

[< Back to results](#) | 1 of 1
[Export](#)
[Download](#)
[Print](#)
[E-mail](#)
[Save to PDF](#)
[Add to List](#)
[More... >](#)

 International Food Research Journal
 Volume 24, 2017, Pages 428-435

Study on physiochemical properties and the halalness of commercially marketed vinegar in Malaysia (Article)

 Jamaludin, M.A.^a , Amin, A.^a, Fadzlillah, N.A.^a, Kartika, B.^a, Othman, R.^a, Sani, S.^a, Ramli, A.^b 
^aInternational Institute for Halal Research and Training (INHART), Level 3, Kulliyah of Information and Technology (KICT), International Islamic University Malaysia (IIUM), Jalan Gombak, Kuala Lumpur, 50728, Malaysia

^bDepartment of Fiqh and Jurisprudence, Academy of Islamic Studies, University of Malaya, Kuala Lumpur, Selangor, 50603, Malaysia


Abstract

[View references \(22\)](#)

Vinegar is very popular as traditional ingredient for cooking, pickling, and preservation. It is made from sugar or starch by an alcoholic and acetous fermentation and produces ethanol as a by-product. Alcohol is prohibited to be consumed for Muslim or used as ingredient if it is exceeding the allowable limit as stated by Islamic Council in Malaysia. According to Fatwa Committee National Council of Islamic Religious Affairs Malaysia, natural occurrences of ethanol in food products are acceptable if the ethanol contents are less than 1% in beverages and 0.5% for flavoring or coloring substances for the purpose of stabilization. On the other hand, for specific vinegar product, as stated by Malaysian Food Act and Regulation, acetic acid content must be at least 4%. According to FAO/WHO, a product is to be labelled as vinegar if the acetic acid content is 6% and with a maximum residual alcohol content of 0.5%v/v for wine vinegar and 1%v/v for other vinegars. This study investigated the physiochemical properties of the vinegar from different sources of raw materials. Total solubility (TA) by using Brix method, pH, and alcohol and acetic acid content by GC-TOF/MS of 12 commercial vinegars from Malaysia and abroad were studied. The result shown that for pH value of commercial vinegar are ranged from 2.51-3.14°Brix from 2.10-40.73°Brix, acetic acid is ranged from 0.0253-0.1276% and ethanol content from 0-0.5911%. Thus, this study will come out with the clear observation on ethanol content in fermented product which is vinegar in order to categories the halalness of the product that available in Malaysia market especially the ones that are produced internationally. Lastly, as shown by the profiling study, vinegar that are imported internationally may contain some amount of alcohol in contrast with the one that locally produced in Malaysia and has Halal certification. © All Rights Reserved.

SciVal Topic Prominence

Topic: Acetic Acid | Vinegars | Organic acids

 Prominence percentile: 87.658 

Author keywords

[Acetic acid](#) [Ethanol](#) [pH](#) [Physiochemical](#) [Total solubility](#) [Vinegar](#)

Funding details

Funding sponsor	Funding number	Acronym
International Islamic University Malaysia		
Rigshospitalet	RIG15-012-0012	

Funding text

This work was supported by IIUM Research Initiative Grant (RIGS) project ID: RIG15-012-0012.

Metrics



PlumX Metrics

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

[Set citation alert >](#)
[Set citation feed >](#)

Related documents

Analysis of active content in “Salacca Vinegar” in Sibetan village with potential as antidiabetic and anticancer

 Karta, I.W., Sundari, C.D.W.H., Susila, L.A.N.K.E. (2018) *Indian Journal of Public Health Research and Development*

Relationship between sugar content, total acidity, and crystal by-products in the making of Traditional Balsamic Vinegar of Modena




 Elmi, C. (2015) *European Food Research and Technology*

High-throughput analysis by SP-LDI-MS for fast identification of adulterations in commercial balsamic vinegars

 Guerreiro, T.M., Oliveira, D.N.D., Ferreira, M.S. (2014) *Analytica Chimica Acta*
[View all related documents based on references](#)
[Find more related documents in Scopus based on:](#)
[Authors >](#) [Keywords >](#)

References (22)

[View in search results format >](#)

All [Export](#)  [Print](#)  [E-mail](#)  [Save to PDF](#) [Create bibliography](#)

-
- 1 Adam, M., Zawadzki, W., Bruzewicz, S., Graczyk, S., Czerski, A.
Effect of Formic and Propionic Acid Mixture on Escherichia Coli in Fish Meal Stored at 12°C
(2004) *Pakistan Journal of Nutrition*, 3 (6), pp. 353-356. Cited 11 times.
-
- 2 Aurand, L.W., Wood, A.E., Wells, M.R.
(1987) *Food Composition and Analysis*, pp. 20-23. Cited 109 times.
New York: Van Nostrand Reinhold
-
- 3 Budak, N.H., Aykin, E., Seydim, A.C., Greene, A.K., Guzel-Seydim, Z.B.
Functional Properties of Vinegar
(2014) *Journal of Food Science*, 79 (5), pp. R757-R764. Cited 69 times.
<http://www3.interscience.wiley.com/journal/118509799/issueyear?year=2008>
doi: 10.1111/1750-3841.12434

[View at Publisher](#)
-
- 4 Chen, G.-L., Zheng, F.-J., Sun, J., Li, Z.-C., Lin, B., Li, Y.-R.
Production and Characteristics of High Quality Vinegar from Sugarcane Juice
(2015) *Sugar Tech*, 17 (1), pp. 89-93. Cited 5 times.
<http://www.springer.com/life+sci/agriculture/journal/12355>
doi: 10.1007/s12355-014-0352-z

[View at Publisher](#)
-
- 5 Company, C.
(2005)
1 Strawberry Lane Orrville, Ohio 44667. Retrieved from
http://www.crisco.com/basics/all_about/vinegar.asp
-
- 6 Ould El Hadj, D.
Hygienic Quality and Physicochemical Characteristic of vinegar Traditional of same varieties of dates
(2001) *Production and Valorization-Biomass*, 87, pp. 87-92.
A.S. and O.S.
-
- 7 (2011) *Alkohol Dalam Makanan, Minuman, Pewangi Dan Ubat-Ubatan*. Cited 3 times.
Retrieved September, 4, 2013 from
<http://www.e-fatwa.gov.my/fatwa-kebangsaan/alkohol-dalam-makanan-minuman-pewangi-dan-ubat-ubatan>
-
- 8 (2000) *Proposed draft Revised Regional Standard for Vinegar*, pp. 1-5. Cited 3 times.
Rome. Retrieved from
<http://www.justice.gov.md/file/Centruldearmonizarelegislatiei/Bazadedate/Materiale2008/Legislatie/Acquis/RO/CodulAlimentarprivindOtetul.PDF>
-

- 9 Hagmann, P., Cammoun, L., Gigandet, X., Meuli, R., Honey, C.J., Van Wedeen, J., Sporns, O.
Mapping the structural core of human cerebral cortex (Open Access)
(2008) *PLoS Biology*, 6 (7), art. no. e159, pp. 1479-1493. Cited 2246 times.
http://biology.plosjournals.org/archive/1545-7885/6/7/pdf/10.1371_journal.pbio.0060159-L.pdf
doi: 10.1371/journal.pbio.0060159
View at Publisher
-
- 10 Hufnagel, L., Brockmann, D., Geisel, T.
Forecast and control of epidemics in a globalized world (Open Access)
(2004) *Proceedings of the National Academy of Sciences of the United States of America*, 101 (42), pp. 15124-15129. Cited 573 times.
doi: 10.1073/pnas.0308344101
View at Publisher
-
- 11 Jamaludin, M.A., Hashim, D.M., Rahman, R.A., Ramli, M.A., Majid, M.Z.A., Othman, R., Amin, A.
Determination of permissible alcohol and vinegar in Shariah and scientific perspectives
(2016) *International Food Research Journal*, 23 (6), pp. 2737-2743. Cited 3 times.
[http://www.ifrj.upm.edu.my/23%20\(06\)%202016/\(61\).pdf](http://www.ifrj.upm.edu.my/23%20(06)%202016/(61).pdf)
-
- 12 Jang, Y.K., Lee, M.Y., Kim, H.Y., Lee, S., Yeo, S.H., Baek, S.Y., Lee, C.H.
Comparison of traditional and commercial vinegars based on metabolite profiling and antioxidant activity
(2015) *Journal of Microbiology and Biotechnology*, 25 (2), pp. 217-226. Cited 8 times.
<http://www.jmb.or.kr/journal/download.php?Filedir=../submission/journal/025/&num=6660>
doi: 10.4014/jmb.1408.08021
View at Publisher
-
- 13 Jo, Y., Baek, J.-Y., Jeong, I.-Y., Jeong, Y.-J., Yeo, S.-H., Noh, B.S., Kwon, J.-H.
Physicochemical properties and volatile components of wine vinegars with high acidity based on fermentation stage and initial alcohol concentration
(2015) *Food Science and Biotechnology*, 24 (2), pp. 445-452. Cited 4 times.
<http://www.springerlink.com/content/n3031612t262/>
doi: 10.1007/s10068-015-0059-2
View at Publisher
-
- 14 Lingham, T.
Antimicrobial Activity of Vinegar on Bacterial Species Isolated from Retail and Local Channel Catfish (*Ictalurus punctatus*)
(2013) *Journal of Food Processing and Technology*, 1, pp. 1-5. Cited 12 times.
-
- 15 Liu, Y.-d., Ying, Y.-b., Fu, X., Lu, H.
Experiments on predicting sugar content in apples by FT-NIR Technique
(2007) *Journal of Food Engineering*, 80 (3), pp. 986-989. Cited 72 times.
doi: 10.1016/j.jfoodeng.2006.06.035
View at Publisher
-
- 16 Masino, F., Chinnici, F., Bendini, A., Montevicchi, G., Antonelli, A.
A study on relationships among chemical, physical, and qualitative assessment in traditional balsamic vinegar
(2008) *Food Chemistry*, 106 (1), pp. 90-95. Cited 44 times.
doi: 10.1016/j.foodchem.2007.05.069
View at Publisher

□ 17 Ophardt, C.E.
(2003) *Acids and Bases*
Virtual Chembook, Elmhurst College. Retrieved from
<http://chemistry.elmhurst.edu/vchembook/184ph.html>

□ 18 Petsiou, E., Mitrou, P., Papakonstantinou, E., Maratou, E., Lambadiari, V., Spanoudi, F., Dimitriadis, G.
Acetic acid enhances insulin-stimulates glucose uptake by the forearm muscle in patients with type 2 diabetes
(2015) *Diabetologia*, 58 (1), pp. S254-S255. Cited 2 times.

□ 19 Sadler, G.D., Murphy, P.A.
pH and Titratable Acidity
(2010) *Food Analysis*, pp. 219-238. Cited 58 times.
Nielson S.S. (Ed.), New York, USA: Springer Science + Business Media

□ 20 Solieri, L., Giudici, P.
Yeasts associated to Traditional Balsamic Vinegar: Ecological and technological features

(2008) *International Journal of Food Microbiology*, 125 (1), pp. 36-45. Cited 49 times.
doi: 10.1016/j.ijfoodmicro.2007.06.022

[View at Publisher](#)

□ 21 Underhill, J.E.
(1989) *pH without pain*
Retrieved from, The Grapevine website
<http://www.bcawa.ca/winemaking/ph.htm>

□ 22 Wong, G.Z.
(2013) *Production of Natural Vinegar from over ripe pineapple biology essay*, pp. 1-20.
Retrieved from
<https://www.uniassignment.com/essay-samples/biology/production-of-natural-vinegar-from-over-ripe-pineapple-biology-essay.php>

🔍 Jamaludin, M.A.; International Institute for Halal Research and Training (INHART), Level 3, Kulliyah of Information and Technology (KICT), International Islamic University Malaysia (IIUM), Jalan Gombak, Kuala Lumpur, Malaysia;
email:mohdaizat@iium.edu.my
© Copyright 2018 Elsevier B.V., All rights reserved.

< Back to results | 1 of 1

^ Top of page

About Scopus

What is Scopus
Content coverage
Scopus blog
Scopus API
Privacy matters

Language

日本語に切り替える
切换到简体中文
切换到繁體中文
Русский язык

Customer Service

Help
Contact us

ELSEVIER

[Terms and conditions](#) ↗ [Privacy policy](#) ↗

Copyright © Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the use of cookies.

RELX

