics?

Are live microorganisms with the potential of settling mainly in host (humans/animals) intestine and comprising certain health advantages for it. (6)

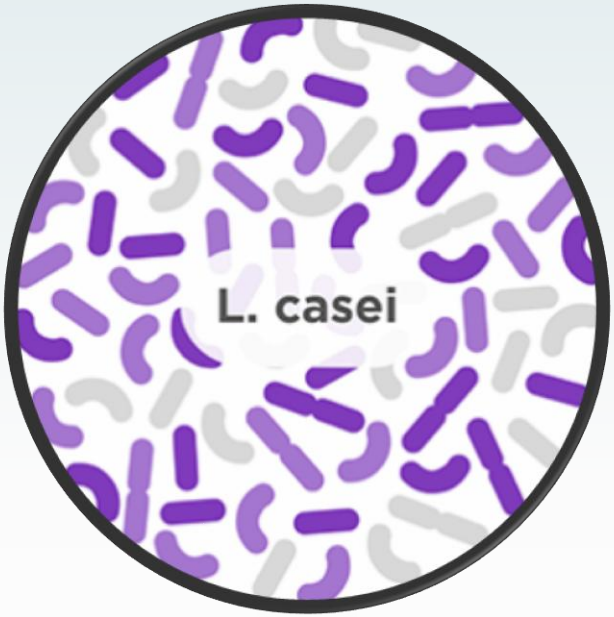
Why probiotics matter?

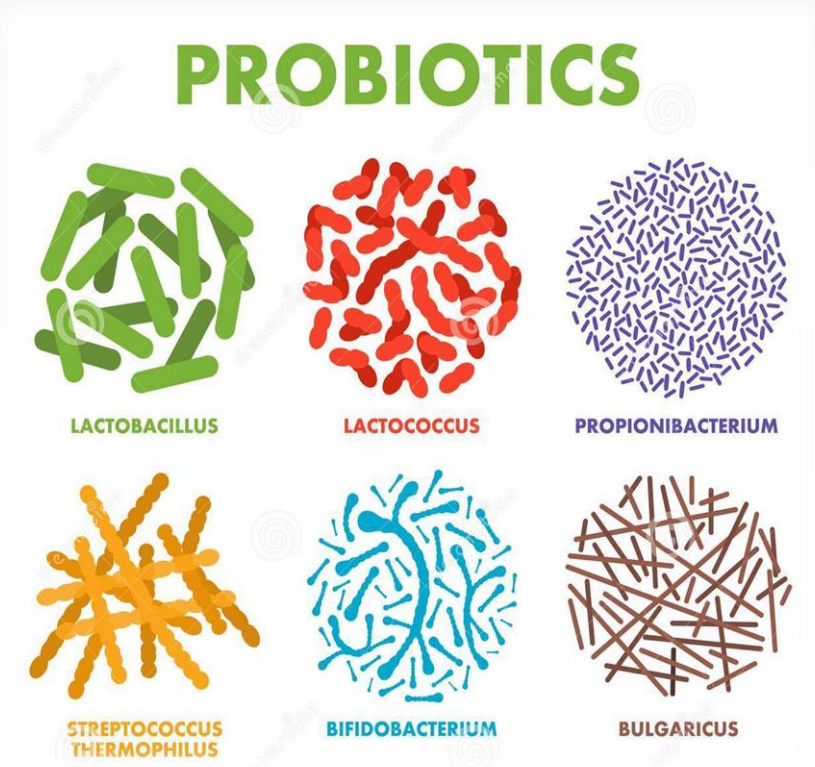
- Provide protection against enteric pathogens.
- Stimulate intestinal immune systems.
- Improve intestinal peristaltic.
- Supply enzymes to help metabolize some food nutrients (such as lactase to hydrolyze lactose).
- Detoxify some harmful food components and metabolites in the intestine.(7)

INTRODUCTION

Most common probiotics:

- *Lactobacillus* spp.
- *Bifidobacterium* spp.





INTRODUCTION

Sour Cream

Sour cream is a widely popular acidified dairy product. It has been used for years in some countries and forms the basis of many dishes in the same manner as yoghurt. (8)

In our local community sour cream is widely eaten with meals, as a snack or used to prepare desserts.

صنع منزلياً من هذا المنتج.

MAIN OBJECTIVE

Determine the effect of probiotics enrichment of sour cream on chemical properties during shelf life.

In addition determination the consumer acceptance on sour cream enriched with probiotics.

Material and Method

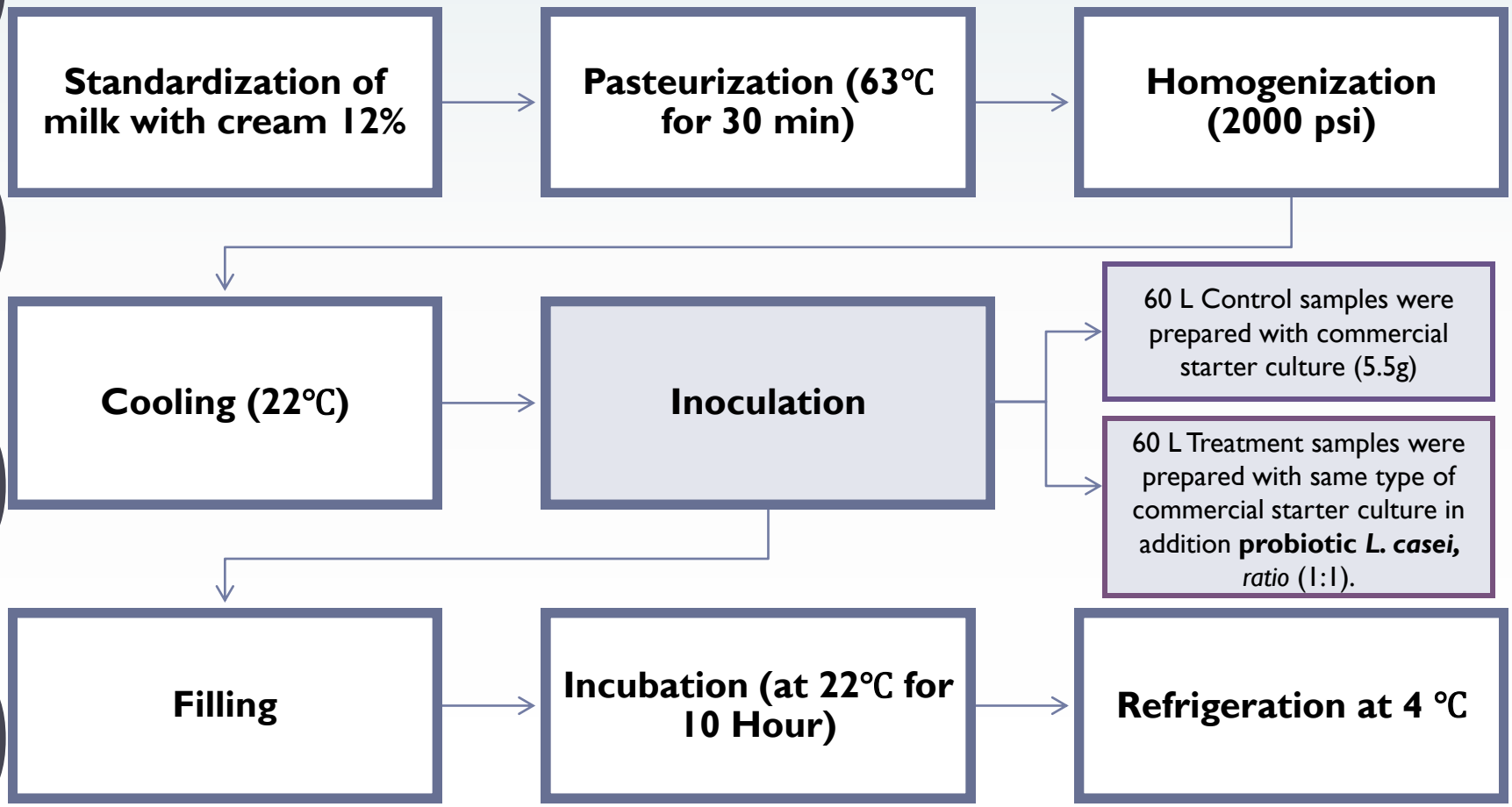
2) Material and Method

2.1) Preparation of probiotic

Wet Weight= 6.7g.

2.2) Preparation of sour cream

Were prepared inside Nofal Dairy Product Factory, was used 120 liter of milk to production two treatment of sour cream (control, and esupplemented with probiotic).



2.3) Chemical analysis

2.3.1) Measurement of pH in different time during shelf life of product (one month according to PSI). (9)

pH of sample was measured by using pH meter.

2.3.2) Determent of titratable acidity in different time during shelf life of product (one month according to PSI). (9)

Titratable acidity of sour cream sample was determined by Acid–Base titration of sample simple direct titration with 0.1M sodium hydroxide, using phenolphthalein (ph.ph) as an indicator.

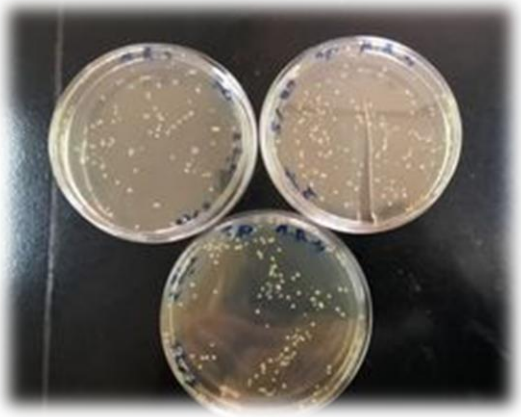
2.4) Microbiological analysis

2.4.1) Count of Lactic Acid Bacteria LAB in samples

Was counted in both samples by hemocytometer method.

2.4.2) Viability of Probiotics in sour cream

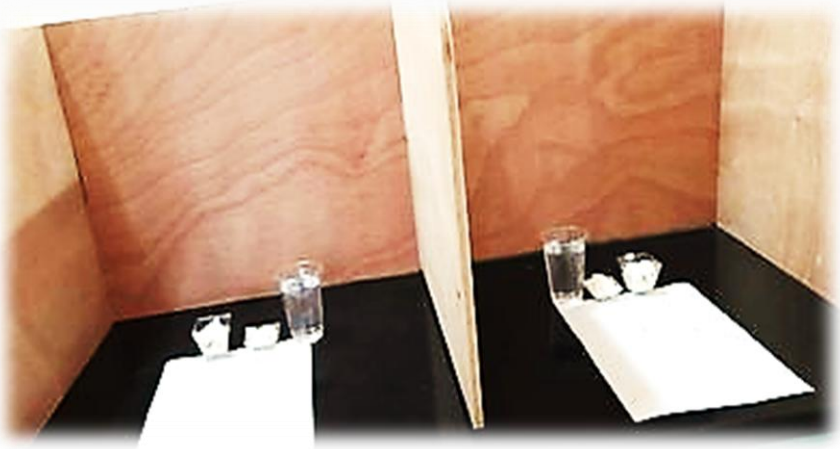
Was determined by using De Man, Rogosa and Sharpe agar (MRS agar).



2.5) Sensory analysis

Was determined by using questionnaire score from 1 to 5, by using parameter:

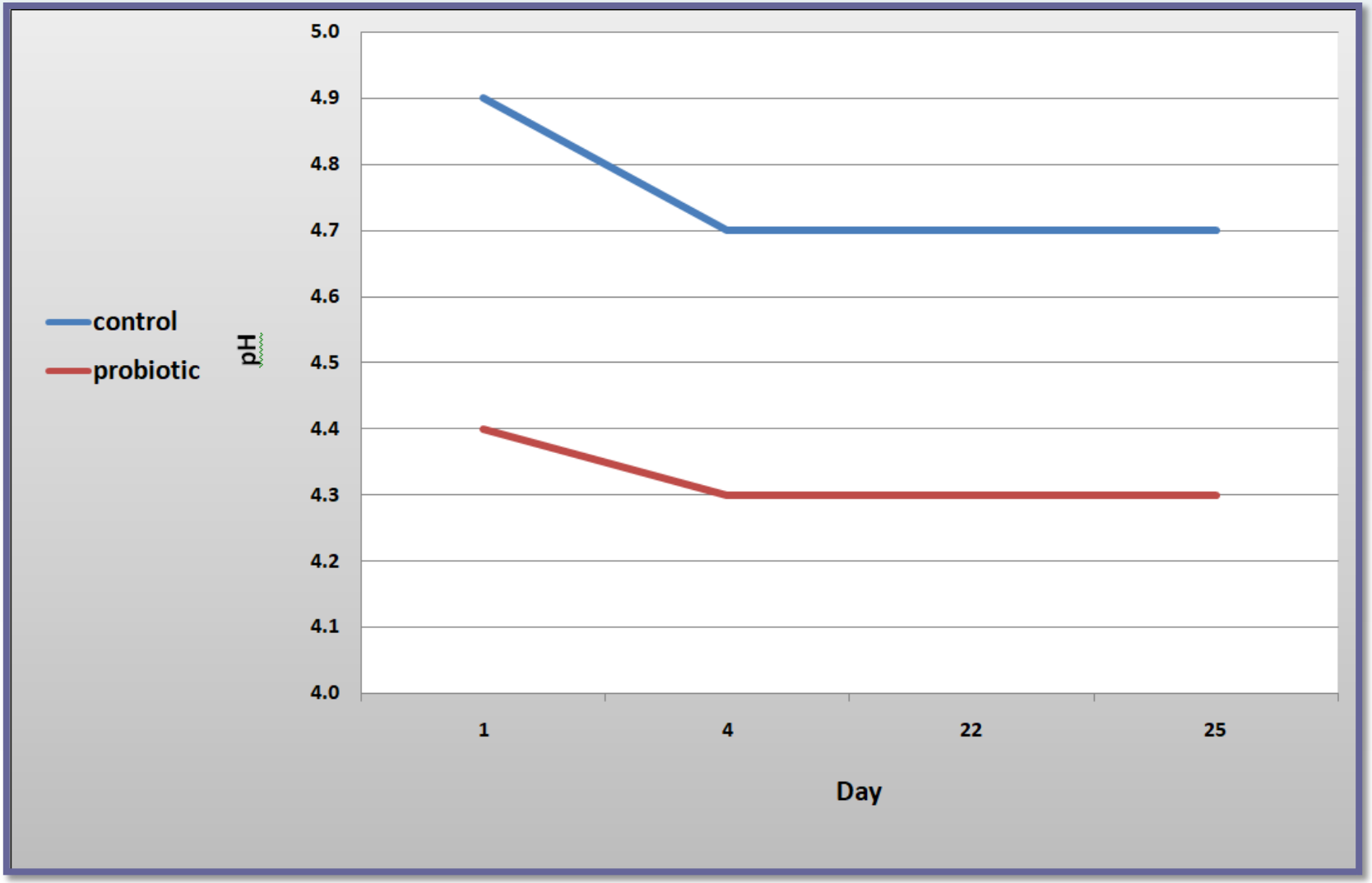
- Consistency.
- Syneresis.
- Color.
- Firmness.
- Density.
- Taste.
- Flavor.
- Acidity.
- Overall acceptance.



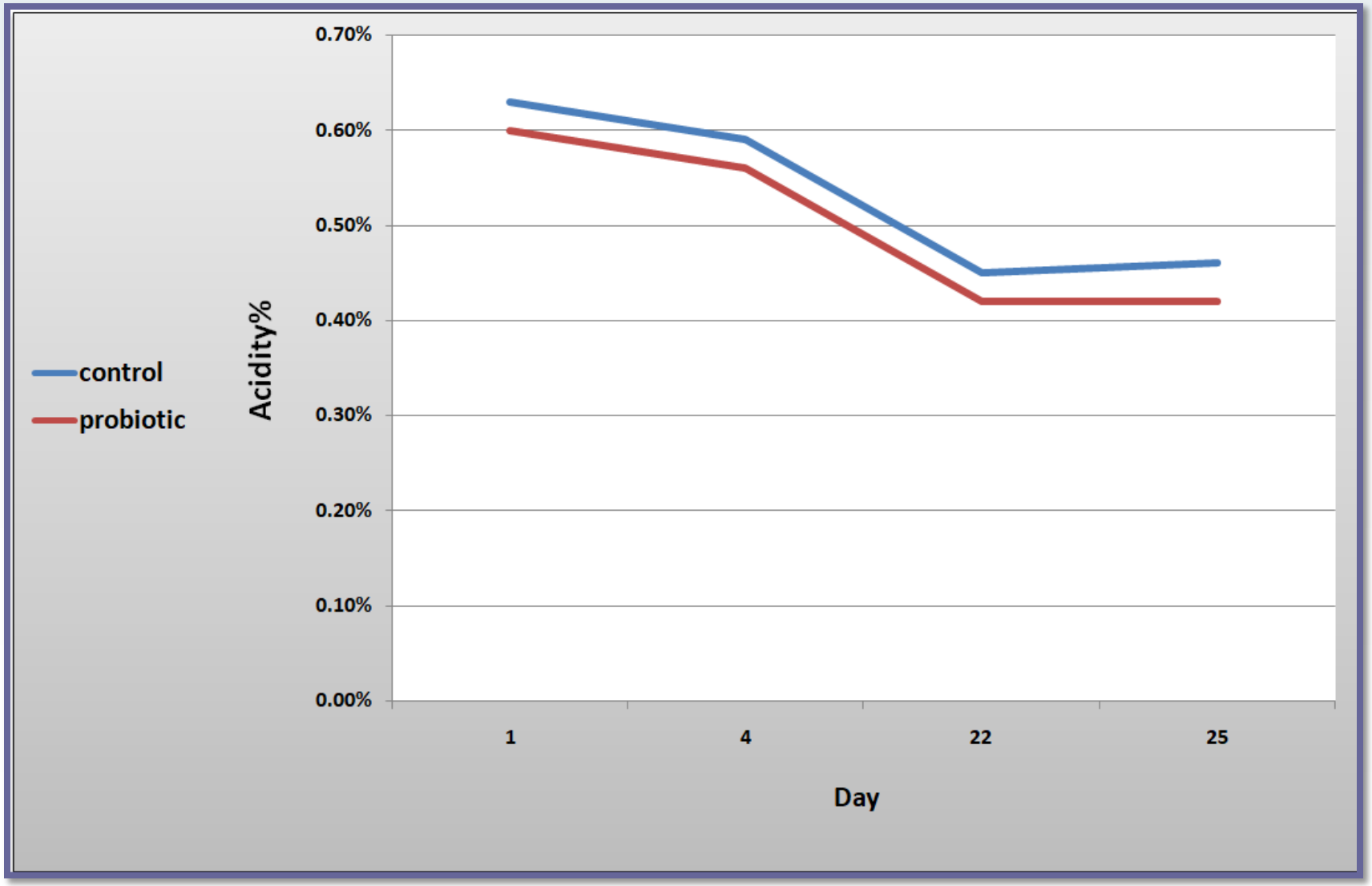
RESULTS

3.1) Chemical analysis

3.1.1) Measurement of pH in different time during shelf life of product.



3.1.2) Determent of titratable acidity in different time during shelf life of product.

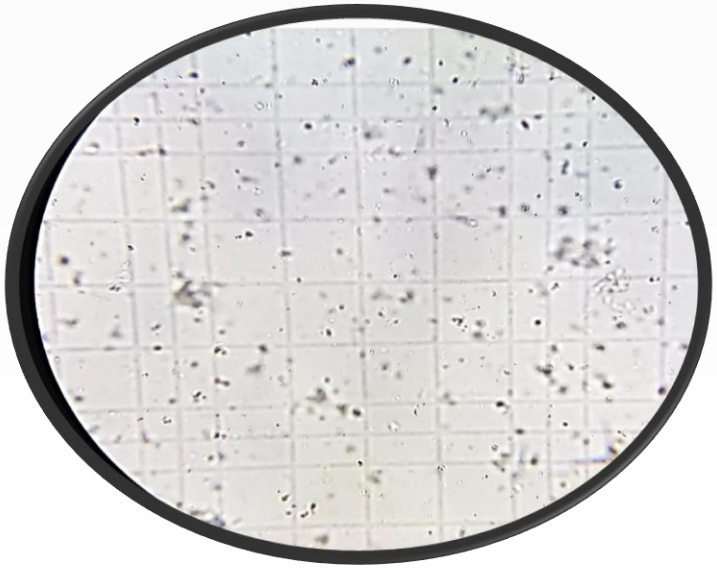


3.2) Microbiological analysis

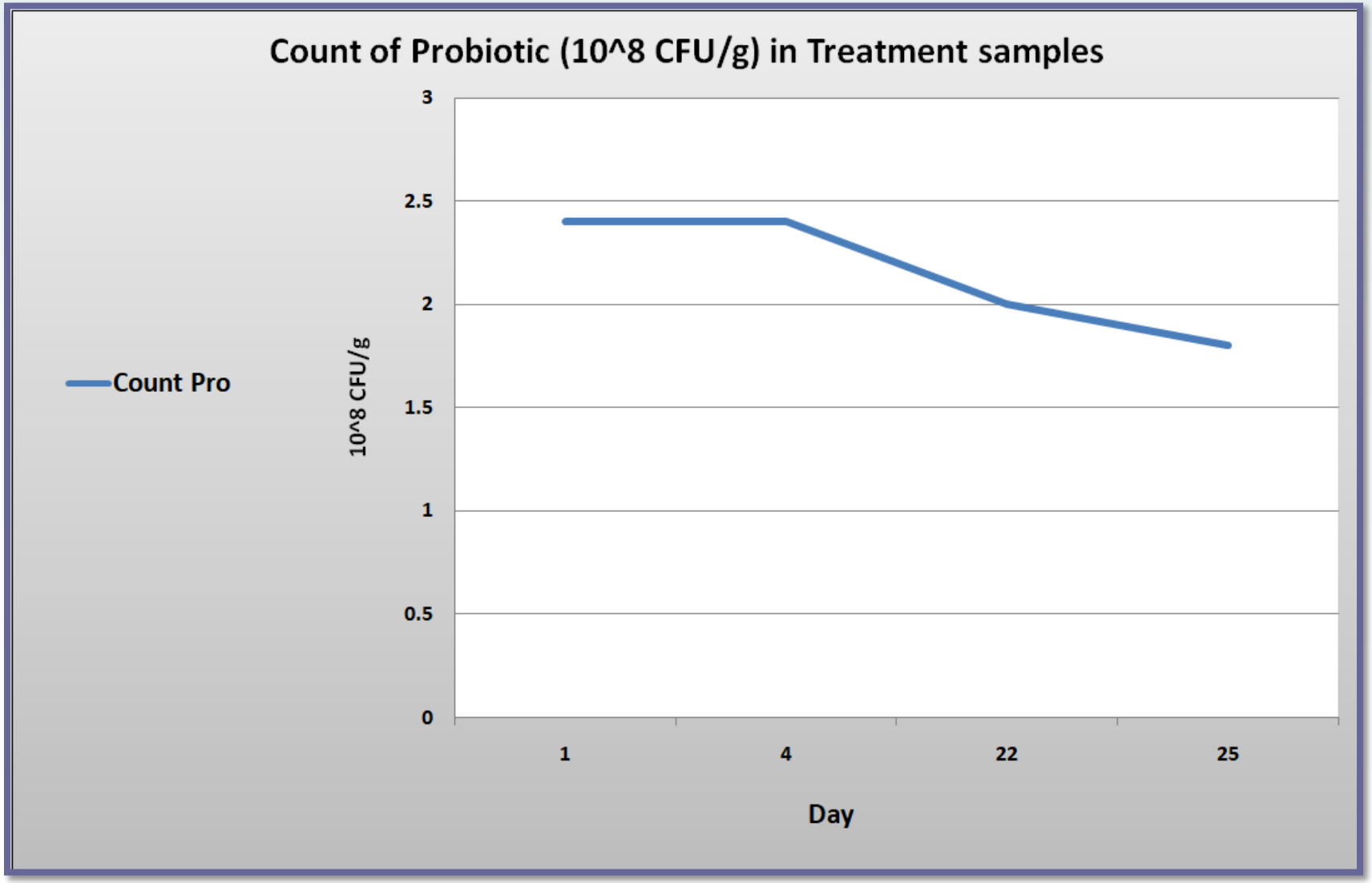
3.2.1) Count of Lactic Acid Bacteria LAB in samples.

Was counted in fourth day from production.

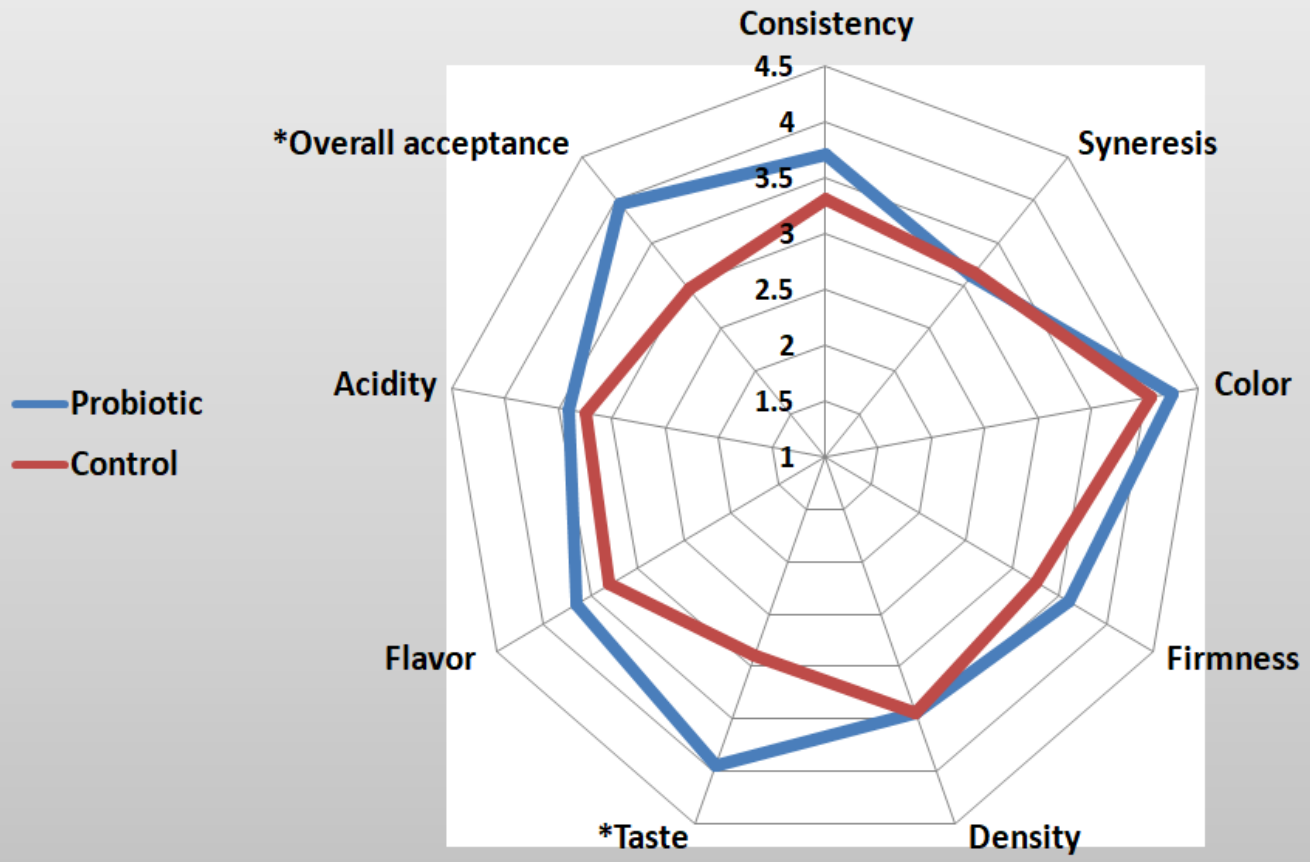
Control	Probiotic
$2.4*10^6$ CFU/g.	**$1.1*10^7$ CFU/g.**



3.2.2) Viability of Probiotics in sour cream



3.3) Sensory analysis



(*) Statistically significant differences compared with the control group.

CONCLUSION

It's possible to supplement *Lactobucillus casei* in sour cream with maintain good viability of *Lactobucillus casei* during shelf life.

In addition it meets the consumers' acceptance.

RECOMMENDATIONS

We recommend it because it is fortified and rich in probiotics, it is also a local product, and good source of fat.

ACKNOWLEDGMENT

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- Thanks to the entire teaching staff at all stages.

- Thanks to Nofal Factory for helping us and adopting the idea of the project.

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