

1. Submitted to the journal "Food Research" (2-01-21)
2. First revision: Accepted with major revision (08-02-2021)
3. The Author submits articles that have been corrected according to input from reviewers (20-02-2021)
4. The Author was asked to improve the format with high accuracy in accordance with the food research journal (21-02-2021)
5. The chief editor of food research returns the article to be corrected again, especially regarding references that must really not have errors according to the guidelines (21-02-2021)
6. The author corrected the suggested article and submitted it back to the chief editor (13-03-2021)
7. The chief editor thanked the author for improving the article that had been done by the author (14-03-2021)
8. Paper Accepted for publication (16-05-2021)
9. The editor provides information that if the proof of the article is complete, he will be contacted immediately (17-05-2021)
10. Author inquired about the process Manuscript FR-2021-011 entitled " The Effect of saga milk (*Adenantera pavonina*, L) and Yoghurt Starter Culture Concentration on Process of Yogurt (21-09-2021)
11. The editor replied that his manuscript was still in the queue for production (21-09-2021)
12. The editor informed that the manuscript was ready to go into print (21-11-2021)
13. The author has read the final manuscript and agreed to produce it (29-11-2021)
14. Paper published (5-12-2021)

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Sab, 2 Jan 2021 jam 14.09

Professor Dr Son Radu Chief Editor Food Research
we hereby attach some attachments for the requirements for publishing my article. Hopefully, it can be received well
best regard,
Abu Amar

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Min, 3 Jan 2021 jam 01.57

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Subject: Re: Manuscript ID: FR-2021-011

Dear Dr. Abu Amar,
Please find attached a copy of the letter to author for your perusal. Thank you again for your submission to Food Research.

Best regards,
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Chief Editor

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Sen, 8 Feb 2021 jam 19.01

Dear Dr. rer. nat. Ir. Abu Amar,

Manuscript FR-2021-011 entitled " The Effect of saga milk (*Adenantera pavonina*, L) and Yoghurt Starter Culture Concentration on Process of Yogurt " which you submitted to Food Research, has been reviewed. The comments of the reviewer(s) are included in the attached file.

The reviewer(s) have recommended publication, but also suggest some revisions to your manuscript. Therefore, I invite you to respond to the reviewer(s)' comments and revise your manuscript. Once the revised manuscript is prepared, please send it back to me for further processing.

Because we are trying to facilitate timely publication of manuscripts submitted to Food Research, your revised manuscript should be submitted before or by 22nd February 2021. If it is not possible for you to submit your revision by this date, please let us know.

Once again, thank you for submitting your manuscript to Food Research and I look forward to receiving your revised manuscript.

Sincerely,
Professor Dr. Son Radu
foodresearch.my@outlook.com

Chief Editor, Food Research

The Effect of saga milk (*Adenanthera pavonina*, L) and Yoghurt Starter Culture Concentration on Process of Yoghurt

Abstract.

This study was aimed to obtain the formulation of saga milk (*Adenanthera pavonina*, L), with cow's milk and yogurt starter culture concentration which is optimal in the manufacturing of yogurt based saga milk. The analysis carried out periodically was on the change of pH value, total acids concentration, and lactic acid bacteria (LAB), as well as the preference test of product. The material used in this study were saga milk, cow's milk and commercial yogurt starter culture consist of *Lactobacillus acidophilus*, *Bifidobacterium*, and *Streptococcus thermophilus*. This experiment design was complete random design, factorial pattern (3x3). Factor a is concentration of starter culture consisting of three levels by 3% (a1), 4% (a2), 5% (a3), and formulation of saga milk compared to cow's milk (b) with ratio of 40:60 (b1), 50:50 (b2), 60:40 (b3), these experiment replicated three times. The result showed that with more cow's milk and yogurt starter culture concentration, the pH of yogurt decreased, which was accompanied by increased acidity. Although LAB in product with a starter culture 3% and 4% were slightly greater than in product with 5% starter but not significant ($p=0.05$). The addition of the starter culture increased the acceptance of panelists. The addition of saga milk, up to 60%, provides results that can still be accepted by panelists. The preferred saga yogurt has a white color like cow's milk, with sufficient viscosity and an acceptable taste

Keywords: *Adenanthera pavonina*, L, Organoleptic test, Saga Yogurt

1. INTRODUCTION

Yogurt is a processed product obtained from fermented dairy product that has several health benefits, and is usually mixed with a yogurt starter culture consisting of thermophilic lactic acid bacteria *Streptococcus thermophilus* and *Lactobacillus bulgaricus* ssp. *bulgaricus* (Aswal, et. al., 2012). According to (Winarno, et.al., 2003) fresh milk contains various microbes which produce various kinds of acids and flavors. However, only two types of LAB that are able to work together to change milk or cream into yogurt, namely from the type of LAB *Streptococcus thermophilus* and *Lactobacillus bulgaricus*. According to the Data Center for Agricultural Information Systems (Pusat Data dan sistem Informasi Pertanian, 2016), the increase in the availability of local cow's milk is usually accompanied by an increase in imported cow milk commodities. Another source of protein having a protein value that is almost the same as cow's milk is from some types of beans, such as soybeans and saga beans. Soybean protein values per 100 grams

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is 34.9%, while saga bean seeds per 100 grams is 30.6%, meaning that the protein content in both types of beans can be an alternative source of vegetable protein.

Import of soybeans in Indonesia in 2015 until 2020 is predicted to reach 3,398,008 tons (Aimon and Sutrantanto 2014). It is known that national production of soybean in average is only 0,9 million tons. In 2012 Indonesia's soybean needs reached 1,500.00 tons, while the maximum national soybean production only reached 900,000 tons, meaning that more 60% of soybean needs were still imported. Saga bean plant (*Adenanthera pavonina*, L) is a perennial plant that has the advantages as following, it grows well in various types of soils including low pH soil, and it is a large tree suitable for tropical wetland areas such as Indonesia and needs easy maintenance (Amar, 2017).

Saga trees have many benefits. *Adenanthera pavonina*, L bark extract, with various solvents can inhibit the growth of gram-positive and gram-negative bacteria including *Pseudomonas aeruginosa*, *Bacillus subtilis*, *Enterobacter aerogenes*, *Staphylococcus epidermidis*, and *Salmonella typhimurium* (Hussein, et. al., 2011). Other researcher used dry bark of *A. pavonina*, L extract. It is very useful. A dried and ground bark of *A pavonina*, L extract with methanol is able to have anti-inflammatory activity in animal experiments with mice (Arzumand, et. Al., 2018). The use of saga seeds is not only for tempeh (Amar and Nurani 2012) but it can also be extracted to produce heteropolysaccharide galactomannan as biopolymers (Melo, et. al., 2018). The raw material of yogurt is always identified with cow's milk. Actually vegetable milk such as soy milk or saga milk can also be produced into yogurt. The use of saga seeds as milk has been reported by another researcher who also used extract of sesame seeds to give a brighter color to saga milk (Yenrina, et. al., 214). Tempeh of Saga with certain starter culture has the potential to produce long chain fatty acids that are good for health (Amar and Nurani 2012). Another research reported that saga seeds can reduce cholesterol in quail eggs (Hartono, et. al., 2012).

Another research about the use of saga seeds has been reported, and the researcher stated that saga milk has the potential to improve neurological diseases; this is evidenced by a decrease in activity of

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Cholinesterase in the liver, heart and kidneys of mice as experimental animals. It is assumed that saga milk can facilitate the transfer of ions so they can penetrate cell membrane (Afolabi, et. al., 2018). Saga milk can also be made into fresh cheese, like fresh cheese made from cow's milk (Amar, et. al., 2017). In our study, saga milk is used as raw material for the yogurt process; to improve the taste and aroma it is better mixed with cow's milk. Besides, to simplify the process, a commercial yogurt starter culture was used. Three variations of the ratio between saga milk and cow's milk in the saga milk formula were used, and three concentration variations of the commercial yogurt were used in this experiment. Using these formulas, the yogurt flavor and taste were more palatable and the organoleptic test of product could be accepted by the panelists.

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The objective of this study was to obtain the optimal formula of saga milk and concentration of yogurt starter culture to produce yogurt which can be accepted organoleptically by the panelists. *Adenanthera pavonina*, L as one of Indonesia's biodiversity assets must be optimized for the welfare of humanity. The more benefits found from this saga tree (*Adenanthera pavonina*, L) the easier it is to maintain biodiversity in tropical countries like Indonesia. This will certainly affect the availability of world oxygen.

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2. MATERIALS AND METHODS

2.1 Procedures

The ingredients used were the saga bean seeds (*Adenanthera pavoniana*, L), originating from the campus of the Institut Teknologi Indonesia, Serpong; fresh plain pasteurized milk; skim milk powder; plain yogurt starter culture (Yummy fresh product), that was purchased at PT. Yummy Food Utama, Jakarta. Other ingredients were neutral aquadest; alcohol 70%; PP indicator 1%; NaOH 0.1N (Merck); MRS-Agar (CM0361-Oxoid) and sodium bicarbonate (NaHCO_3), Merck. The research was conducted at the Fermentation Laboratory and Microbiology Laboratory, Agro-Industrial Technology Study Program, Institut Teknologi Indonesia, Serpong, Tangerang Selatan, Banten. The research was conducted in a

completely randomized design consisting of two factors, namely factor A was concentration of commercial yogurt culture starter, factor B was milk formulation, factor A consisted of concentrations as follows: a1 = 3%; a2 = 4%; and a3 = 5%. Factor B consisted of a ratio between saga milk to cow's milk as follows: b1 = (40:60); b2 = (50:50); b3= (60:40), and The parameters measured were pH of Product (using Hanna Instrument, and before using, the instrument was calibrated with buffer solution); total acid calculated as lactic acid (Hadiwiyoto, 1994) and total LAB (Fardiaz, 1993) during fermentation process. The organoleptic test was carried out using the Fliedner and Wilhelmi (1993) method

2.2 Saga milk process

Saga bean seeds were soaked in water for 24 hours and then boiled for 60 minutes. Then, peeled to separate the skin and washed thoroughly. After that, the endosperm of the saga bean seeds was washed and followed by boiling for 15 minutes. Then, milled with 80° C hot water for 2 minutes followed by filtering and separating the pulp. The separated pulp was milled again for 30 seconds. After that, the filtration results were added with 0.5% NaHCO₃ and pasteurized at 80° C for 10 minutes. Saga milk was then ready for use.

2.3 Saga Yogurt Process and Chemical Analysis

The yogurt process was conducted as follows (picture 1). The measurement of the pH value of the product; 50 ml of the sample was prepared and filled in a beaker glass and the tip of the electrode inserted into the sample as deep as ±5 cm. The measurement result was read as the pH value. The determination of the total lactic acids in the sample was done by titration using 0.1N NaOH according to the Hadiwiyoto method (1994). Meanwhile to determine the total growth of LAB in the product using the Pour Plate method (Fardiaz, 1993) means that the sample was diluted until the determined concentration and then was cultured in the MRS-Agar media and incubated in 40°C. Then the sample was calculated for the total LAB.

2.4 Organoleptic Test

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The test used the Fliedner and Wilhelmi method (1993). The category of panelists used was not properly trained panelist, with ages range between 18-27 years. Panelists were asked to give an evaluation of the yogurt product, which was served by adding **coco-pandan syrup**, on scale of 1 to 9 for the performance, texture, aroma and taste attributes. The range of scores given was 1-9, starting from: like exceedingly (9), like very much (8), like (7), rather like (6), neutral (5), rather dislike (4), dislike (3), dislike very much (2) and dislike exceedingly (1). [Whether or not a product was accepted was subject to the following conditions. The score the panelists **must give is 6** or above. **If the percentage of panelists that give the above score is between 0-65 %**, it means **not accepted**; 66-72% it means **far from accepted or a very little accepted^e** (*weighty complaints, Product improvement required*); 73-79% it means **almost accepted^d** (*complaints given, improvements in individual quality characteristics or the total product necessary*); 80-86% it means **Accepted^c** (*not free of complaints, improvements in individual quality features desirable or necessary*); 87-93% it means **more than Accepted^b** (*almost free of complaints, no improvement necessary*); 94-100% it means **Exceptionally accepted^a** (*free from complaints, no improvement necessary*)]

3.RESULTS AND DISCUSSION

In the flow diagram above (Fig.1), pasteurization of cow's milk was carried out at a temperature of 95°C, which is higher than the pasteurization temperature of saga milk. This must be done so that the lactoglobulin and lactoalbumin present in cow's milk are completely denaturized. The denaturized condition causes the lactoglobulin and lactoalbumin to have no capability anymore to disturb the stability of yogurt gel. Meanwhile, the pasteurization saga milk only aims to kill pathogenic microorganism. Preliminary research that has been done (data unpublished) using the saga milk formula for yogurt shows that if the concentration of saga milk is more than 60%, the flavor of the resulting yogurt has a very sharp beany flavor and the gel formed was unstable. Therefore, only three milk formulas were chosen in this

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main research. Previous studies showed that soymilk fermented with *Lactobacillus plantarum* bacteria in the process of producing yogurt was able to improve the dysregulation of cholesterol metabolism in rats fed with a high cholesterol diet. (Kim, et. al., 2102). The concentration of starter culture used was only 3%, 4% and 5%. This was determined because the culture used was commercial plain yogurt. It is therefore believed that with 3 to 5% commercial yogurt culture starters are able to form normal yogurt. Even the 4th starter culture (F4) generation stored in the refrigerator for 25 days still has a 7-8 log CFU/ml of LAB viability and is still suitable for use as a starter culture (Fitrianingrum, et. al., 2016). Many researchers state that the culture can actually start at 1%. This is possible if the culture is freshly developed. This research used commercial yogurt starter culture, previous study used *L acidophilus* strain SBT 202 culture still has 100% viability for 7 days stored at 4°C (Elizabeth, et. al., 2011). However the same type of culture with different strain of *L acidophilus* strain NCFM at the same storage condition the viability is only 10% (Elizabeth, et.al., 2011). The yogurt culture starter used in our research was a mix culture containing *Streptococcus thermophilus*, *Lactobacillus acidophilus* and *Bifidobacterium bifidum*. The last two species include probiotic bacteria. Probiotic microorganism is able to produce more acetaldehyde than usual yogurt culture, thereby reducing the aroma of beany flavor in soy yogurt (Donkor, et. al., 2007). According to Chang, et. al., 2010 the mixed culture for soy yogurt produced good quality characteristic. It is expected that the saga milk-based yogurt also produces a reduced beany flavor.

3.1 pH Value

Fermentation occurs as indicated by the change in pH value of the yogurt, its acidity level. It can be seen in Figure 2 that the initial milk formulation has a pH ranging from 7.3 to 6.7 but after incubation for 6 hours the final pH value dropped to a range of 4.8 to 4.6. It was also observed that the yogurt formulation with more milk produced a higher decrease in pH. This condition indicates that an increase in

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the length of the incubation time, the number and the activity of microbes will increase the lactose which is converted into lactic acid, causing a decrease in pH. This is in line with Wardhani's research, (2015) which states that the longer duration of fermentation and the more starter concentration will be accompanied by a decrease in pH value.

In Figure 2 is shown the graph of the pH value of saga yogurt with starter variations: a1 (3%), a2 (4%), a3 (5%) and variations in milk formula: b1 (40:60), b2 (50:50), b3 (60:40) with culture consisting of: *L. acidophilus*, *Bifidobacterium* and *S. thermophilus*. The addition of saga milk was able to slow down the pH decrease even though it was not significant. This was because saga milk has a lactose content which is much less compared to cow's milk. Another previous study showed that the addition of date palm extract can accelerate the decrease in pH of yogurt drinks (Hartati, et.al., 2012). It is known that date palm extract has a high sugar content which can be used by lactic acid bacteria during fermentation.

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3.2 Total Acid value as lactic acid

Decreasing pH value and increasing concentration of lactic acid in yogurt saga during fermentation is caused by the lactose in cow's milk. Lactose is hydrolyzed by LAB in yogurt culture (*Lactobacillus acidophilus*, *Bifidobacterium* and *Streptococcus thermophilus*). The capability of LAB to use lactose in this fermentation process can be explained as follows: lactose will be hydrolyzed by the permease enzyme, which is then converted by lactase to galactose and glucose, and the glucose formed will then be metabolized to lactic acid.

In Figure 3 was shown that the addition of yogurt culture starter concentration tends to increase the concentration of lactic acid, although not significant. Total acid as lactic acid in the saga yogurt product is in the range of 0.12-0.336%, relatively smaller compared to other yogurt in several studies. But it is still comparable to soy yogurt, including saga yogurt derived from saga milk mixed with 40-60% cow's milk.

Previous soy yogurt studies have total lactic acid ranging from 0.13-0.40 (without the addition of cow's milk) while cow's milk yogurt has higher lactic acid content with range between 0.08-0.43% (Horáčková, et. al., 2015). In another study, yogurt derived from cow's milk added with tomato juice extract has higher lactic acid than the control sample in the range of 0.48-0.61%. This is relatively high due to high sugar content in tomato juice, which can stimulate the growth of LAB. (Savitry, et.al., 2017)

3.3 Total Lactic acid Bacteria

In Figure 4 it is shown that the total LAB in saga yogurt increases with increasing incubation time. It is easy to understand that because LAB grows and develops with incubation time. However, the number of LAB cells produced was relatively low 4 hours after fermentation, only reaching 5.45 Log CFU/ml. In another study using soy milk in the yogurt process, at the age of 16 hours, the *Lactobacillus bulgaricus* culture was able to reach 6.38 Log CFU/ml (Horáčková, et al., 2015).

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Why did the fermentation process only set to 6 hours?

Furthermore, another study with yogurt based on cow's milk and added with tomato juice at the age of 4 hours of fermentation reached 6.8-8.0 Log CFU/ml (Safitry, et. al., 2015). The low number of cells of LAB in saga yogurt is in accordance with the total acid in Figure 3. The question arises whether there is indeed a compound in saga milk which inhibits the growth of LAB. Previous study by Radziah, et. al., 2011 prove that saga seed oil has antibacterial properties. The increase of the concentration of yogurt starter culture also seems not to be significant to increase the number of LAB cells.

3.4 Organoleptic Test

The addition of saga milk in milk formula for manufacturing yogurt has an influence on the organoleptic test. With increasing concentrations of saga milk, the panelist assessment of the color, texture, aroma and taste of yogurt decreases. The taste of saga yogurt is similar to soy yogurt. Research with soy yogurt fermented with *Bifidobacterium bifidum* shows it can reduce total level of plasma cholesterol in rat

(Champagne, et. al., 2009). Another researchers in their experiment on rat suggest that soy yogurt can prevent hepatic lipid accumulation (Kitawaki, et. al., 2009). Therefore, health function must be highlighted in comparison to the taste of the product. Because the taste can be accustomed.

Table 1 illustrates the overall panelist acceptance to saga yogurt. Variations in acceptance for yogurt color ranged from low, only 37% of panelist who liked the saga yogurt, to 100% of panelists who liked this product color. The addition of fruit flavor gives a positive effect on the organoleptic test; strawberry is the most favored by panelists compared to other fruit flavors (Osundahunsi, et.al., 2007). Therefore, the organoleptic test in this research used Cocopandan syrup to increase the panelist's acceptability. Other research about soy yogurt shows that the use of orange fruit flavor or banana flavor also gives a positive effect on acceptance by panelists (Raesi, et.al., 2017). All saga yogurt inoculated with 5% yogurt starter culture were accepted by the panelists. This is indicated by 85% of the panelists choosing "likes" of the hedonic scale. On the contrary, for saga yogurt with either 3% or 4% yogurt starter culture, only one formula was almost accepted by the panelists.

4. CONCLUSION

All panelists noted that the yogurt with the addition of 5% starter culture had a white color, like cow's milk, with moderate viscosity, and was less acidic and even had a slight beany flavor. The appearance of moderate viscous of saga yogurt texture may also be caused by galactomannan biopolymer compounds that have saga seeds. Heteropolysaccharide in saga seeds have been isolated by Melo et al (2018) is nontoxic. Organoleptic test plays an important role in product acceptance which includes appearance/color, texture, aroma and taste. Generally the use of 5% yogurt starter culture in this process of saga yogurt was favored by panelists. Saga yogurt with a formulation of 50:50 (saga milk : cow's milk) and inoculated yogurt starter culture of 5% tended to be favoured by panellists because of the withe colour like cow's milk, with sufficient viscosity in texture and an acceptable taste , and flavor. The addition

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of the starter culture increased the acceptance of panelists. The addition of saga milk, up to 60%, provides results that can still be accepted by panelists. The preferred saga yogurt has a white color like cow's milk, with sufficient viscosity and an acceptable taste.

Conflict of interest: Disclose any potential conflict of interest appropriately.

I declare no conflict of interest.

ACKNOWLEDGEMENT

Thanks to Institut Teknologi Indonesia Serpong Tangerang Selatan for financial support during the research through the contract number: 081/KP/LPKT-ITI/VI/2019

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Raeisi, A., Derhami, V.F., Hosseini, A., and Dehghani, S. (2017). **Sensory Evaluation and Acceptability of Soy yogurt with Different Grouping of Treatments.** *Frontiers in Food & Nutrition Research*.3 (1):1-6

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<http://dx.doi.org/10.17728/jatp.272>

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Winarno, F.G., Ahnan, W.W., and Widjanto, W. (2003). *Flora Usus dan Yogurt*. MBRI Press [Indonesian]

Yenrina, R., Fauzan, A., Dini, R., and Windasari, E.S. (2014). **The effect of addition of sesame (*Sesamum indicum* L) filtrate towards the quality of tree saga bean (*Adenanthera pavonina*, L) Milk.** *Paskitan Journal of Nutrition* 13 (5): 275-280.

Commented [h24]: What is the title of the article?

Commented [h25]: What is the title of the article?

The Manufacturing of Saga Yogurt

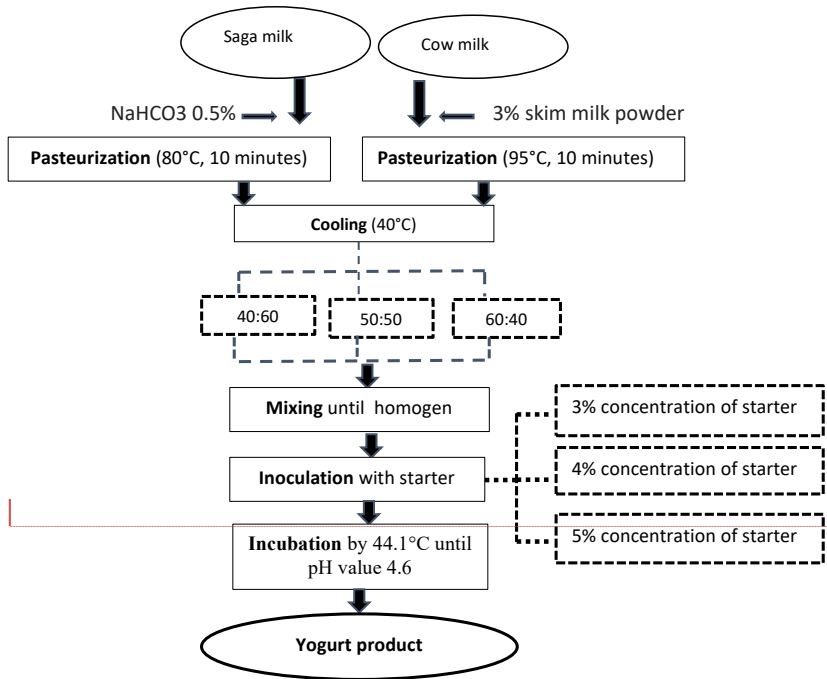


Figure 1: Production of saga Yogurt

Commented [h26]: It is not necessary to be included in the manuscript. Instead, briefly description should be included.

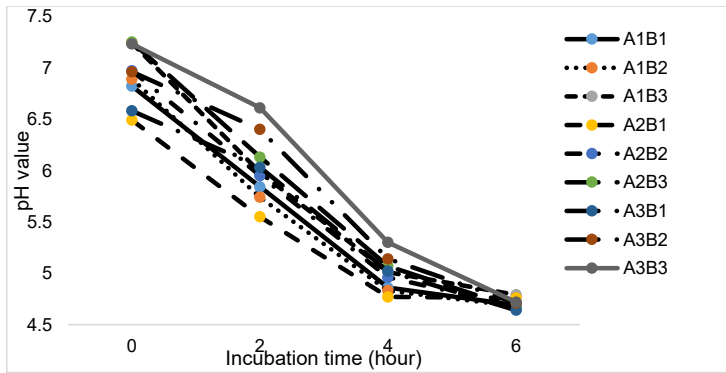


Figure 2: Total acid concentration of saga yogurt product with various starter culture concentrations and different ratios between saga milk and cow's milk. A1 = 3% starter culture, A2= 4% starter culture, A3 = 5% starter culture. B1 (saga milk :cow's milk = 40:60), B2 (saga milk: cow's milk = 50:50), B3 (saga milk: cow's milk = 60:40).

Commented [h27]: This title = Figure 3? Better: pH value of..

Commented [h28]: Is there any significance different between the treatments? SD or error bars should be included

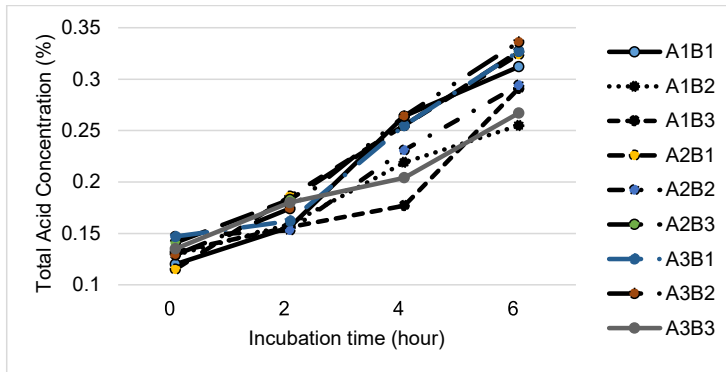


Figure 3: Total acid concentration of saga yogurt product with various starter culture concentrations and different ratios between saga milk and cow's milk. A1 = 3% starter culture, A2= 4% starter culture, A3 = 5% starter culture. B1 (saga milk : cow's milk = 40:60), B2 (saga milk: cow's milk = 50:50), B3 (saga milk: cow's milk = 60:40).

Commented [h29]: Is there any significance different between the treatments? Error bars should be included

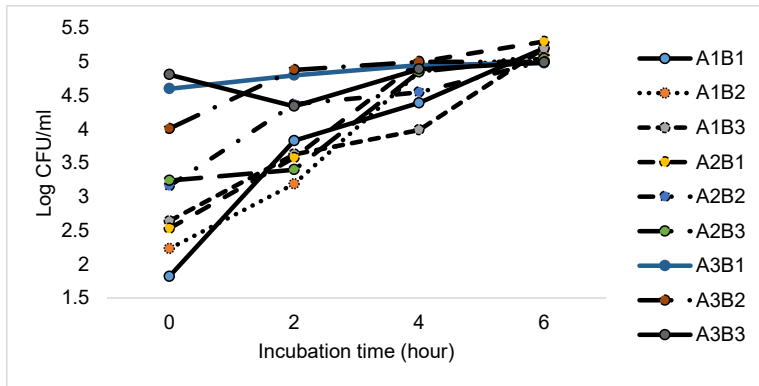


Figure 4: Total LAB of saga yogurt product with various starter culture concentrations and different ratios between saga milk and cow's milk. A1 = 3% starter culture, A2= 4% starter culture, A3 = 5% starter culture. B1 (saga milk:cow's milk = 40:60), B2 (saga milk: cow's milk = 50:50), B3 (saga milk:cow's milk = 60:40).

Commented [h30]: Is there any significance different between the treatments? Error bars should be included

Table 1. Acceptance percentage of saga yogurt*

Treatment		The acceptance of panelist (%)					
Starter culture concentration	Milk formula Saga milk:cow's milk	Appearance/color	Texture	Aroma	Taste	Overall Acceptance	Average acceptance
3%	40:60	67	80	50	50	NA	
	50:50	73	73	67	70	283	70.8 ^(e)
	60:40	67	67	67	57	NA	
4%	40:60	73	77	83	77	310	77.5 ^(d)
	50:50	37	67	50	57	NA	
	60:40	40	47	60	33	NA	
5%	40:60	90	90	73	87	340	85 ^(c)
	50:50	100	87	97	97	381	95 ^(a)
	60:40	83	87	90	83	343	86 ^(b)

*value in the same column with different letters are different category (see organoleptic test)

NA = Not Accepted

Commented [h31]: What does it mean?

From: Yahoo <aamar3884biugm@yahoo.com>
Sent: Sunday, 21 February, 2021 12:23 AM
To: Food Research <foodresearch.my@outlook.com>
Subject: Re: Manuscript ID: FR-2021-011

Der Professor Dr. Son Radu
Chief Editor of Food research

I have improved my paper with ID: FR-2021-011. (Two files are attached, namely the answered evaluation form and the revised paper)

I did this, as recommended by the reviewer. I was expecting it to be well received.

Best regard

Abu Amar

Re: Manuscript ID: FR-2021-011

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Min, 21 Feb 2021 jam 00.09

Dear Dr. rer. nat. Ir. Abu Amar,

Enclosed is a copy of the manuscript with additional comments on the format.

Please reformat necessary items strictly according to Food Research format (i.e. titles, spelling, references, citations).

Kindly revert to us at your earliest convenience.

Best regards,

Son Radu, PhD

Chief Editor

From: Yahoo <aamar3884biugm@yahoo.com>
Sent: Sunday, 21 February, 2021 12:23 AM
To: Food Research <foodresearch.my@outlook.com>
Subject: Re: Manuscript ID: FR-2021-011

Der Professor Dr. Son Radu
Chief Editor of Food research

I have improved my paper with ID: FR-2021-011. (Two files are attached, namely the answered evaluation form and the revised paper). I did this, as recommended by the reviewer. I was

expecting it to be well received.

Best regard. Abu Amar

Re: Manuscript ID: FR-2021-011

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Min, 21 Feb 2021 jam 22.36

Dear Dr. rer. nat. Ir. Abu Amar,

I'd like to advise that the references section be revised strictly according to Food Research format.

Please also ensure that they are all consistently written.

Best regards,

Son Radu, PhD

Chief Editor

From: Yahoo <aamar3884biugm@yahoo.com>

Sent: Saturday, 13 March, 2021 4:23 AM

To: Food Research <foodresearch.my@outlook.com>

Subject: Re: Manuscript ID: FR-2021-011

Dear Prof Son Radu, PhD

Chief Editor Food Research

I am very sorry that just now we improved the reference because I was sick for the past few days. I hope it's not too late. I have checked it according to the food research format, the attached manuscript which I have revised especially the references.

Thank you in advance

best regard

Dr rer nat Ir Abu Amar

Re: Manuscript ID: FR-2021-011

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Min, 14 Mar 2021 jam 00.02

Dear Dr. rer. nat. Ir. Abu Amar,

Thank you for taking the time to revise the manuscript accordingly. We will contact you again for further processing.

Best regards,

Son Radu, PhD

Chief Editor

From: Yahoo <aamar3884biugm@yahoo.com>

Sent: Monday, 15 March, 2021 1:36 PM

To: Food Research <foodresearch.my@outlook.com>

Subject: Re: Manuscript ID: FR-2021-011

many Thank Prof Radu.

best regard

abu amar

Food Research
FR-2021-011 - Decision on your manuscript
Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Min, 16 Mei 2021 jam 10.37

Dear Dr Abu Amar,

It is a pleasure to accept your manuscript for publication in Food Research journal. Please refer to the attachment for your acceptance letter.

Please note that all accepted manuscripts are subjected to Article Processing Charges (APC) as the Journal will provide full publishing services. Please fill in the article processing fee form attached with this letter and revert to us within five (5) working days. Once we have received the form, your article will be transferred to production.

Thank you for your fine contribution. We look forward to your continued contributions to the Journal.

Sincerely,

Dr Vivian New

Editor Food Research

Food Research

Re: FR-2021-011 - Decision on your manuscript

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Sen, 17 Mei 2021 jam 14.46

Dear Dr Amar,

Received with thanks. I'll contact you once the galley proof is ready for viewing.

Due to the high loads of manuscript in production, please expect some delay.

Thanks & Regards,

Vivian New,

Editor Food Research

From: Yahoo <aamar3884biugm@yahoo.com>

Sent: Monday, 17 May, 2021 11:51 AM

To: Food Research <foodresearch.my@outlook.com>

Subject: Re: FR-2021-011 - Decision on your manuscript

Thank you very much for your Information, attached the article processing fee form that I have filled in.

best regard,

Dr rer nat Ir Abu Amar, IPM
Department of Agro-Industrial Technology
Institut Teknologi Indonesia,
Serpong Tangerang Selatan Banten, Indonesia

From: Yahoo <aamar3884biugm@yahoo.com>

Sent: Tuesday, 21 September, 2021 8:38 AM

To: Food Research <foodresearch.my@outlook.com>

Subject: Re: FR-2021-011 - Decision on your manuscript

I am so sorry Prof Radu, I would like to ask you, what about my article entitled "The effect of saga milk (*Adenantera pavonina*, L.) and yogurt starter culture concentration on process of yogurt" is it still in the queue to be published?

Thank you in advance,

best regard

Dr rer nat Ir Abu Amar, IPM

Associate Professor

Senior Lecturer in Agro-Industrial Technology Department

Institut Teknologi Indonesia

Serpong Tangerang Selatan Indonesia

Re: FR-2021-011 - Decision on your manuscript

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Sel, 21 Sep 2021 jam 20.20

Dear Dr Amar,

Yes, it is in queue.

Thanks & Regards,

Vivian New

Editor

Food Research

Food Research

Re: FR-2021-011 - Article Production

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Min, 21 Nov 2021 jam 14.28

Dear Dr Amar,

Manuscript ID: FR-2021-011

Manuscript Title: The effect of saga milk (*Adenantera pavonina*, L.) and yoghurt starter culture concentration on process of yogurt

Before we can proceed with the article production, I would like to clarify a few points that I have commented in the manuscript. Please refer to the attachment. Please address the issues raised in the comments.

Please use the attached copy to make your revisions as it has been corrected to the Journal's format. Once you have done, kindly revert the copy to me as soon as possible. Please note the faster you respond, the quicker we will process your manuscript.

Thanks & Regards,

Vivian New

Editor

Food Research

Food Research

Re: FR-2021-011 - Article Production

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Sen, 22 Nov 2021 jam 20.04

Dear Dr Amar,

Received with thanks.

Thanks & Regards,

Vivian New (Editor Food Research)

From: Yahoo <aamar3884biugm@yahoo.com>

Sent: Monday, 22 November, 2021 3:33 PM

To: Food Research <foodresearch.my@outlook.com>

Subject: Re: FR-2021-011 - Article Production

Dear Ms. Vivian New,

I have improved my paper based on your correction (attached).

Thank you in advance

Dr rer nat Ir Abu Amar, IPM

Associate Professor

Food Research

Re: FR-2021-011 - Article Production

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Sab, 27 Nov 2021 jam 11.25

Dear Dr Amar,

Please address the comment in the manuscript.

Thanks & Regards,

Vivian New

Editor

Food Research

Food Research

Re: FR-2021-011 - Article Production

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Sen, 29 Nov 2021 jam 19.38

Dear Dr Amar,

Please refer to the attachment for the galley proof of your manuscript FR-2021-011 entitled 'The effect of saga milk (*Adenantera pavonina*, L.) and yoghurt starter culture concentration on process of yogurt' . Please check the content of the galley proof. If there are any mistakes, please comment and highlight in the PDF itself and revert to us within two (2) days of receipt. Once we have finalized the PDF version, your manuscript will be published online for early viewing.

Please see the attachment for the invoice INV21242. We hope that you can make the payment as soon as possible before 19 December 2021 for us to complete the publication of your manuscript. The manuscript information e.g. volume, issue, page numbers and DOI, will be provided once we have received the payment.

Thanks & Regards,

Vivian New

Editor

Food Research

Food Research

Re: FR-2021-011 - Article Production

Yahoo/Email Masuk

Food Research <foodresearch.my@outlook.com>

Kepada:Yahoo

Rab, 1 Des 2021 jam 10.07

Dear Dr Amar,

Please refer to the attachment for the edited galley proof. If the galley proof is fine, please approve the galley proof.

Thanks & Regards,
Vivian New
Editor Food Research

From: Yahoo <aamar3884biugm@yahoo.com>
Sent: Wednesday, 1 December, 2021 6:21 AM
To: Food Research <foodresearch.my@outlook.com>
Subject: Re: FR-2021-011 - Article Production

Dear Ms Vivian New,
Thank you very much for your information, I have read the final manuscript all is okay, but in Introduction I have one word Bazilia that I have highlighted should be removed. (attached), Oh ya, today I will finish the invoice number INV21242 in Bank
best regard
abu amar

Food Research
Re: FR-2021-011 - Article Published
Yahoo/Email Masuk
Food Research <foodresearch.my@outlook.com>
Kepada:Yahoo
Min, 5 Des 2021 jam 15.38
Dear Dr Amar,

Kindly be informed that your manuscript has been assigned to Food Research 2021, Vol. 5, Issue 6 (December). Your manuscript is currently available online and in press on our website <https://www.myfoodresearch.com>. Alternatively, you can download a copy of the manuscript by clicking on the following link:

[https://doi.org/10.26656/fr.2017.5\(6\).011](https://doi.org/10.26656/fr.2017.5(6).011)

We encourage you to share your published work with your colleagues. Thank you for your fine contribution. We hope that you continue to submit other articles to the Journal.

Thanks & Regards,
Dr Vivian New
Editor Food Research



- **VIEW ARTICLES**
 - **ISSUES**
 - **ABOUT**
- **FOR AUTHORS**
 - **FOR REFEREES**



FOOD RESEARCH

Volume 5, Issue 6

December 2021 (*In Progress*)

Mini Review

Bioactive compounds in garlic (*Allium sativum* L.) as a source of antioxidants and its potential to improve the immune system: a review

Subroto, E., Cahyana, Y., Tensiska, Mahani, Filianty, F., Lembong, E., Wulandari, E., Kurniati, D., Saputra, R.A. and Faturachman, F.

Available Online: 26 SEPTEMBER 2021

Subroto *et al.* reviewed the bioactive compounds in garlic (*Allium sativum* L.) as a source of antioxidants to improve the immune system.

Recent development in preparation of food packaging films using biopolymers

Suresh, S., Pushparaj, C. and Subramani, R.

Available Online: 7 NOVEMBER 2021

Suresh *et al.* reviewed on the recent development in preparation of food packaging films using biopolymers.

Global impact of food borne diseases on health

Mansour, A.A.A., Gupta, N.B. and Gupta, S.C.

Available Online: 7 NOVEMBER 2021

Mansour *et al.* reviewed on the global impact of food borne diseases on health.

Full Papers

Knowledge, awareness and practice of Vitamin D amongst adults living in the Qassim area before and during COVID-19 pandemic

Alhomaïd, R.M.

Available Online: 7 NOVEMBER 2021

The knowledge, awareness and practice of vitamin D amongst adults living in the Qassim area before and during COVID-19 pandemic was evaluated by Alhomaïd.

Effects of different extraction methods on the extraction yield, degradation of bixin and formation of harmful volatile compounds in the extracts from annatto seeds

Chuyen, H.V. and Eun, J.B.

Available Online: 7 NOVEMBER 2021

Chuyen and Eun evaluated the effects of different extraction methods on the extraction yield, degradation of bixin and formation of harmful volatile compounds in the extracts from annatto seeds.

Effects of transglutaminase enzyme on physicochemical properties of milkfish (*Chanos chanos*) surimi gel

Yuliana, I., Mahendradatta, M. and Laga, A.

Available Online: 7 NOVEMBER 2021

The effects of transglutaminase enzyme on physicochemical properties of milkfish (*Chanos chanos*) surimi gel was studied by Yuliana *et al.*

Bioprospecting brown algae (*Sargassum polycystum* C. Agardh) as a potential antioxidant additive in snack bar and its sensory evaluation

Nurcahyanti, A.D.R., Puika, V.I., Pramitasari, R. and Notario, D.

Available Online: 21 NOVEMBER 2021

Nurcahyanti *et al.* studied on brown algae (*Sargassum polycystum* C. Agardh) as a potential antioxidant additive in snack bar and its sensory evaluation

Prevalence of different mold genera and total aflatoxin content in frozen chicken meat and giblets: a health risk assessment study

Abdallah, K.M.E., Elhelaly, A.E., Hebishy, R.M.M., Darwish, W.S. and El-Sherbiny, H.M.M.

Available Online: 21 NOVEMBER 2021

Abdallah *et al.* studied on the prevalence of different mold genera and total aflatoxin content in frozen chicken meat and giblets.

The power of local foods in the Kebo-Keboan traditional ceremony of Alasmalang, Banyuwangi, Indonesia: a philosophical study and cultural promotion

Pribadi, N.H., Saddhono, K. and Suhita, R.

Available Online: 21 NOVEMBER 2021

Pribadi *et al.* introduced the local foods in the Kebo-Keboan traditional ceremony of Alasmalang Banyuwangi, Indonesia.

Emotional responses to different flavoured popcorns on watching different types of movies

Khajarearn, K.

Available Online: 28 NOVEMBER 2021

Khajarearn studied on the emotional responses to different flavoured popcorns on watching different types of movies.

Consumer preference of reduced-sodium Tom Yum Goong seasoning powder as affected by powdered dried shrimp genres and quantity

Koohathong, S. and Khajarearn, K.

Available Online: 28 NOVEMBER 2021

The consumer preference of reduced-sodium Tom Yum Goong seasoning powder as affected by powdered dried shrimp genres and quantity was studied by Koohathong and Khajarearn.

Bleaching optimization of tuna (*Thunnus* sp.) oil using response surface methodology

Suseno, S.H., Jacob, A.M., Nugraha, R. and Salia

Available Online: 28 NOVEMBER 2021

Suseno *et al.* optimized the bleaching of tuna (*Thunnus* sp.) oil using response surface methodology.

Different serving shapes of cooked jasmine rice on a plate affect the consumer's visual preference

Sophitanontrat, W. and Khajarern, K.

Available Online: 28 NOVEMBER 2021

Sophitanontrat and Khajarern studied the different serving shapes of cooked jasmine rice on plate affecting consumer's visual preference.

The transpiration and respiration as mechanisms of water loss in cold storage of figs

Lentzou D., Xanthopoulos G., Templalexis C. and Kaltsa A.

Available Online: 5 DECEMBER 2021

Lentzou *et al.* studied the transpiration and respiration as mechanisms of water loss in cold storage of figs.

The effect of saga milk (*Adenantera pavonina*, L.) and yogurt starter culture concentration on process of yogurt

Amar, A., Makosim, S., Anggraeni, S.T. and Listilia, N.

Available Online: 5 DECEMBER 2021

Amar *et al.* evaluation the effect of saga milk (*Adenantera pavonina*, L.) and yogurt starter culture concentration on process of yogurt.

Characterization and utilization of nixtamalised rice flours in the production of cake

Ogunbusola, E.M., Jaiyeoba, C.N., Alabi, O.O., Sanni, T.A., Araoye, K.T. and Ajayi, O.P.

Available Online: 5 DECEMBER 2021

Ogunbusola *et al.* characterized and utilized nixtamalised rice flours in the production of cake.

Effect of blanching, acid type, and temperature on the extraction of anthocyanin from *Tibouchina semidecandra* flower

Daniella, S., Kartawiria, I.S. and Marpaung, A.M.

Available Online: 5 DECEMBER 2021

The effect of blanching, acid type and temperature on the extraction of anthocyanin from *Tibouchina semidecandra* flower was studied by Daniella *et al.*

Antioxidant potential and low-density lipoprotein cholesterol (LDL-c) uptake of the black seed and honey mixture on human hepatocellular carcinoma (HepG2) cells

Mohd Isa, N.S., Ng, J.S., Tufail Ahmad, F., Kassim, M.N.I., Norhayati, H. and Yusof, H.M.

Available Online: 5 DECEMBER 2021

The antioxidant potential and low-density lipoprotein cholesterol (LDL-c) uptake of the black seed and honey mixture on human hepatocellular carcinoma (HepG2) cells were studied by Mohd Isa *et al.*

Sensory evaluation and antimicrobial activity of snack bar from black soybean and black rice containing anthocyanins

Pramitasari, R., Ariela, C. and Waturangi, D.E.

Available Online: 5 DECEMBER 2021

Pramitasari *et al.* evaluated the sensorial and antimicrobial properties of snack bar from black soybean and black rice containing anthocyanins.

Positive correlation between the number of bacteria in soybean tempeh with the bioactivity of its extract against enterotoxigenic *Escherichia coli* (ETEC) adhesion to eukaryotic cells

Pramudito, T.E., Florencia, G., Gunawan, M.R., Pratiwi, M.P. and Yogiara, Y.

Available Online: 5 DECEMBER 2021

The positive correlation between the number of bacteria in soybean tempeh with the bioactivity of its extract against enterotoxigenic *Escherichia coli* (ETEC) adhesion to eukaryotic cells was studied by Pramudito *et al.*

Effect of drying condition on physicochemical and antioxidant properties of dried *Moringa* leaf powder

Razzak, A., Roy, K.R., Sadia, U., Mominul, H., Suvro, T., Sikder, M.B.H. and Zzaman, W.

Available Online: 12 DECEMBER 2021

The effect of drying condition on physicochemical and antioxidant properties of dried *Moringa* leaf powder was studied by Razzak *et al.*

Physical and chemical properties of roselle extract nanocapsule with inulin, chitosan and maltodextrin as encapsulant

Yudhistira, B. and Choiriyah, N.A.

Available Online: 12 DECEMBER 2021

Yudhistira and Choiriyah studied on the physical and chemical properties of roselle extract nanocapsule with inulin, chitosin and maltodextrin as encapsulant.

Effects of maltodextrin on physicochemical properties of freeze-dried avocado powder

Chuacharoen, T., Moolwong, J. and Chysirichote, T.

Available Online: 12 DECEMBER 2021

The effects of maltodextrin on physicochemical properties of freeze-dried avocado powder was studied by the Chuacharoen *et al.*

Comparison of phenolic content and antioxidant activity of two common fruits of Bangladesh in solvents of varying polarities

Ghosh, R., Barua, P., Sikder, O., Saha, S., Mojumder, S. and Sikdar, D.

Available Online: 12 DECEMBER 2021

Ghosh *et al.* compared phenolic content and antioxidant activity of two common fruits of Bangladesh in solvents of varying polarities.

Impact of different thin layer drying temperatures on the drying time and quality of Butterfly pea flowers

Thuy, N.M., Minh, V.Q., Ben, T.C., Ha, H.T.N. and Tai, N.V.

Available Online: 19 DECEMBER 2021

The impact of different thin layer drying temperatures on the drying time and quality of Butterfly pea flowers was studied by Thuy *et al.*

Production and characterization of bacterial cellulose-alginate biocomposites as food packaging material

Agustin, S., Wahyuni, E.T., Suparmo, Supriyadi and Cahyanto, M.N.

Available Online: 19 DECEMBER 2021

The production and characterization of bacterial cellulose-alginate biocomposites as food packaging material was evaluated by Agustin *et al.*

Method modified AOAC 2015.01 in the microwave conditions and the addition of HCl during sample digestion for simultaneous Pb, Cd, Hg, and As in infant formula using ICP-MS: a method validation

Maulidyah, I.S., Faridah, D.N. and Lioe, H.N.

Available Online: 19 DECEMBER 2021

Maulidyah *et al.* modified the microwave conditions in method AOAC 2015.01 and validated the method with the addition of HCl during sample digestion for simultaneous Pb, Cd, Hg and As in infant formula using ICP-MS.

The investigation of key factors for successful implementation of sustainable halal food supply chain management

Azhar, A. and Tu, Y.T.

Available Online: 19 DECEMBER 2021

Azhar and Tu investigated on the key factors for successful implementation of sustainable halal food supply chain management.

Physico-chemical changes in “Xiem” banana cultivar (cultivated in Vietnam) during ripening and storage at different temperatures

Thuy, N.M., Linh, M.N., My, L.T.D., Minh, V.Q. and Tai, N.V.

Available Online: 19 DECEMBER 2021

Thuy *et al.* studied the physico-chemical changes in "Xiem" banana cultivar during ripening and storage at different temperatures.

Residue level and health risk assessment of organophosphorus pesticides in country bean and bitter gourd collected from Cumilla, Bangladesh

Rahman, A., Kaium, A., Khan, M.S.I., Islam, M.A., Begum, N., Proshan, M.D.H., Hossain, A., Mustafiz, S.S.B. and Chowdhury, M.T.I

Available Online: 19 DECEMBER 2021

The residue level and health risk assessment of organophosphorus pesticides in country bean and bitter collected from Cumilla, Bangladesh was studied by Rahman *et al.*

Colour and antibacterial activity of annatto extracts at various pH of distilled water solvent and extraction temperature

Handayani, I., Haryanti, P. and Sulisty, S.B.

Available Online: 28 DECEMBER 2021

Handayani *et al.* studied on the colour and antibacterial activity of annatto extracts at various pH of distilled water solvent and extraction temperature

Evolution of the biochemical and microbiological characteristics of mountainous Kefalotyri cheese during ripening and storage

Pappa, E.C., Kondyli, E., Vlachou, A.M., Kakouri, A. and Malamou, E.

Available Online: 28 DECEMBER 2021

The evolution of the biochemical and microbiological characteristics of mountainous Kefalotyri cheese during ripening and storage was studied by Pappa *et al.*

Electronic nose to differentiate between several drying techniques for *Origanum syriacum* leaves

Mudalal S. and Abu-Khalaf N.

Available Online: 28 DECEMBER 2021

Mudalal and Abu-Khalaf studied on the electronic nose to differentiate several drying techniques for *Origanum syriacum* leaves

Antioxidant status, nutrition facts, and sensory of spinach extract fortified wet noodles

Susanti, S., Dwiloka, B., Bintoro, V. P., Hintono, A., Nurwantoro, N. and Setiani, B.E.

Available Online: 28 DECEMBER 2021

The antioxidant status, nutrition facts and sensory of spinach extract fortified wet noodles were evaluated by Susanti *et al.*

Total gossypol and oxidation levels of refined cottonseeds oils and crude peanut oils produced in Burkina Faso

Zio, S., Tarnagda, B., Zongo, O., Boro, A., Elothmani, D., LE Meurlay, D., Lancon Verdier, V. and Savadogo, A.

Available Online: 31 DECEMBER 2021

Zio *et al.* studied on the total gossypol and oxidation levels of refined cottonseeds oils and crude peanut oils produced in Burkina Faso.

Addition of selected ginger extract on total phenolic, antioxidant and sensory properties of the syrup coconut sap (Ginger – SCS)

Karseno, Setyawati, R., Haryanti, P. and Tri Yanto

Available Online: 31 DECEMBER 2021

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