Functional Cheeses and Fresh Whey

Nutritional and Food Management

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Did you know that bacteria might actually *keep* you healthy?

It all just depends on the type of bacteria. In this case, we’re talking about the benefits of probiotics.
Probiotics are live bacteria and yeasts that are good for your health, especially your digestive system.

We usually think of these as germs that cause diseases. But your body is full of bacteria, both good and bad.

Probiotics are often called "good" or "helpful" bacteria because they help keep your gut healthy.
How Do They Work?

Researchers are trying to figure out exactly how probiotics work. Some of the ways they may keep you healthy:
1- Crowding out bad microbes

2- Creating enzymes that destroy harmful bacteria

3- Stimulating secretion of IgA and regulatory T-cells, which support immune function
However, the Palestinian studies indicate that the consumption of cheese in the Palestinian market increases from year to year, so we adopted cheese in this project.
Based on the effective role of Probiotics, we introduced it into the traditional cheese to become a functional cheese, is it has all the functions of the Probiotics mentioned.
Acidophilus

M.C Acidophilus

45°C
4 hours
1 liter

3% Acidophilus

45°C
2-3 hours
MILK Pasteurization

Add 3% Acidophilus

Add Rennet

Coagulation

Cutting

resting

cutting

molding

PRESSING

& Packaging

PH=5.5

TEM. = 45°C

Homogenize

Add carrageenan
+ sugar
+ vanilla
+ pounoua red
+ Natamycin

Heat to boil and then cool quickly

packing
Whey protein

Is one of the two proteins found in milk, with the other being casein. When a coagulant (usually rennet) is added to milk, the curds (casein) and whey separate. Whey protein is the water-soluble part of milk.

Whey is absorbed faster than other forms of protein

The positive of this product is inexpensive and have a big amount of protein
Some pictures for our product
Tests carried out:

1- Measurement of pH

2- Cultivation of bacteria in several stages of cheese manufacturing. (MRS).

3- Measure the nutritional value of a product fresh whey
Result

Before the addition of Rennet = 2100 CFU/g
After the addition of Rennet = 2300 CFU/g

Nutritional value of fresh whey:

Fat=0.08
Den=24.01
Lac=3.66
SNF=6.66
Pro=2.45
Wat=23.07
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<thead>
<tr>
<th>QUESTION 1</th>
<th>What do you think about the taste of cheese compared to traditional cheese?</th>
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<td>5 4 3 2 1</td>
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<th>QUESTION 2</th>
<th>Is there an unwanted smell in the cheese? If there is a smell, please specify your answer with a number</th>
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<th>QUESTION 3</th>
<th>The taste of acidity in cheese is desirable or undesirable?</th>
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<td>5 4 3 2 1</td>
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<th>QUESTION 4</th>
<th>Do you like the white color of this cheese?</th>
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QUESTION 1
What do you think about the taste of this drink?

5〇4〇3〇2〇1〇

QUESTION 2
What do you think of the degree of pink color in it?

5〇4〇3〇2〇1〇

QUESTION 3
What do you think of the smell of this drink?

5〇4〇3〇2〇1〇

QUESTION 4
If you are a player in the sports club, please answer the question, Is this drink similar to the protein you drink after exercise?

5〇4〇3〇2〇1〇
Fresh Whey

Sample = 40 people

1Q, 2Q, 3Q, 4Q
Budget & Requirement

1- The milk reception unit = 50 thousand NIS
2- Pasteurization = 130 thousand NIS
3- water heater and engine = 20 thousand NIS
4- Cheese Press = NIS 600
5- Refrigerator = 1200 NIS
6- mayitr + Trays = 500 NIS
7- Final packaging = 13 thousand NIS
8- Materials used to manufacture Fresh whey = $ 1000
9- Materials used for the manufacture of cheese = $ 140
10- The pH meter = 13 thousand dollars
11- Thermometer = $ 1000
12- Other materials = $ 1000
Project outlook

1- Add probiotics to other products other than cheese such as Laban up or yogurt with the addition of flavors

2- Develop the outer packaging of the product such as large bottle of whey protein

3- Add various flavors of whey protein such as chocolate, Vanilla or bananas
Thank You....!
&
Enjoy the Change...

And the CHEESE...!!!