

The production of fruity yoghurt with banana flavor

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Abstract— In order to fruity yoghurt with banana flavor used from pasteurized milk containing 2.5% fat .the used fruit turned into marmalade and then additives (vanilla, starch and sugar)were added .in the following of production process , marmalade mixed with starter and was added to cooled milk of 45°C .the formulation of production was selected in the from of : 300cc of pasteurized milk with 2.5% fat, marmalade (banana 15%w, vanilla 0.01%w and starch 0.3%w), starter 2.5%w.chemical and microbial tests and panel test were made during six days. the chemical tests containing fat percent ,acidity ,pH, dry matter without fat, brix and vitamin c and then the microbial test of coli form , yield and mold culture and panel test(sensory test)were made on them.the tests were confirmed by the resalts during the mentioned time.

Key words - *fruity yoghurt ,banana flavor, production*

I. INTRODUCTION

Yoghurt is a dairy production that has more profits than milk. Digestive system in some of people has an allergy to lactose (sugar of milk), but lactose is transformed to lactic acid in yoghurt and dose not create allergy [8].

On the other hand , calcium of yoghurt is absorbed in body faster than milk. Because , lactic acid of yoghurt turns calcium to solution and absorbtion . therefor , yoghurt devotes calcium to body more than milk.[8]

Yoghurt decreases event of bowel cancer remarkably and is more effective in absorbing minerals , proteins and vitamins of group bue to containing biological adequate conditions.the measurement of vitamines and salts in yoghurt is more than milk in the same volume , because dry matter of yoghurt is more than milk.yoghurt contains vitamins of B,C,A,D,E and all ingredients and features of milk.yoghurt strengthen abdomen and helps digestion of food and relax nerves due to containing vitamin B [1,2]

Experts recommend to use of yoghurt with antibiotics because the majority of antibiotics are fatal for profit bacteria of digestive system and results in disorder in it.

Based on investigations, the death of these bacteria can create high or medium dysentery.

Yoghurt can help to back to natural conditions.it has been recommended that patients use at least 250 ml of yoghurt in their daily dietary when they use antibiotics more than two weeks.since both yoghurt and banana have high nutrition facts , the production of fruity yoghurt with banana flavor has been noticed [3].

In similar researchments,fruits like peach,apple and strawberry were used and ultimate production was enriched by materils like gelatin and pectin . Others also tried to increase shelf life by adding vanilla and niacin and

decreased microbial spoilage by lower the growth of microorganism . in total , the goal of this researchment is getting the most adequate formulation of fruity yoghurt with banana flavor and conduction of panel test , microbial and chemical test on the product to verify it for consumption.

The demand for fruity yoghurt with different flavors is developing. Adding fruit juice decreases viscosity and the rate of acid enhancing , but increases whey separation.the structure of fruity yoghurt can be improve by using stabilizing agents such as starches , gelatine and pectin.[4]

Adding difference fruit juices to yoghurt increases some minerals such as Mg ,Zn ,Fe ,Cu, and else in it [5]

Although yoghurt is a relatively unprocessed food, fruit flavored yoghurt contains fruit that has been thoroughly heat treated.this is required because the fruit must contain extremely low levels(< 1 cfu /g) of yeasts prior to addition to the yoghurt.if this condition is not met , shelf life diminishes rapidly , due mainly to the growth of yeasts such as candida famat and kluy veromyces marxianus, which are capable of grow th at refrigeration temperatures , and can utilize the proteins , organic acids , and carbohydrates in yoghurt. [6]

In total , the main pre materials for production of fruity yoghurt contain milk that is turned to yoghurt and needs specific experiments and the other is fruit that selection of its type is with some process .besides , additives like powder milk, sugar ,stabilizer (pectin and starch)are added to the production. [7]

II. EXPERIMENTAL SECTION

A. materials

Needed materials:

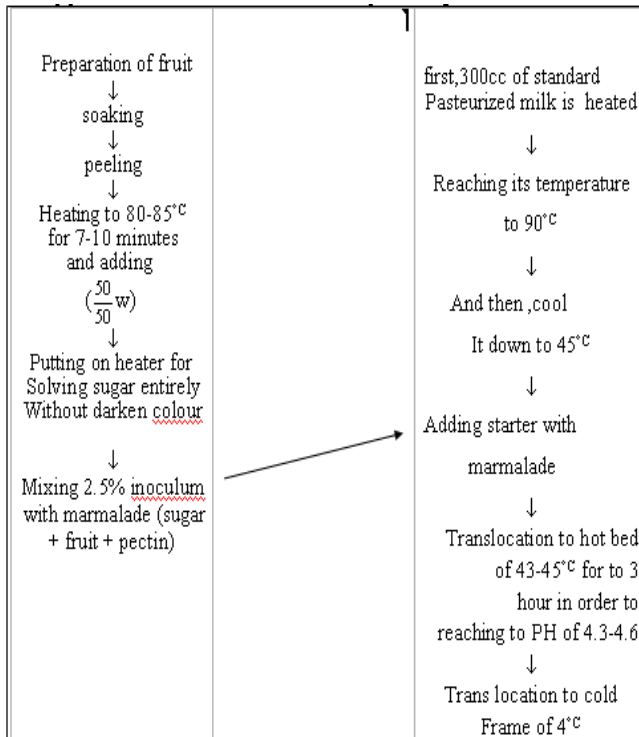
- milk contains 2.5% fat (saleh dairy)
- banana(Chiquita)
- .sugar
- vanilla
- starch

B. method

First , 300cc of milk was added into an beaker and heated on a heater for reaching temperature of milk to 90 °C and then cool it down to 45 °C . on the order hand , banana is cut and fixed with sugar (4%)and put on heater to provide marmalade so that sugar is mixed entirely , but without darken colour of marmalade .after this stage , 10% of marmalade is mixed with milk and added 2.5% of starter

(yoghurt inoculum) into previous materials and used vanilla (1%w) as stabilizer and then all of these materials were added to milk and poured into mentioned dishes and after closing its cap put in 45°C oven for 2.5 to 3 hours and then put in refrigerator for one data.

to 11 in sixth day, dry matter from 25.11 to 25.6 in sixth day and vitamin C from 2.376 to 2.03 in sixth day.



Shape 1 : the method of production of fruity yoghurt with banana flavor

C. qualitative tests

Chemical tests like acidity, sodium hydroxide and phenol phthalein marker used to take measure acidity. Acidity was calculated by the way of titration and lactic acid, PH by pH meter, protein by formol way, fat by the way of gerber, dry matter by oven, brix by refractometer.

D. microbial tests

Microbiological tests on yoghurt conducted during 6 day by storing in temperature of 4°C.

E. coliform test

Sample of yoghurt is cultured on medium VRBA and counted after incubation during 48 hours in 37°C

F. mold and yeast tests

After preparation of dilution (0.1 and .001) of yoghurt samples were cultured on PDA medium counted after incubation during 72 hours in 22°C.

III. RESULTS AND DISCUSSION

The results of physicochemical tests showed that acidity changed from 0.8 in first day to 0.49 in sixth day, and also PH from 4.11 to 9.6 in sixth day, brix from 12 in first day

TABLE 1 : PHYSICO CHEMICAL TESTS

Vitamin C	Dry matter	Brix	Fat	pH	Acidity	Time	production
2.376	25.11	12	9.8	4.11	0.8	DAY 1	Fruity yoghurt (banana) 150g
2.376	25.10	12	9.8	4.8	0.7	DAY 2	Fruity yoghurt (banana) 150g
2.37	25.9	12	9.7	4.2	0.6	DAY 3	Fruity yoghurt (banana) 150g
2.376	25.9	11	9.7	4	0.57	Day 4	Fruity yoghurt (banana) 150g
2.367	25.7	11	9.6	3.8	0.52	Day 5	Fruity yoghurt (banana) 150g
2.30	25.6	11	9.6	3.6	0.49	Day 6	Fruity yoghurt (banana) 150g

In According to table 2, no changes of color, texture and flavor were seen in fruity yoghurt with banana flavor until the second day, but its colour darken after two days and also its flavor turned to alcoholic flavor because of increasing acidity.

TABLE 2 : PANEL TEST

day	Day1	Day2	Day3	Day4	Day5	Day 6
Color	--	-	+	+	+	+
Flavor	-	-	-	-	+	+
Texture	-	-	-	-	-	+

TABLE 3: MICROBIAL TEST

day	Day1	Day2	Day3	Day4	Day5	Day 6
coliform	10	-	-	-	-	-
Escherichia coli	-	-	-	-	-	-
Mold and yeast	-	-	-	-	-	-

According table 3, the growth of coliform bacteria were restricted during the time and the growth of mold and yeast during 6 days have not shown meaningnessly increasing.

IV. CONCLUSION

Low ph in yoghurt inhibites growth of rotting bacteria and the results of this researchment shows that their growth controlled after 3 days by increasing acidity, but molds and yeasts are capable to growing in low ph it must be noticed that yeasts in rates of 10⁵ – 10⁶ Per gram can product gas and it creates springer and decrease the stability of product. origin of rotting yeasts can from side materials like fruit.

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