


comments for the author

**Participants**

Asia-Pacific Journal of Science and Tech Editor (kkurj)

Teguh Kurniawan (teguh)

Messages

Note	From
<p>1.Please sent your affiliation</p> <p>Title of article using "Times New Roman" size "12" and "bold"</p> <p>First Author¹, Second Auther², Third Author^{1, 2, *}</p> <p>¹ First affiliation, Address, City and Postcode, Country</p> <p>² Second affiliation, Address, City and Postcode, Country</p> <p>*Correspondent author: email address</p> <p>2.Please choose the reviewer for your article.</p> <p>The authors must suggest at least 3 potential reviewers to review their submitted paper. Only one reviewer from their countries is allowed. The other 2 must be in different countries. Those reviewers should not be, in one way or another, related to some of the authors. If the aforementioned criteria are not met, the paper will be rejected before sending to a handling editor. It should be noted that the editor may or may not choose those suggested reviewers.</p>	<p>kkurj</p> <p>2020-04-01</p> <p>02:19 PM</p>
Received, Thank you	<p>kkurj</p> <p>2020-04-01</p> <p>02:46 PM</p>
<p>Article text and Turnitin</p> <p> kkurj, 240590-Article Text-20200401.docx</p>	<p>kkurj</p> <p>2020-04-01</p> <p>02:48 PM</p>

comments for the author

**Participants**

Asia-Pacific Journal of Science and Tech Editor (kkurj)

Teguh Kurniawan (teguh)

Messages

1.Please sent your affiliation

kkurj

2020-04-01

Title of article using "Times New Roman" size "12" and "bold"

02:19 PM

First Author¹, Second Auther², Third Author^{1, 2, *}¹ First affiliation, Address, City and Postcode, Country² Second affiliation, Address, City and Postcode, Country

*Correspondent author: email address

Note

From

2.Please choose the reviewer for your article.

The authors must suggest at least 3 potential reviewers to review their submitted paper. Only one reviewer from their countries is allowed. The other 2 must be in different countries. Those reviewers should not be, in one way or another, related to some of the authors. If the aforementioned criteria are not met, the paper will be rejected before sending to a handling editor. It should be noted that the editor may or may not choose those suggested reviewers.

Received, Thank you

kkurj

2020-04-01

02:46 PM

Article text and Turnitin

kkurj

2020-04-01

02:48 PM

[kkurj, 240590-Article Text-20200401.docx](#)



Teguh Kurniawan <teguh@untirta.ac.id>

[Asia Pac J Sci T] Editor Decision

Asia-Pacific Journal of Science and Tech Editor via Thai Journals Online (ThaiJO) <admin@tci-thaijo.org> 22 Oktober 2020 08.50

Balas Ke: Asia-Pacific Journal of Science and Tech Editor <apst.kku@gmail.com>

Kepada: "Prof. Dr. Yeyen Maryani" <yeyen.maryani@untirta.ac.id>, "Mr. Agus Rochmat" <agusrochmat@yahoo.co.id>, "Dr. Jayanudin" <jayanudin@untirta.ac.id>, Teguh Kurniawan <teguh@untirta.ac.id>

Prof. Dr. Yeyen Maryani, Mr. Agus Rochmat, Dr. Jayanudin, Teguh Kurniawan:

We have reached a decision regarding your submission to Asia-Pacific Journal of Science and Technology, "The The nutritional value change of sugars, minerals, and antioxidant during traditional brown sugar processing from Arenga pinnata".

Our decision is to: **Accept Submission.**

Asia-Pacific Journal of Science and Tech Editor
apst.kku@gmail.com

Best regards,

Mr. Kitimasak Sittijanda

Editorial Assistant
Asia-Pacific Journal of Science and Technology
Division of Research Administration
Khon Kaen University, Thailand
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Teguh Kurniawan <teguh@untirta.ac.id>

[Asia Pac J Sci T] Editor Decision

Asia-Pacific Journal of Science and Tech Editor via Thai Journals Online (ThaiJO) <admin@tci-thaijo.org> 25 Desember 2020 08.57

Balas Ke: Asia-Pacific Journal of Science and Tech Editor <apst.kku@gmail.com>

Kepada: "Prof. Dr. Yeyen Maryani" <yeyen.maryani@untirta.ac.id>, "Mr. Agus Rochmat" <agusrochmat@yahoo.co.id>, "Dr. Jayanudin" <jayanudin@untirta.ac.id>, Teguh Kurniawan <teguh@untirta.ac.id>

Prof. Dr. Yeyen Maryani, Mr. Agus Rochmat, Dr. Jayanudin, Teguh Kurniawan:

The editing of your submission, "The The nutritional value change of sugars, minerals, and antioxidant during traditional brown sugar processing from Arenga pinnata ," is complete. We are now sending it to production.

Submission URL: <https://so01.tci-thaijo.org/index.php/APST/authorDashboard/submission/240590>

Asia-Pacific Journal of Science and Tech Editor
apst.kku@gmail.com

Best regards,

Mr. Kitimasak Sittijanda

Editorial Assistant
Asia-Pacific Journal of Science and Technology
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Khon Kaen University, Thailand
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[Asia Pac J Sci T] Submission Acknowledgement

Editor of Asia-Pacific Journal of Science and Technology via Thai Journals Online (ThaiJO)

29 Maret 2020

<admin@tci-thaijo.org>

11.23

Balas Ke: Editor of Asia-Pacific Journal of Science and Technology <apst.kku@gmail.com>

Kepada: Teguh Kurniawan <teguh@untirta.ac.id>

Teguh Kurniawan:

Thank you for submitting the manuscript, "The The nutritional value change of sugars, minerals, and antioxidant during traditional brown sugar processing from Arenga pinnata " to Asia-Pacific Journal of Science and Technology. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

Manuscript URL: <http://so01.tci-thaijo.org/index.php/APST/authorDashboard/submission/240590>

Username: teguh

If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

Editor of Asia-Pacific Journal of Science and Technology

Response to the Referee's comments

Reviewer #A: I have gone through the manuscript submitted for publication in Asia-Pacific Journal of Science and Technology entitled Effect of heating time on the nutritional value of sap during traditional brown sugar processing from *Arenga pinnata*. The topic covered the aims and scope of the journal. The underlying work focuses on monitoring of changes in sugar profiles, minerals and antioxidant activity during production process of palm sugar. The authors revealed changes of sugar compositions from raw materials compared to products. There were also changes in the amount of glucose, fructose, sucrose and Fe during the production process of brown sugar, as well as, the progression of antioxidant capacity. The manuscript contains some interesting points and easy to follow. However, the manuscript needs corrections and clarifications in the following before publication:

1. Page 1, line 6: “the nutritional value of sugar...” might be easier understanding by “sugar profiles and contents..”.

Authors' answer:

The manuscript has been revised. Please see page 1, line 6.

2. Page 1, line 9-10: “The mineral content analysis,i.e., Fe, Zn, Cu, Mn metals were...” should be correct and concise by “The mineral content analysis, i.e. Fe, Zn, Cu, Mn were...”.

Authors' answer:

The manuscript has been revised. Please see page 1, line 9-10.

3. Page 1, line 11: “antioxidant contents” should be better in scientific technical term by “antioxidant capacity” or “antioxidant activity”.

Authors' answer:

The manuscript has been revised. Please see page 1, line 11.

4. Page 1, line 12: “..change in carbohydrate composition from only sucrose..” which could be Ok and correct with “..change in the composition only from sucrose..”.

Authors' answer:

The manuscript has been revised. Please see page 1, line 12.

5. Page 1, line 14: “...90 minutes..” please change to “...90 min..”

Authors' answer:

The manuscript has been revised. Please see page 1, line 14.

6. Page 1, line 15-17: “Analysis of the mineral content of Fe, Zn, Cu and Mn showed that the Fe content was the highest among other minerals with 132.39 mg/Kg at 90 min. Analysis of antioxidant content during the process of palm sugar production showed the highest value at

The manuscript has been revised. Please see page 1, line 15-16.

90 min with 179.99 mg ascorbic acid/kg sample.” are suggested to be more concise rewritten as “In case of mineral content, Fe was the highest level among others as 132.39 mg/Kg at 90 min. The highest antioxidant capacity of 179.99 mg ascorbic acid/Kg sample was observed at 90 min during the process of palm sugar production.”.

Authors’ answer:

The manuscript has been revised. Please see page 1, line 15-17

7. Page 1, Introduction (line 21-46): 5 paragraphs in this section could be rewritten together and reduced to be 2-3 paragraphs.

Authors’ answer:

Thank you for your suggestion. We think that the 5 paragraphs are much better to convey our messages.

8. Page 1, line 27: The wording “..just like..” could be rewritten more formal as “...similarly to..”.

Authors’ answer:

The manuscript has been revised. Please see page 1, line 15-17

9. Page 1, line 28: “There are some advantages..” should be better understanding with “There are some more advantages..”.

Authors’ answer:

The manuscript has been revised. Please see page 1, line 27

10. Page 1, line 28-29: “The macronutrient and micronutrient in...” would be compact with “The macro- and micronutrient in...”.

Authors' answer:

The manuscript has been revised. Please see page 1, line 27-28

11. Page 1, line 29: "...higher as compared to the cane sugar." would be better understanding with "...higher than those found in the cane sugar."

Authors' answer:

The manuscript has been revised. Please see page 1, line 28

12. Page 1, line 29: "The Arenga brown sugar also..." might be more formal with "Moreover, the Arenga brown sugar..."

Authors' answer:

The manuscript has been revised. Please see page 1, line 28-29

13. Page 1, line 30: "One more thing is the Arenga..." might be more formal with "In addition, the Argenga..."

Authors' answer:

The manuscript has been revised. Please see page 1, line 29

14. Page 1, line 32: "...is generally using the traditional simple method." could be better following with "...is generally done using the..."

Authors' answer:

The manuscript has been revised. Please see page 1, line 28-29

15. Page 1, line 35: "...and caramel aroma smelled." could be better followed with "...and generated caramel aroma."

Authors' answer:

The manuscript has been revised. Please see page 1, line 36

16. Page 1, line 37: "...the nutritive value change particularly the sugar of glucose, fructose.." would be more compact and corrected with "...the nutritive value changes particularly glucose, fructose.."

Authors' answer:

The manuscript has been revised. Please see page 1, line 37-38

17. Page 1, line 41: "...traditional Arenga sugar make the Maillard and.." could be better understanding with "...traditional Arenga sugar leads to the Maillard and..".

Authors' answer:

The manuscript has been revised. Please see page 1, line 28-29

18. Page 1, line 46: "...the content of glucose fructose, and sucrose, minerals, and antioxidant." could be more corrected with "...the content of glucose, fructose, sucrose, minerals, and antioxidant capacity."

Authors' answer:

The manuscript has been revised. Please see page 1, line 47.

19. Page 1, line 49-50, 2.1 Material: Please give some more sample information. Which production year? The condition of storage? How was material handle during transportation to the lab? Did material was checked and screened for basic properties, e.g. moisture content, pH and so on?

Authors' answer:

The manuscript has been revised. Please see page 1, line 54-56.

20. Page 1, line 52: "..with High Performance.." would be better by "...using High Performance...".

Authors' answer:

The manuscript has been revised. Please see page 2, line 69.

21. Page 1, line 53: "..were frequently analyzed.." would be better understanding by "...were effectively analyzed..".

Authors' answer:

The manuscript has been revised. Please see page 2, line 70.

22. Page 1, line 55-56: "Mobile phase was acetonitrile 85% with flowrate 1mL/min." would be better correct and understanding by "Mobile phase of this isocratic elution was acetonitrile 85% with flowrate of 1 mL/min..".

Authors' answer:

The manuscript has been revised. Please see page 2, line 72.

23. Page 2, line 61: "A weight of 0.5 g sugar..." please give +SD as "A weight of 0.5 + XX g sugar..."

A weight of 0.5 ± 0.0125 g sugar... Please see page 2, line 76.

24. Page 2, line 61: "...a volumetric flask." please define information as "...a volumetric flask as a stock reference standard."

Authors' answer:

The manuscript has been revised. Please see page 2, line 77.

25. Page 2, line 62: please add an informative sentence before the last sentence, which is

"Different concentrations of sugar standard mixture were done for quantification."

Authors' answer:

The manuscript has been revised. Please see page 2, line 77.

26. Page 2, line 65: "A weight of 10 g sample..." please give +SD as "A weight of 10 + XX g sample..."

A weight of 10 ± 0.25 . Please see page 2, line 81.

27. Page 2, line 66-67: "The solution was filtered and the filtrate was concentrated using rotavapor." would be concise and easier to follow as "The solution was filtered and concentrated using a rotary evaporator."

Authors' answer:

The manuscript has been revised. Please see page 2, line 83.

28. Page 2, line 71-72: "Analysis of minerals performed by using atomic absorption spectrometry (AAS) was used to determine the minerals of Fe, Cu, K, and Na in grapes (9), analyse 11 element in dates (10) and determine the minerals in palm sugar, arenga sugar and

cane sugar (11).” could be better understanding as “Analysis of minerals performed by using atomic absorption spectrometry (AAS) as described for Fe, Cu, K, and Na in grapes (9), 11 elements in dates (10) and minerals in palm sugar, arenga sugar and cane sugar (11).”.

Authors’ answer:

The manuscript has been revised. Please see page 2, line 87-89.

29. Page 2, line 73: “In this experiment, the minerals content of Fe, Cu, Zn, and Mn...” could be more compact with “In this experiment, Fe, Cu, Zn, and Mn...”.

Authors’ answer:

The manuscript has been revised. Please see page 2, line 89.

30. Page 2, line 80: “Added 10 mL H₂O₂ 30% gradually.” should be changed to “Ten mL of H₂O₂ was gradually added.”.

Authors’ answer:

The manuscript has been revised. Please see page 2, line 95.

31. Page 2, line 81-82: “Covered the sample with the watch glass and ...” should be changed to “The sample was covered with the watch glass and...”.

Authors’ answer:

The manuscript has been revised. Please see page 2, line 96-97.

32. Page 2, line 83: “...using filter paper Whatman.” please specify a No. of Whatman filter paper as “...using filter paper Whatman No. XX.”.

filter paper Whatman No. 42. Please see page 2, line 98.

33. Page 2, line 89: “...ferrous (Fe(II)) which..” please put a comma symbol as “...ferrous (Fe(II)), which..”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 104.

34. Page 2, line 91: “..and fast method..” should be changed to “..and robust..”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 106.

35. Page 2, line 91: “The analysis of antioxidant... should be changed to “Antioxidant capacity of...”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 106.

36. Page 2, line 92: “...Brown sugar...” does it need to be written by a capital letter? Could it be as “...brown sugar...”?

Authors’ answer:

The manuscript has been revised. Please see page 3, line 107.

37. Page 2, line 93: “An amount of 5 mg extract...” please give +SD as “An amount of 5 + XX

An amount of $5 \pm 0,125$.

The manuscript has been revised. Please see page 3, line 108.

mg extract...”.

38. Page 2, line 94: “...buffer phosphate 0.2 M and 1 mL K₃Fe(CN)₆ 1%. Then, the solution was incubated for...” would be easier to follow as “...0.2 M phosphate buffer and 1 mL of 1% K₃Fe(CN)₆. The solution was incubated for...”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 109.

39. Page 2, line 95: “...the 1 mL trichloroacetic...” could be understood without “the” as ““... 1 mL trichloroacetic...”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 108.

40. Page 2, line 96: “Added 1 mL of distilled water...” should be changed to “1 mL of distilled water was added...”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 111.

41. Page 2, line 98: “..in various range of concentration.” could be concise as “..in various concentrations.”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 113.

42. Page 2, line 103-104: “..amino acid which is an important precursor to synthesize a new volatile component.” could be better following as “ .. amino acids, which are important precursors to synthesize new volatile components.”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 118.

43. Page 2, line 104: “...released amino acid substrate which...” should re-written as “...released amino acid substrates, which...”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 120.

44. Page 2, line 105: “..reactive component of monosaccharide..” should be plurals as “...reactive components of monosaccharides..”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 121.

45. Page 2, line 106: “..traditionally use a high temperature in long period of time.” could be better understanding by “...traditionally condition by heat treatment for long time.”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 121.

46. Page 2, line 107: “The change in content...” should be plural as “The changes in content...”.

Authors’ answer:

The manuscript has been revised. Please see page 3, line 123.

47. Page 2, line 108: “...sugar processing was studied using HPLC as presented in Figure 1 and 2.” could be easier following as “...sugar processing was presented in this study using HPLC chromatogram as shown in Figure 1 and 2.”.

Authors' answer:

The manuscript has been revised. Please see page 3, line 124.

48. Page 3, line 110: The name of Figure 1 should be HPLC chromatogram of mono- and di-saccharides found in *Arenga pinnata*.

Authors' answer:

The manuscript has been revised. Please see page 3, line 126.

49. Page 3, line 113: The name of Figure 2 should be HPLC chromatogram of mono- and di-saccharides found in brown sugar.

Authors' answer:

The manuscript has been revised. Please see page 3, line 129.

50. Page 3, line 115: "Arenga sap contain mostly in sucrose and small amount..." might be better understanding as "Arenga sap contained sucrose as a majority and small amount...".

Authors' answer:

The manuscript has been revised. Please see page 4, line 131.

51. Page 3, line 115: "The sugar with high.." might be better catching up in this information by re-written as "The sweetener with high..".

Authors' answer:

The manuscript has been revised. Please see page 4, line 131.

52. Page 3, line 116: "The sucrose give less effect..." should be changed to "Sucrose gives less effect...".

Authors' answer:

The manuscript has been revised. Please see page 4, line 132.

53. Page 3, line 118: "The carbohydrate in Brown sugar at 120oC was fructose, glucose and sucrose as presented in Figure 2." should be changed to "Mono- and di-saccharides in brown sugar at 120oC were fructose, glucose and sucrose identified as shown in Figure 2.".

Authors' answer:

The manuscript has been revised. Please see page 4, line 134-135.

54. Page 3, wording in the Table 1: “Sample” and “Carbohydrate” should be changed to “Samples” and “Mono- and Di-saccharide profiles”.

Authors’ answer:

The manuscript has been revised. Please see page 4 Table 1.

55. Page 3, line 122: “...and is commonly used...” should be changed to “...and commonly used...”.

Authors’ answer:

The manuscript has been revised. Please see page 4, line 139.

56. Page 3, line 123: “..polysaccharide that has pharmaceutical functions and is good for diets..” might be better understanding as “...disaccharide that has pharmaceutical functions and good for diets...”.

Authors’ answer:

The manuscript has been revised. Please see page 4, line 140.

57. Page 3, line 124: “..colorless products are formed which..” might be better understanding by “..colorless products are produced, which..”.

Authors’ answer:

The manuscript has been revised. Please see page 4, line 141.

58. Page 3, line 125: “...caused not only by heating but also...” a comma symbol should be put as “...caused not only by heating, but also...”.

Authors’ answer:

The manuscript has been revised. Please see page 4, line 142.

59. Page 3, line 126-127: “Sucrose is found in sugar cane and is naturally found in various plants (16).” could be easier following as “Sucrose is naturally found in sugar cane various plants (16).”.

Authors’ answer:

The manuscript has been revised. Please see page 4, line 143-144.

60. Page 3, line 127-129: “Other studies say that the degradation or hydrolysis reaction of sucrose can occur during the process of microbial fermentation in palm sugar. Invertase enzymes hydrolyze sucrose into glucose and fructose (13, 17).” should be changed to “Other studies mentioned that the degradation or hydrolysis of sucrose could be occur during the process of microbial fermentation in palm sugar. Invertase enzymes hydrolyze sucrose into glucose and fructose (13, 17) as described in the equation 1.”.

Authors’ answer:

The manuscript has been revised. Please see page 4, line 144.

61. “In this study, there was a change in carbohydrate component of carbohydrates from palm sugar which only contained sucrose and fructose to sucrose, fructose and glucose, this was caused during the heating process there were some sucrose components that were degraded to glucose as shown in Table 1. The changes also observed in the composition of carbohydrates during the process of making palm sugar every 30 minutes.” should be easier to follow as “In this study, there was a change in mono-and di-saccharide components of palm sugar, which only sucrose and fructose converted to sucrose, fructose and glucose. This was caused during the heating process. There was sucrose component degraded into glucose as shown in Table 1. The changes also observed in the composition of carbohydrates during the process of making palm sugar in every 30 min.”.

Authors’ answer:

The manuscript has been revised. Please see page 4, line 152-155.

62. Page 4, line 143: “...sugar palm sugar...” should be changed to “...the palm sugar...”.

Authors’ answer:

The manuscript has been revised. Please see page 5, line 160.

63. Page 4, line 144: “..favoured to produce compounds..” should be changed to “...favoured to form...”.

Authors’ answer:

The manuscript has been revised. Please see page 5, line 161.

64. Page 4, line 144: “...sweet taste which...” a comma symbol should be put as “...sweet taste, which...”.

Authors’ answer:

The manuscript has been revised. Please see page 5, line 161.

65. Page 4, line 145: "...reaction which occurs on heating for 2 hours at 110oC..." should be written as "...reaction, which occurs during heating for 2 h at 110oC..."

Authors' answer:

The manuscript has been revised. Please see page 5, line 162.

66. Page 4, line 146: "...the processes of deterioration.." should be better in "...deterioration process..."

Authors' answer:

The manuscript has been revised. Please see page 5, line 163.

67. Page 4, line 148: "...and fructose which is affected..." a comma symbol should be put as "...and fructose, which is affected..."

Authors' answer:

The manuscript has been revised. Please see page 5, line 165.

68. Page 4, line 150: "It is most likely that the Maillard reaction takes place." would be getting better followed up as "It is might be due to a starting point of Maillard reaction."

Authors' answer:

The manuscript has been revised. Please see page 5, line 169.

69. Page 4, line 150-153: "The sucrose content increases and the highest sucrose content is at 90 min which is 90.35% because of the water was evaporated. Sucrose is a disaccharide that can form glucose and fructose monosaccharides. The fast Maillard reaction is hydrolysed the fructose whereas sucrose is not hydrolysed (20)." should be re-written as "The sucrose content increases and the highest content of 90.35% was obtained at 90 min because of water evaporation. Sucrose is a disaccharide formed by glucose and fructose as key substrates. The fast Maillard reaction resulted from fructose hydrolysis, whereas sucrose is not hydrolysed (20)."

Authors' answer:

The manuscript has been revised. Please see page 5, line 169-172.

68. Page 4, line 157: "...palm sugar are.." should be a past tense as "...palm sugar were.."

Authors' answer:

The manuscript has been revised. Please see page 5, line 176.

69. Page 5, line 163: "...the minerals content of Fe, Zn..." could be more concise as "...the content of Fe, Zn...".

Authors' answer:

The manuscript has been revised. Please see page 5, line 183.

70. Page 5, line 164: "...that the organic fertilizing system..." could be changed to "...that an organic fertilizing system...".

Authors' answer:

The manuscript has been revised. Please see page 5, line 184.

71. Page 5, line 164-165: "...sugar which has a better metal mineral content. This study also concludes that the nutritional content of food is not only..." should be re-written as "...sugar resulted in a better mineral content. It was also confirmed that the nutritional content of food is not only...".

Authors' answer:

The manuscript has been revised. Please see page 5, line 185.

72. Page 5, line 167: "...open pan cooking method.." could be understood without the word "method" as "...open pan cooking, freeze dry..".

Authors' answer:

The manuscript has been revised. Please see page 5, line 187.

73. Page 5, line 169: "...evaporation method at 28.20% followed by.." should be correct to "...evaporation at 28.20%, followed by...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 189.

74. Page 5, line 170-171: "They concluded that slow and controlled temperatures were able to maintain the iron metal content which functions a..." should be correct as "They concluded that slowly controlled temperatures were able to maintain iron content, which functions a...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 190.

75. Page 5, line 171: "The minerals content of Fe.." could be concise as "The content of Fe..."

Authors' answer:

The manuscript has been revised. Please see page 6, line 191.

76. Page 5, line 172: "...palm sugar analysed from 30 to 120 min." could be concise as "...palm sugar between 30 to 120 min."

Authors' answer:

The manuscript has been revised. Please see page 6, line 192.

77. Page 5, line 173-174: "This is consistent with previous studies.." should be written as "This was in agreement with previous studies.."

Authors' answer:

The manuscript has been revised. Please see page 6, line 193.

78. Page 5, line 174-175: "...time of heating period (22)." could be understood as "...time of heating (22)."

Authors' answer:

The manuscript has been revised. Please see page 6, line 194.

79. Page 5, line 176: "Other studies say that..." would be more correct as "Other studies reported that..."

Authors' answer:

The manuscript has been revised. Please see page 6, line 195.

80. Page 5, line 179: "3.2 Analysis of antioxidant content" would be better specified according to the technical term as "3.2 Analysis of antioxidant capacity".

Authors' answer:

The manuscript has been revised. Please see page 6, line 198.

81. Page 5, line 181: "...in humans which is..." a comma symbol should be put as "...in humans, which is..."

Authors' answer:

The manuscript has been revised. Please see page 6, line 200.

82. Page 5, line 183: "...fight disease-causing free radicals and therefore requires additional.."

should be better another sentence separated as "...fight disease-causing free radicals. Therefore, it requires additional..".

Authors' answer:

The manuscript has been revised. Please see page 6, line 202.

83. Page 5, line 184: "...from the 30 to 120 min..." should be better as "...between 30 to 120 min...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 203.

84. Page 5, line 189: "Figure 5. Antioxidant content during palm sap processing into brown sugar." should be more correct due to a technical term as "Figure 5. Antioxidant capacity during palm sap processing into brown sugar..".

Authors' answer:

The manuscript has been revised. Please see page 6, line 208.

85. Page 5, line 191: "...main antioxidant that can be..." a comma symbol should be put as

"...main antioxidant, that can be...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 210.

86. Page 5, line 192: "...the spray dryer method is higher than the..." should be correct and compact as "...the spray dryer was higher than the...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 211.

87. Page 5, line 196: "...and Maillard reactions.." needs article "the" as written "...and the Maillard reactions.."

Authors' answer:

The manuscript has been revised. Please see page 6, line 215.

88. Page 5, line 197: "...until production is complete (5)." please change to "...until production completed (5).".

Authors' answer:

The manuscript has been revised. Please see page 6, line 216.

89. Page 5, line 198: "...as melanoidin which has..." a comma symbol should be put as "...as melanoidin, which has ...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 217.

90. Page 5, line 199: "...volatile compounds that have a ..." a comma symbol should be put as "...volatile compounds, that have a ...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 218.

91. Page 5, line 199: "...and antioxidants which contain..." a comma symbol should be put as "...and antioxidants, which contain...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 218.

92. Page 5, line 200: "...stabilization that can reduce the risk of..." could be concise as "...stabilization reducing the risk of...".

Authors' answer:

The manuscript has been revised. Please see page 6, line 219.

93. Page 5, line 202: "...compounds that can cause protein crosslinking (18)." should be changed to "...compounds causing protein cross-linkage (18).".

Authors' answer:

The manuscript has been revised. Please see page 6, line 221.

94. Page 5, line 202-203: "...and Maillard reactions.." needs article "the" as written "...and the

Maillard reactions..”.

Authors' answer:

The manuscript has been revised. Please see page 6, line 221.

95. Page 5, line 203: “...faster after 90 min reaction as...” needs a preposition as “...faster after 90 min of reaction as...”.

Authors' answer:

The manuscript has been revised. Please see page 6, line 222.

96. Page 6, line 208: “The carbohydrate is changed..” should be correct by written as “The mono- and disaccharide compositions were changed ..”.

Authors' answer:

The manuscript has been revised. Please see page 6, line 227.

97. Page 6, line 210-211: “The highest sucrose content was at 90 minutes with 90.35%.” should be changed to “The highest sucrose content of 90.35% at 90 min was observed.”.

Authors' answer:

The manuscript has been revised. Please see page 6, line 229.

98. Page 6, line 211-213: “Analysis of the mineral content of Fe, Zn, Cu and Mn in the sap and during the production of palm sugar showed the Fe content is the highest among others. The Fe content was maximum at 90 min of Arenga sap processing which was 132.39 mg/Kg sample.” should be easier following as “Fe content is the highest among minerals found in the sap and during the production of palm sugar, in which the maximum of 132.39 mg/Kg sample observed at 90 min of Arenga sap processing.”.

Authors' answer:

The manuscript has been revised. Please see page 6, line 231.

99. Page 6, line 213-215: “Analysis of antioxidant content during the process of palm sugar production showed the highest value at 90 min in the amount of 179.99 mg ascorbic acid/kg sample. The caramelization and Maillard reaction reduce the antioxidant activity.” should be concise and shorten as “During the process of palm sugar production, the highest value of antioxidant activity was obtained at 90 min in the amount of 179.99 mg ascorbic acid/kg sample.”.

Authors' answer:

The manuscript has been revised. Please see page 6, line 232.

Response to the Referee's comments

Reviewer #B: Revision required

1. Abstract

Line no 41: The authors were mentioned that the sugar making is the long time process. i.e. 4 h. But, you are studied the quality only 120 min. Why the authors are not studied the quality upto 240 min?

Authors' answer:

Thank you for your comment. The sugar crystal was already formed at 2 h. Four hour is the longest time for palm sugar production. In this research, we think that 2 h is sufficient to study the effect of heating time on the nutritional value of sap.

3. Introduction and Objectives

Introduction section, the authors can highlight some of the preservation methods could be useful to preserve the quality of sap. Refer this paper <https://doi.org/10.1007/s12355-020-00828-9>

Authors' answer:

The manuscript has been revised and the article has been cited. Please refer to the introduction section. Please see page 1, line 34.

4. Methodology

In the materials and method section, the authors should explain the method of sugar production from Arenga sap.

Authors' answer:

The manuscript has been revised. Please refer to the methodology section 2.2 (page 2, line 59-62).

How the authors controlled the temperature during the heating of Arenga sap.

Authors' answer:

In this study, we only controlled the heating time, while the temperature was not controlled.

It could be interesting to readers if the author inserts the image of Arenga sap and brown sugar.

Insert the images of step involved in Arenga sap sugar production

Authors' answer:

The manuscript has been revised. Please refer to Figure 1 (page 2, line 65).



1. The collected neera then filtered by sheet cloth and pouring into large pan.



2. Neera cooked for 3-4 hours to high concentration of brown sugar that indicated by very viscous appearance



3. The hot sticky brown sugar pouring down into mold made of bamboo, wood, or coconut shell

4. The sugar will be cooling down and hardened after 1 hour and ready for packaging



5. Results

Authors should give the proper justification for the reduction of sucrose level at 60 min.

Authors' answer:

The manuscript has been revised. Please refer to section 3.1 after Figure 1 (page 2, line 65). The sucrose level at 60 min was reduced most likely because the sucrose started to convert into glucose and fructose while the water content is still high. Hence, the sucrose concentration reduced at 60 min.

Why the sucrose content is suddenly increasing from 2.15 to 90.35 at 60 min to 120 min of processing?. What is the reason for sudden increase?

Authors' answer:

As presented in Figure 4, the sucrose content increased significantly. It most likely because the evaporation rate of water was high during 60 min to 90 min of processing.

Line no 104: Author mentioned that "The heating process of sap caused the Maillard reaction" Why the authors did not study the flavor profile of Arenga sap during heating?

Authors' answer:

Thank you for your suggestion. We will consider the flavor study in the next work. In the present work, our focus was only to study the time effect during the brown sugar processing.

Line no 125-126: The initial fructose, glucose, and sucrose content of Arenga sap depend on the acidity and pH of the sap. But the authors did not analyze the initial Arenga sap quality. The author should report the pH, TSS, and acidity of the Arenga sap.

Authors' answer:

Analysis of neera was performed for sugar content, minerals and anti oxidant activity. The pH, TSS and acidity of neera was not performed in our study. Thank you for your suggestion.

What is the moisture content of Arenga sap brown sugar? It is recommended to analyze the moisture content of sugar.

Authors' answer:

We performed the water content analysis of the produced brown sugar which was 1.48 %. The manuscript has been revised. Please refer to section 3.1 (page 3, line 119).

6. Conclusion

Give the recommended processing temperature for making sugar

Authors' answer:

The recommended temperature is within the range of 100-110 °C. The manuscript has been revised. Please see the conclusion Section (page 6, line 230).

Also, highlight the future scope of research

Authors' answer:

The future scope of research will be focused on improving antioxidant content in brown sugar by several methods.

1. Application of proper method to produce brown sugar with lower temperature such as spray drier method and vacuum evaporator.
2. Diversification of brown sugar product i.e. mixing with high antioxidant food for example ginger in order to obtain high antioxidant brown sugar.

7. Other comment

The initial quality of the sap should be studied. otherwise, this research is not having scientific merit.

Authors' answer:

The initial quality of the sap is presented in figure Table 1 (page 4, line 137). and Figure 5 (page 5, line 181)..

Urgent request for revised manuscript



Participants

Asia-Pacific Journal of Science and Tech Editor (kkurj)

Teguh Kurniawan (teguh)

Messages

Dear Teguh,

Editor's comments: ***Please add the line number and page number in the revised manuscript. Then revise the responses to reviewers by indicating line and page number in each comments so the editor can follow. This will allow the editor to make a decision on the manuscript.***


Please get back to me by **Oct 14, 2020**.

Best regards,

Mr. Kitimasak Sittijanda

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Tel. +66-4320-3178
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kkurj
2020-10-08
03:55 PM

 [kkurj, teguh, Effect of time on Palm sugar quality_rev\(1\).docx](#)

▶ Dear Editor,

The line and page number have been incorporated in the

teguh
2020-10-11
04:54 PM

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Participants

Asia-Pacific Journal of Science and Tech Editor (kkurj)

Teguh Kurniawan (teguh)

Messages

Note	From
<p>Dear Teguh,</p> <p>Editor's comments: <i>Please add the line number and page number in the revised manuscript. Then revise the responses to reviewers by indicating line and page number in each comments so the editor can follow. This will allow the editor to make a decision on the manuscript.</i></p> <p>Please get back to me by Oct 14, 2020.</p> <p>Best regards,</p> <p>Mr. Kitimasak Sittijanda</p> <p>Editorial Assistant Asia-Pacific Journal of Science and Technology Division of Research Administration Khon Kaen University, Thailand Tel. +66-4320-3178 Email: apst.kku@gmail.com</p> <p> kkurj, teguh, Effect of time on Palm sugar quality_rev(1).docx</p>	<p>kkurj 2020-10-08 03:55 PM</p>
<p>▶ Dear Editor,</p> <p>The line and page number have been incorporated in the</p>	<p>teguh 2020-10-11 04:54 PM</p>

Dear Editor,

Kindly please inform me the progress of reviewing process.

Best regards,

Teguh

teguh
2020-08-26
12:24 PM

Dear Prof. Dr. Yeyen Maryani,

We had received the comment from reviewers (**See 2 attached files**), so please check it.

kkurj
2020-08-26
01:36 PM

Note: After you revise the manuscript, please send it back to us within Sep 09, 2020 if possible.

From

Best regards,

Mr. Kitimasak Sittijanda

Editorial Assistant
Asia-Pacific Journal of Science and Technology
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 [kkurj, 240590-comment from RV A.pdf](#)

 [kkurj, 240590-comment from RV B.pdf](#)

Dear Edittor

The reviewer A has attached another file along with the formal review form of APST journal. Please send it to us. Thank you

Regards

teguh
2020-08-26
01:45 PM

Dear Prof. Dr. Yeyen Maryani,

Regarding your message, please check one more of comment from reviewer A. Please accept my apologize for this inconvenience.

Best regards,

Mr. Kitimasak Sittijanda

kkurj
2020-08-26
02:09 PM

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Best regards,

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