

# Candied Kolang-Kaling (*Arenga Pinnata*) with Dye Flower Extract Rosella as a Healthy Snack for School Children

Yudhiet Fajar Dewantara

Departement of Hospitality and Tourism  
Universitas Bunda Mulia  
Jakarta, Indonesia  
ydewantara@bundamulia.ac.id

Tiurma Sinaga

Department of Community Nutrition  
Institut Pertanian Bogor  
Bogor, Indonesia

**Abstract**— Fiber is very important for human health. If we eat a diet rich in fiber it will keep us from health problems such as heart disease, constipation, cancer, diabetes and obesity. One source of food containing fiber are kolang-kaling (*Arenga Pinnata*) fruits. This study aims to formulate candied kolang-kaling (*Arenga Pinnata*) for school children as a healthy snacks. Soaking kolang-kaling (*Arenga Pinnata*) in the solution for 24 hours, 48 hours and 72 hours, and then lift and in the drain. Organoleptic test covering aspects of the aroma, color, taste and texture, as well as the acceptance of students on 5th graders (aged 11-12 years) in Elementary Schools 02 Makasar Jakarta. Sample were sensory analysed using facial hedonic scale method with number of panelist of 30 person. Based on organoleptic test, candied kolang kaling (*Arenga Pinnata*) by immersion of 72 hours (3 days) was the best formula. Proximate analysis conducted at Balai Besar Industri Agro in the city of Bogor to candied kolang-kaling (*Arenga Pinnata*) per 100 gr is, water 60.9 gr, 0.20 gr ash, protein 0.32 gr, 0.29 gr fat, 38.3 g carbohydrates, 157 kcal of energy, calcium (Ca) 28.9 gr and 2.16 gr fiber. Formula of kolang-kaling (*Arenga Pinnata*) the best sweets were priced at Rp. 5700.

**Keywords**— *candied kolang-kaling* , *food acceptance*, *nutritional content*, *school children*

## I. INTRODUCTION

School age children is investment nation, because the children are the future generation. Growth of school age children is optimal depending of nutrition that is high quality and quantity of the righteous. In the period of the growth of nutrition or nutrient intake on children are not always can be done with perfect. There are still many school snacks that less guaranteed its health and potentially causing poisoning. According to the Basic Health Research (Riske s das 2013), the case of food poisoning is most often reported from the year 2012-2014 in Indonesia is the result of food poisoning snacks and poisoning as a result of processed food . A survey in 220 districts and cities in Indonesia find only 16 percent of schools that meet the conditions of the management of healthy canteen (Tabernacle, 2009). One of the healthy food and fiber and have calsium that common society is the fruit of the sugar palm. This food is white, transparent and contain much water thus

overpopulate g a fiber cause solid and supple as jelly. According to Muaris (2015), fruit of *Kolang-kaling (Arenga Pinnata)* has a relatively high calcium content even as much as 91 mg. Fruit of *Kolang-kaling (Arenga Pinnata)* useful for bone health, especially prevent osteoporosis. But when in compare with milk, fruit of *Kolang-kaling (Arenga Pinnata)* has a low amount of calcium. Every 100 gr pure cow milk contains 125 mg calcium, while 100 gr fruit of *Kolang-kaling (Arenga Pinnata)* contains 91 mg calcium fruit of *Kolang-kaling (Arenga Pinnata)* more contains fiber. But the fruit of *Kolang-kaling (Arenga Pinnata)* has the color that less interesting because of that authors want to make something sweet fruit of *Kolang-kaling (Arenga Pinnata)* with the addition of extracting Rosella ice as a natural coloring agent because the petals rosela has a good red color and contain vitamin C of 86.5 mg per 100 g (Babalola et al. 2001). Sweetness fruit of *Kolang-kaling (Arenga Pinnata)*is in detail with ever soaking 24, 48, and 72 hours of interest Rosella ice.

This research aims to 1) Test the formulation of sweetness fruit of *Kolang-kaling (Arenga Pinnata)* to produce sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with natural coloring agent. 2) know the extent to which the difference between the level of gladness panelists and know receive power consumers (school children) with using the scale *Comstcok* (tests from the remaining food) against the Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella as traditional snacks children 3)Test the level of nutrition with using proksimat tests contained in the Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella 4) know the number of offering seafood interlude ( *snack* ) of sweetness fruit of *Kolang-kaling (Arenga Pinnata)*for primary school students.

## II. METHOD

### The design and the Research

This research done in the experiment with an collector data collection technique Random Design complete. This research was done in the month of October 2015-August 2016 in a

laboratory food processing SMK Wisata Indonesia for analyze Nutrient at BBIA (Agro) Industrial Hall Bogor.

### Materials and Equipment

The ingredients for the making of candied *Kolang-kaling* (*Arenga Pinnata*) is composed as material for amplifier sel fruit soaking fruit or water lime, fruit *Kolang-kaling* (*Arenga Pinnata*)sugar, extracting Rosella ice, and pandanus leaf and lime leaf as riding flavors.

This research using a very simple equipment including : blades and cutting board, weights, stainless stell pot, packaging and seal pelastik.

The reserch using ingredient : 1000 gr *Kolang-kaling* (*Arenga Pinnata*), 300 gr sugar , 200 gr ekstrak rosella, 3 gr lime leaf, 5 gr pandanus leaf

### The process of Candied Fruit of *Kolang-kaling* (*Arenga Pinnata*) with addition extract Rosella

#### The preparation stage

At this stage is the beginning phase which started from the stages of the preparation of the second phase is the preparation of the ingredients and measurement where the stage is very influential on the end result because the material in consideration must be appropriate and must be consistent on the processing time

#### Processing Steps

Processing steps in began washing with how to boiling fruit of *Kolang-kaling* (*Arenga Pinnata*) at the beginning to eliminate less unpleasant smells, then do soaking solution forwith water and rice in soak with water lime sirih, then the making of the solution to extract Rosella ice and then soaking solution forwith sugar solution Rosella ice for 24 hours, 48 hours, 72 hours. Then in the lift from the soaking solution forand in the drain. For seing proses look at figure 1.

#### Packaging Stage

Packaging is the last process is done s e has not been products marketed. The type of jewelry s e used to pack the products sweetness is using plastic glasses pudding and then in the jewelry with the lid. Then in the sealer meeting so that the lack of contamination, uncharged and deals in provide the label on the packaging.

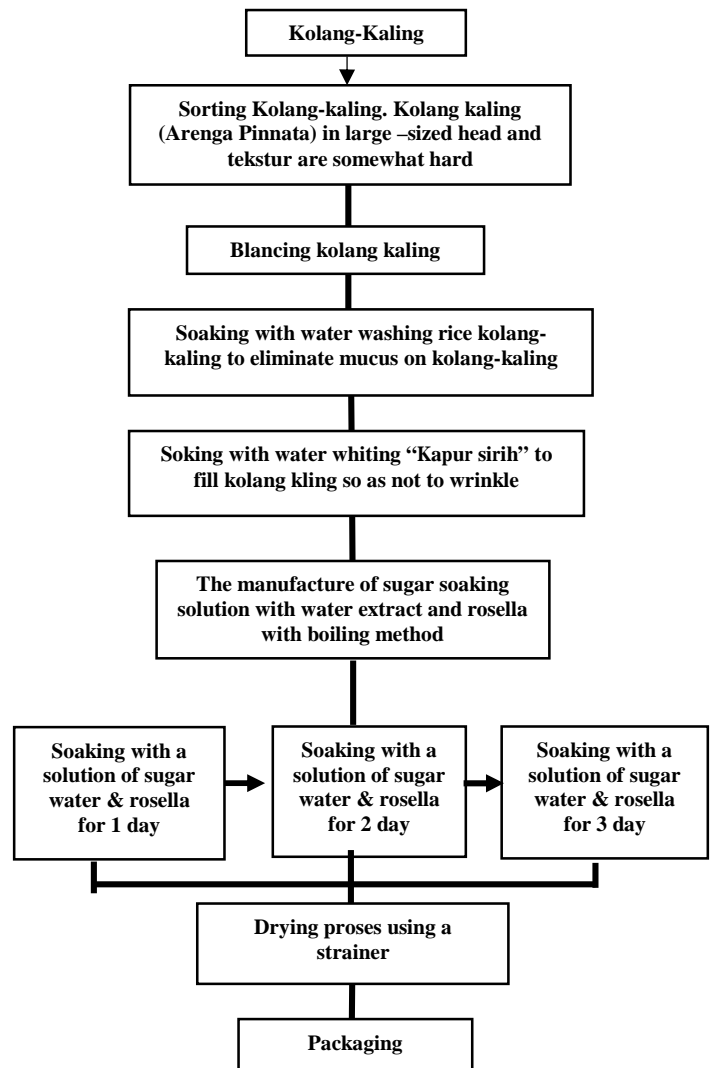


Fig. 1. Proses Making of Candied Fruit of *Kolang-kaling* (*Arenga Pinnata*) with extract Rosella

### Data Analysis

Treatment of candied kolang kaling (*Arenga Pinnata*) done by soaked salution for 24 hours, 48 hours and 72 hours to find out the level of color density. The collection of test data obtained from the hedonik spring telatih panelists and test hedonik facial scale for panelists not trained retrieved from elementary school students 02 Macassar. The data in the process and analysis using Microsoft Exel and SPSS 22 for windows ( *Statistical Package for the Social Sciences*) . To analyze the data obtained using ANOVA Analysis of Variant (test).

## III. THE RESULTS AND DISCUSSION

### The formulation of Candied Fruit of *Kolang-kaling* (*Arenga Pinnata*) with addition extract Rosella

The formulation of candied fruit of *Kolang-kaling* (*Arenga Pinnata*) with addition extract rosella are soaking kolang kaling (*Arenga Pinnata*) in the solution for 24 hours, 48 hours and 72 hours, and then lift and in the drain.

**The results of Candied Fruit of *Kolang-kaling (Arenga Pinnata)* without extract Rosella 0 Hours**

we can see at figure 2 shows the Candied Fruit of *Kolang-kaling (Arenga Pinnata)* without addition extract Rosella with soaking solution for 0 hours. Sweetness fruit of *Kolang-kaling (Arenga Pinnata)* is not done soaking solution for with andrographidis Rosella ice and used as a control in this research. This comfits only soaked with sugar water, white like glass, elastic texture and taste sweet.



Fig. 2. Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella with soaking solution for 0 hours

**The results of Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella with soaking solution for 24 hours, 48 hours, 72 hours**

Based on the Figure 3 under shows that Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella with soaking solution for 24 hours. Sweetness fruit of *Kolang-kaling (Arenga Pinnata)* is done soaking solution for with extracting Rosella ice which has been added the lime leaves cemetery. This somewhat reddish-colored preserves, flavored somewhat sweet, felt very sour and chewy-texture.

Seen from the Figure 3 shows that Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella with soaking solution for 48 hours. Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella is red, flavoring Rosella ice and felt quite sour and slightly sweet, quite supple and soft texture and the size of the sweetness is quite shrunk. This is because the fruit of the *Kolang-kaling (Arenga Pinnata)* soaked more than 24 hours and cause the size of the sweetness is diminished.

After in the examine the Figure 3 above that Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella with soaking solution for 72 hours. candied fruit of *Kolang-kaling (Arenga Pinnata)* is highly colored red, flavoring Rosella ice, felt very sweet and not too acid and not texture supple and very soft and the size of the sweetness is shrunk. The texture of sweetness is more shrunk due to soaking exceed from 48 hours because of the level of sugar in the liquid rosela penetrates deep into the fruit of *Kolang-kaling (Arenga Pinnata)* causing the sweetness fruit of *Kolang-kaling (Arenga Pinnata)* be shrunk.



Fig. 3. Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella soaking solution for 24 hours, 48 hours, 72 hours

**Levels of gladness Panelists against the Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella**

Favorite tests conducted against the panellist semi trained as much as 15 people. This test is done to determine the extent to which the consumer acceptance to Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella. This favorite Test covers the gladness of color, taste, tektur aroma and the whole of the product that is served. The following image Graphs 4 Test Results Gladness Panelists against Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella

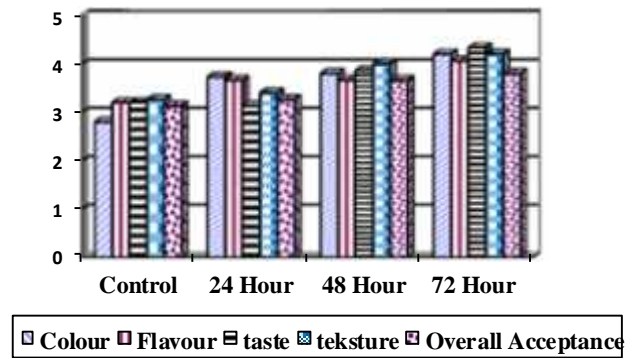


Fig. 4. Graph of the level of gladness Panelists against the Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella

**Colour**

From table I it can be seen that the highest joy against the color of Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella is sweetens with soaking solution for 72 hours, while the most preferred is sweetens with soaking solution for 0 hours. Statistically there is no real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 24 and 48 hours, while there is a real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 0 hours, 72 hours and 48 hours.

**TABLE I. LEVEL OF GLADNESS PANELISTS AGAINST THE CANDIED FRUIT OF *KOLANG-KALING (ARENGA PINNATA)* WITH ADDITION EXTRACT ROSELLA**

The Products	The average test results of gladness				
	Colors	Flavour	Taste	Texture	Overall Acceptance
Controls	2.80 <sup>a</sup>	3.20 <sup>a</sup>	3.20 <sup>ab</sup>	3.26 <sup>a</sup>	3.13 <sup>a</sup>
24 hours	3.73 <sup>b</sup>	3.66 <sup>ab</sup>	3.13 <sup>a</sup>	3.40 <sup>ab</sup>	3.26 <sup>ab</sup>
48 hours	3.80 <sup>b</sup>	3.66 <sup>ab</sup>	3.86 <sup>bc</sup>	4.00 <sup>bc</sup>	3.66 <sup>ab</sup>
72 hours	4.20 <sup>b</sup>	4.06 <sup>b</sup>	4.33 <sup>c</sup>	4.20 <sup>c</sup>	3.80 <sup>b</sup>

Description:

- Average from the results of the test of 30 panellist semi trained =5%
- The same code on the same column shows no real difference.
- The scale of the value, 1= very does not like, 2=does not like 3=just like 4=like 5=great delight

**Flavour**

Test results the highest joy sweetness fruit of *Kolang-kaling (Arenga Pinnata)* against the aroma is Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella with soaking solution for72 hours, while the most preferred is sweetens with soaking solution for0 hours. Statistically there is no real difference between the sweetness candied Kolang kaling (*Arenga Pinnata*) with soaking solution for 0 hours, 24 hours and 48 hours, while there is a real difference between the Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella with soaking solution for72 hours with goodies like *Kolang-kaling (Arenga Pinnata)* with soaking solution for 0 hours, 24 hours and 48 hours.

**Taste**

Test results the highest Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella the taste is something sweet fruit of *Kolang-kaling (Arenga Pinnata)*with soaking solution for72 hours, while the most preferred is sweetens with soaking solution for24 hours. Statistically there is no real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)*with soaking solution for0 hours, 24 hours, 48 hours, while there is a real difference between the candied *Kolang -kaling* with soaking solution for72 hours with goodies like fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for0 hours, 24 hours, 48 hours.

**Texture**

Test results the highest joy Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella the texture is sweetness fruit of *Kolang-kaling (Arenga Pinnata)*with soaking for 72 hours, an than the least desired is sweetens with soaking solution for 0 hours. Statistically there is no real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)*with soaking solution for0 hours, 24 hours, 48 hours, while there is a real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)*with soaking solution for72

hours with goodies like fruit of *Kolang-kaling (Arenga Pinnata)*with soaking solution for0 hours, 24 hours and 48 hours.

**Overall Acceptance**

The highest overall acceptance of Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella is sweetens with soaking solution for72 hours, while most is not their favorite color is the sweetness with soaking solution for0 hours. Statistically there is no real difference between all sample.

**The level of gladness primary students of sweetness fruit of sugar palm**

Test the gladness impossible with n against the panellist SD students as much as 30 people. Test using the hedonic tests *facial scale installation design* is done to know the extent to which the acceptance of primary students to Candied Fruit of *Kolang-kaling (Arenga Pinnata)*. This favorite Test covers the gladness of color, taste, tektur aroma and the whole of the product that is served. The following table II Test Results Gladness Panelists against the sweetness fruit of sugar palm

**TABLE II. LEVEL OF GLADNESS PANELISTS SD AGAINST CANDIED FRUIT OF *KOLANG-KALING (ARENGA PINNATA)* WITH ADDITION EXTRACT ROSELLA**

The Products	The average test results of gladness				
	Colors	Flavour	Taste	Texture	Overall Acceptance
Controls	3.93 <sup>a</sup>	4.06 <sup>b</sup>	4.23 <sup>b</sup>	4.10 <sup>a</sup>	3.76 <sup>b</sup>
24 hours	4.26 <sup>ab</sup>	3.16 <sup>a</sup>	3.20 <sup>a</sup>	3.90 <sup>a</sup>	3.73 <sup>b</sup>
48 hours	4.06 <sup>ab</sup>	3.23 <sup>a</sup>	3.50 <sup>a</sup>	4.36 <sup>a</sup>	3.76 <sup>b</sup>
72 hours	4.43 <sup>b</sup>	3.43 <sup>a</sup>	4.16 <sup>a</sup>	4.10 <sup>a</sup>	3.26 <sup>a</sup>

Can see the Figure 5 can be seen that the highest joy against the color of Candied of *Kolang-kaling (Arenga Pinnata)* with soaking solution for72 hours, while the most preferred is sweetens with soaking solution for0 hours. Statistically there is no real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)*with soaking solution for24 and 48 hours, while there is a real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)*with soaking solution for0 hours, 72 hours and 48 hours.

**Flavour**

Test results the highest joy Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella the aroma is sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for0 hours, while the most preferred is sweetens with soaking solution for24 hours. Statistically there is no real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for72 hours, 24 hours and 48 hours, while there is a real difference between the sweetness of kolannng *Kolang-kaling (Arenga Pinnata)* with soaking solution for0 hours with goodies like fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for72 hours, 24 hours and 48 hours.

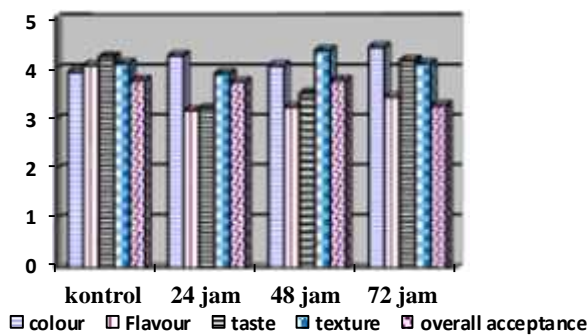


Fig. 5. Graph of the level of gladness Panelists SD Against Sweetness fruit of sugar palm

**Taste**

Test results the highest joy sweetness fruit of *Kolang-kaling (Arenga Pinnata)* against the taste is something sweet fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 0 hours, while the most preferred is sweetens with soaking solution for 24 hours. Statistically there is no real difference between the Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella with soaking *Kolang-kaling (Arenga Pinnata)* solution for 48 hours and 24 hours, and sweetness fruit of *Kolang-kaling (Arenga Pinnata)* by soaking 0 hours and 72 hours, while there is a real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with 72 hours soaking and 0 hours with goodies like fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 24 hours, and 48 hours.

**Texture**

Test results the highest joy Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella the texture is sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 72 hours, while the most preferred is sweetens with soaking solution for 0 hours. Statistically there is no real difference between with soaking *Kolang-kaling (Arenga Pinnata)* solution for 0 hours, 24 hours, 48 hours, while there is a real difference between the sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 72 hours with goodies like fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 0 hours, 24 hours and 48 hours.

**Overall Acceptance**

The highest overall acceptance of sweetness fruit of *Kolang-kaling (Arenga Pinnata)* is sweetens with soaking solution for 0 hours, 24 hours, an 48 hours, while most is not their favorite color is the sweetness with soaking solution for 72 hours. Statistically there is no real difference between all sample.

**Acceptance Consumers Sweetness of *Kolang-kaling (Arenga Pinnata)* Fruit**

TABLE III. LEVEL OF LOW PORTION OF

The Products	Low level portion of			
	Controls	24 hours	48 hours	72 hours
	4.6	4.2	4.2	4.3

In Table III it can be seen that the power level received the highest is sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 0 hours and the lowest level is the sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with 24 hours soaking and 48 hours. And the highest is sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with soaking solution for 72 hours.

TABLE IV. TEST RESULTS PROKSIMAT FRUIT OF *KOLANG-KALING (ARENGA PINNATA)* WITH THE ADDITION OF EXTRACTING ROSELLA ICE (PER 100 GR)

The Parameters	The Units	The results
Water	%	60 , 9
Abu	%	0 , 20
Protein	%	0 , 32
Fat	%	0 , 29
Carbo.	%	38 , 3
Energy	Shallow/100 gr	157
Food Fiber	%	2 , 16
Calcium (Ca)	Mg/100 gr	22 , 8

**Nutrient Content Per-Serving**

Sweetness fruit of *Kolang-kaling (Arenga Pinnata)* is one of the alternative food fiber-rich interlude. The amount of the contribution that interlude in recommend that each time you eat is 3 gr per once eat, based on calculations for the dishes snacks school children who approach the fibers as much as 30 g per day for the son of man while for the son of women is 28 g daily and to Gresik's snacks only contribute ten per cent then for daily consumption of snack Candied Fruit of *Kolang-kaling (Arenga Pinnata)* with addition extract Rosella has contributed the fiber in recommend to one portion of the food as much as 100 gr because the consumption of sweetness fruit of *Kolang-kaling (Arenga Pinnata)* that needed for students children age 11-12 th only 30 gr to sons and 28 gr to daughters. And if 100 gr to the quantity of food as traditional snacks of school children then has contributed 8 percent per day from the level of the adequacy of fiber per day.

TABLE V. THE QUANTITY OF FOOD CANDIED *KOLANG-KALING (ARENGA PINNATA)* WITH THE ADDITION OF EXTRACTING ROSELLA

The nutrient value information		
The quantity of food	100 gr	
The number of offerings per Packaging		
<b>The number of OFFERING</b>	<b>PER</b>	<b>Energy from Fat 0 Shallow</b>
Total energy : 150 shallow		
		% AKG
<b>Total fat</b>	0 g	0 %
<b>The protein</b>	0 g	0 %
<b>Carbohydrate</b>	38 g	13 %
<b>Total</b>		
The fiber food	2 g	8 %
Calcium		3 %
* percent AKG based on energy needs 2000 kcal energy needs you may be higher or lower		

<sup>a</sup>. Source : Balai Besar Industri Argo, September 2016

<sup>b</sup>. The calculation of the selling price of sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with Extracting Rosella ice

Sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with the addition of extracting Rosella ice in serve 100 gr in provide the price of Rp 5700. With the price of food can be used as food for interlude sweetness fruit of *Kolang-kaling (Arenga Pinnata)* is healthy

**Packaging for sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with the addition of Extracting Rosella ice**

In order for the display on the sweetness fruit of *Kolang-kaling (Arenga Pinnata)* is different with the other goodies like fruit kalling in jewelry using a plastic container glass pudding ber-diameter sizes 5 cm high center line 6 cm with the volume of 100 ml assigned to seal and served as many as 100 gr in accordance with the number of the adequacy of nutrition fiber in elementary school students. Plastic container that used have PP code (**Polypropylene**).

Where the PP code (**Polypropylene**) have the criteria as follows :

- The characteristics of this plastic usually transparent but not clear or cloudy.
- Cracteristic hard but flexible and strong, surface berlilin, resistant to the chemicals, heat and oil .
- Soften at a temperature of 140<sup>0</sup> C

Included dissemination for example packaging and labeling for sweetness fruit of *Kolang-kaling (Arenga Pinnata)* with

soaking solution forextracting interest Rosella ice can be seen in the picture 5.



Fig. 6. Packaging that used for sweetness fruit of sugar palm

IV. CONCLUSION

The formulation of the making of sweetness fruit of *Kolang-kaling (Arenga Pinnata)* using extracting Rosella ice eyelids can produce fruit sweetness of *Kolang-kaling (Arenga Pinnata)* red color with natural parents without using dye substances artificial sweetness fruit of *Kolang-kaling (Arenga Pinnata)* most preferred using the eyelids esktrak Rosella ice is sweetens with soaking solution for72 hours. Sweetness fruit of *Kolang-kaling (Arenga Pinnata)*with soaking solution for24 and 48 hour can be received by the panellist SD students, this data can be seen from the test results the joy of using the panellist SD students sweetens with soaking solution for24 and 48 hours highest value. The amount of sweetness fruit of *Kolang-kaling (Arenga Pinnata)* per 100 gr test results proksimat namely, water 60,9 gr, abu 0,20gr, protein 0,32gr, fat 0.29 gr, Carbohydrate 38.3 gr, Energy 157 kcal, calcium (Ca) 28.9 gr and fibers 2.16 gr.

REFERENCE

Babalola SO, Babalola AO, Aworth OC (2001) Compositional attributes of the calyxes of Roselle (*Hibiscus sabda- riffa* L.). The Journal of Food Technology in Africa 6(4): 133-134.

Budiman, Basuki,dkk. 2013, *Pokok Pokok Hasil Riskesdas Provinsi DKI Jakarta, Lembaga Penerbit Badan Litbangkes Kemenkes RI*, 2013. Jakarta

Muaris. 2015. *Pangan Sehat Tinggi Kalsium Kolang Kling dan Siwalan* , Gramedia, Jakarta

Suci, Euinike Sri Tyas. 2009. *Gambaran Perilaku Jajan Murid Sekolah Dasar di Jakarta*. Jakarta: Psikobuana. Vol. 1. No. 1.29-38.

Yin M, Chao C (2008) Anti-Campylobacter, anti-aerobic, and anti-oxidative effects of rosella calyx extract and protocatechuic acid in ground beef. International journal of food microbiology 127(1-2): 73-77