LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH: JURNAL ILMIAH

Judul Jurnal Ilmiah (Artikel)	:	Hybrid solar dryer for sugar-palm vermicelli drying		
Jumlah Penulis	:	5 orang		
Status Pengusul	:	Penulis pertama~~/ penulis ke -2~~/ penulis korespondensi		
Identitas Jurnal Ilmiah	:	a. Nama Jurnal	:	Journal of Food Process Engineering
		b. Nomor ISSN	:	1745-4530
		c. Volume, nomor, bulan, tahun	:	Article in Press, nomor e13471, Juni 2020
		d. Penerbit	:	Wiley-Blackwell
		e. DOI Artikel	:	10.1111/jfpe.13471
		f. Alamat web	:	
		JURNAL : https://onlinelibrary.wiley.com/doi/epdf/10.1111/jfpe.13471		
		ARTIKEL :https://doc-pak.undip.ac.id/id/eprint/875		
		g. Terindeks	:	Clarivate Analytics Web of Science (JIF= 1.448), SCOPUS (Q2), Impact Factor SJR = 0.47 (Tahun 2019)

Kategori Publikasi Jurnal Ilmiah (Beri ✓pada katergori yang tepat)

- [✓] Jurnal Ilmiah Internasional
- [ ] Jurnal Ilmiah Nasional Terakreditasi
- [ ] Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review*

Komponen yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer 1	Reviewer 2	
a. Kelengkapan unsur isi Artikel (10%)	**4.00**	**4**	
b. Ruang lingkup dan kedalaman pembahasan (30%)	**12.00**	**11.5**	
c. Kecukupan dan kemutakhiran data/ informasi dan metodologi (30%)	**11.50**	**11.5**	
d. Kelengkapan unsur dan kualitas terbitan/ jurnal (30%)	**11.50**	**12**	
Total = (100 %)	**39.00**	**39**	**39**
Nilai pengusul = (60% x **39**) = **23.4**			

Semarang, 11 Agustus 2020

Reviewer 2

Prof. Dr. M. Djaeni,ST,M.Eng
NIP. 197102071995121001
Unit Kerja : DepartemenTeknik Kimia FT UNDIP

Reviewer 1

Prof. Dr. Ir. Bakti Jos, DEA
NIP. 196005011986031003
Unit Kerja : DepartemenTeknik Kimia FT UNDIP

LEMBAR HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH: JURNAL ILMIAH

Judul Jurnal Ilmiah (Artikel)	:	Hybrid solar dryer for sugar-palm vermicelli drying		
Jumlah Penulis	:	5 orang		
Status Pengusul	:	Penulis pertama/ ~~penulis ke -2~~/ penulis korespondensi		
Identitas Jurnal Ilmiah	:	a. Nama Jurnal	:	Journal of Food Process Engineering
		b. Nomor ISSN	:	1745-4530
		c. Volume, nomor, bulan, tahun	:	Article in Press, nomor e13471, Juni 2020
		d. Penerbit	:	Wiley-Blackwell
		e. DOI Artikel	:	10.1111/jfpe.13471
		f. Alamat web	:	
		JURNAL : https://onlinelibrary.wiley.com/doi/epdf/10.1111/jfpe.13471		
		ARTIKEL :https://doc-pak.undip.ac.id/id/eprint/875		
		g. Terindeks	:	Clarivate Analytics Web of Science (JIF= 1.448), SCOPUS (Q2), Impact Factor SJR = 0.47 (Tahun 2019)

Kategori Publikasi Jurnal Ilmiah (Beri ✓pada katergori yang tepat)

- [✓] Jurnal Ilmiah Internasional
- [ ] Jurnal Ilmiah Nasional Terakreditasi
- [ ] Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review*

Komponen yang dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir yang diperoleh
	Internasional [40]	Nasional Terakreditasi [ ]	Nasional Tidak Terakreditasi [ ]	
a. Kelengkapan unsur isi jurnal (10%)	4			**4,00**
b. Ruang lingkup dan kedalaman pembahasan (30%)	12			**12,00**
c. Kecukupan dan kemutakhiran data/ informasi dan metodologi (30%)	12			**11,50**
d. Kelengkapan unsur dan kualitas terbitan/ jurnal (30%)	12			**11,50**
Total = (100%)	**40**			**39,00**
			Nilai pengusul = 60 % x (39,00) =	**23,40**

Catatan penilaian artikel oleh Reviewer:

1. Kesesuaian dan kelengkapan unsur isi iurnal:
Unsur artikel dalam jurnal lengkap, terdiri dari Title, Abstract, Keywords, Introduction, Materials and Method, Results and Discussion, Conclusion, Acknowledgment, Conflict of Interests, References, serta telah memenuhi petujuk penulisan dari jurnal.

2. Ruang lingkup dan kedalaman pembahasan:
Artikel mempelajari tentang pengeringan sohun menggunakan pengering surya hibrid. Topik ini sesuai dengan bidang ilmu Teknik Kimia. Pembahasan ditulis dengan detil dan disertai gambar skematik. Kedalaman pembahasan cukup baik, ditunjukkan dengan dukungan sejumlah 52 dari 68 pustaka (76.4 %) dalam pembahasan.

3. Kecukupan dan kemutakhiran data/infrmasi dan metodologi:
Kecukupan dan kemutakhiran data baik. Artikel didukung oleh referensi yang mutakhir dimana dari 68 referensi yang digunakan, terdapat 63 (92.6/%) referensi yang merupakan terbitan 10 tahun terakhir. Metodologi dituliskan cukup lengkap disertai dengan analisa statistik model kinetika.

4. Kelengkapan unsur dan kualitas terbitan/jurnal:
Kategori jurnal baik, termasuk dalam jurnal internasional terindeks Clarivate Analytics Web of Science (JIF= 1.448), SCOPUS (Q2), Impact Factor SJR = 0.47 (Tahun 2019). Jurnal telah memiliki petunjuk penulisan yang jelas. Pengecekan similaritas dengan Turnitin menunjukkan similarity index sebesar 2 %.

Semarang, 14/07/2020
Reviewer 1,

Prof. Dr. Ir. Bakti Jos, DEA
NIP. 196005011986031003
Unit Kerja : Departemen Teknik Kimia FT UNDIP

LEMBAR HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH: JURNAL ILMIAH

Judul Jurnal Ilmiah (Artikel)	:	Hybrid solar dryer for sugar-palm vermicelli drying		
Jumlah Penulis	:	5 orang		
Status Pengusul	:	Penulis pertama~~/ penulis ke -2~~/ penulis korespondensi		
Identitas Jurnal Ilmiah	:	a. Nama Jurnal	:	Journal of Food Process Engineering
		b. Nomor ISSN	:	1745-4530
		c. Volume, nomor, bulan, tahun	:	Article in Press, nomor e13471, Juni 2020
		d. Penerbit	:	Wiley-Blackwell
		e. DOI Artikel	:	10.1111/jfpe.13471
		f. Alamat web	:	
		JURNAL : https://onlinelibrary.wiley.com/doi/epdf/10.1111/jfpe.13471		
		ARTIKEL :https://doc-pak.undip.ac.id/id/eprint/875		
		g. Terindeks	:	Clarivate Analytics Web of Science (JIF= 1.448), SCOPUS (Q2), Impact Factor SJR = 0.47 (Tahun 2019)

Kategori Publikasi Jurnal Ilmiah (Beri ✓pada katergori yang tepat)

- [✓] Jurnal Ilmiah Internasional
- [ ] Jurnal Ilmiah Nasional Terakreditasi
- [ ] Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review*

Komponen yang dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir yang diperoleh
	Internasional	Nasional Terakreditasi	Nasional Tidak Terakreditasi	
	40			
a. Kelengkapan unsur isi jurnal (10%)	4			**4**
b. Ruang lingkup dan kedalaman pembahasan (30%)	12			**11.5**
c. Kecukupan dan kemutakhiran data/ informasi dan metodologi (30%)	12			**11.5**
d. Kelengkapan unsur dan kualitas terbitan/ jurnal (30%)	12			**12**
Total = (100%)	**40**			**39**
			Nilai pengusul = 60 % x 39	**23.4**

Catatan penilaian artikel oleh Reviewer:

1. Kesesuaian dan kelengkapan unsur isi iurnal:
Karya ilmiah memiliki unsur isi yang lengkap, terdiri dari Title, Abstract, Keywords, Introduction, Materials and Method, Results and Discussion, Conclusion, Acknowledgment, Conflict of Interests, References. Karya ilmiah telah memenuhi petunjuk format penulisan dari jurnal.

2. Ruang lingkup dan kedalaman pembahasan:
Artikel ini membahas pengeringan sohun menggunakan pengering surya hibrid gas LPG. Hasil menunjukkan bahwa model pengeringan hybrid mampu memberikan peningkatan efisiensi yang siginifikan, serta mempercepat proses proses pengeringan. Disamping itu, kualitas fisik dan nutrisi produk yang dikeringkan sangat baik. Pembahasan juga dilakukan dengan sangat baik dan mendalam serta komprehensif. Hal ini ditunjukkan dengan dukungan sejumlah 52 dari 68 pustaka (76.4 %) dicitasi dalam pembahasan. Topik ini sesuai dengan bidang ilmu Teknik Kimia.

3. Kecukupan dan kemutakhiran data/informasi dan metodologi:
Karya ilmiah memiliki data dan kemutakhiran data yang baik. Karya ilmiah didukung oleh referensi yang mutakhir dimana dari 68 referensi yang digunakan, terdapat 63 (92.6 %) referensi yang merupakan terbitan 10 tahun terakhir. Metodologi dituliskan cukup lengkap disertai dengan analisa statistik data yang diambil secara jelas, sehingga dapat mudah diikuti alurnya.

4. Kelengkapan unsur dan kualitas terbitan/jurnal:
Kualitas terbitan jurnal sangat baik, terindeks dalam Clarivate Analytics Web of Science (JIF= 1.448), SCOPUS (Q2), Impact Factor SJR = 0.47 (Tahun 2019). Jurnal telah memiliki petunjuk penulisan yang jelas. Pengecekan similaritas dengan Turnitin menunjukkan similarity index sebesar 2 %.

Semarang, 09/08/2020
Reviewer 2,

Prof. Dr. M. Djaeni,ST,M.Eng
NIP. 197102071995121001
Unit Kerja : Departemen Teknik Kimia FT UNDIP

Document details

‹ Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More... ›

View at Publisher

Journal of Food Process Engineering
2020

Hybrid solar dryer for sugar-palm vermicelli drying

(Article in press)

Suherman, S., Hadiyanto, H., Susanto, E.E., Utami, I.A.P., Ningrum, T.

Department of Chemical Engineering, Faculty of Engineering, Diponegoro University, Semarang, Jawa Tengah, Indonesia

Abstract

View references (68)

Sugar palm is an abundant palm in Indonesia and widely used for various foods, one of which is vermicelli . During vermicelli production, local farmers still implement open-sun drying , which reduces the quality of vermicelli , requires long periods of time, and cannot be performed during poor weather. Therefore, in this study, a new method of vermicelli drying is introduced using a hybrid solar dryer , which consists of a solar dryer and an additional heater powered by liquefied natural gas. Hybrid solar drying is conducted at 40, 60, 80, and 100°C. With 2 hr of drying time, the final moisture contents of vermicelli dried using hybrid solar dryer have satisfy the standard limit, while the open-sun drying and natural solar drying do not, indicating that hybrid solar drying is faster and more effective. Vermicelli drying occurs at the falling-rate period and increasing drying temperature from 40 to 100°C increases dryer efficiency, energy utilization ratio, and exergy efficiency, from 13.02 to 17.02%, from 0.18 to 0.32, and from 67.4 to 83.6%, respectively. Although the overall quality of dried vermicelli is acceptable, increasing drying temperature from 40 to 100°C result in the damaged vermicelli surface as evident from SEM analysis and degradation of vermicelli whiteness value from 87.2 to 82.5. Practical applications: The drying process is playing an important role in heat sensitive products dehydration. The present study provides an investigation of potential use of solar energy for drying of vermicelli which combine with the natural gas heating process. The results show that hybrid drying system could enhance the product quality of vermicelli and also reduce the drying process. During drying , proximate components of vermicelli essentially do not change but it alters the color of product. © 2020 Wiley Periodicals LLC.

SciVal Topic Prominence

Topic: Solar Heaters | Drying Apparatus | Exergy

Prominence percentile: 97.412

Indexed keywords

Engineering controlled terms: Energy utilization | Liquefied natural gas | Solar dryers | Solar energy

Engineering uncontrolled terms: Dryer efficiency | Drying temperature | Energy utilization ratio | Exergy efficiencies | Falling-rate period | Final moisture content | Hybrid solar dryers | Overall quality

Engineering main heading: Drying

Funding details

Funding text
The authors would like to thank Ministry of Research, Technology and Higher Education Republic of Indonesia for funding this research.

ISSN: 01458876
CODEN: JFPED
Source Type: Journal
Original language: English
DOI: 10.1111/jfpe.13471
Document Type: Article
Publisher: Blackwell Publishing Inc.

References (68)

View in search results format >

All | Export | Print | E-mail | Save to PDF | Create bibliography

1 Abubakar, S., Umaru, S., Kaisan, M.U., Umar, U.A., Ashok, B., Nanthagopal, K.
Development and performance comparison of mixed-mode solar crop dryers with and without thermal storage
(2018) *Renewable Energy*, Part A 128, pp. 285-298. Cited 18 times.
http://www.journals.elsevier.com/renewable-and-sustainable-energy-reviews/
doi: 10.1016/j.renene.2018.05.049
View at Publisher

2 Adawiyah, D.R., Sasaki, T., Kohyama, K.
Characterization of arenga starch in comparison with sago starch
(2013) *Carbohydrate Polymers*, 92 (2), pp. 2306-2313. Cited 25 times.
doi: 10.1016/j.carbpol.2012.12.014
View at Publisher

3 Aghbashlo, M., Mobli, H., Rafiee, S., Madadlou, A.
Energy and exergy analyses of the spray drying process of fish oil microencapsulation
(2012) *Biosystems Engineering*, 111 (2), pp. 229-241. Cited 77 times.
doi: 10.1016/j.biosystemseng.2011.12.001
View at Publisher

4 Akbulut, A., Durmuş, A.
Energy and exergy analyses of thin layer drying of mulberry in a forced solar dryer
(2010) *Energy*, 35 (4), pp. 1754-1763. Cited 108 times.
www.elsevier.com/inca/publications/store/4/8/3/
doi: 10.1016/j.energy.2009.12.028
View at Publisher

5 Alara, O.R., Abdurahman, N.H., Olalere, O.A.
Mathematical modelling and morphological properties of thin layer oven drying of Vernonia amygdalina leaves (Open Access)
(2019) *Journal of the Saudi Society of Agricultural Sciences*, 18 (3), pp. 309-315. Cited 10 times.
https://www.journals.elsevier.com/journal-of-the-saudi-society-of-agricultural-sciences/
doi: 10.1016/j.jssas.2017.09.003
View at Publisher

Source details

Journal of Food Process Engineering

Scopus coverage years: from 1977 to Present

Publisher: Wiley-Blackwell

ISSN: 0145-8876 E-ISSN: 1745-4530

Subject area: Agricultural and Biological Sciences: Food Science | Chemical Engineering: General Chemical Engineering

View all documents > | Set document alert | Save to source list | Journal Homepage

CiteScore 2019
2.4
Add CiteScore to your site

SJR 2019
0.470

SNIP 2019
0.735

CiteScore | CiteScore rank & trend | Scopus content coverage

¡ Improved CiteScore methodology
CiteScore 2019 counts the citations received in 2016-2019 to articles, reviews, conference papers, book chapters and data papers published in 2016-2019, and divides this by the number of publications published in 2016-2019. Learn more >

CiteScore 2019

$$2.4 = \frac{2{,}173 \text{ Citations } 2016 - 2019}{902 \text{ Documents } 2016 - 2019}$$

Calculated on 06 May, 2020

CiteScoreTracker 2020

$$2.9 = \frac{2{,}931 \text{ Citations to date}}{1{,}015 \text{ Documents to date}}$$

Last updated on 09 August, 2020 • Updated monthly

CiteScore rank 2019

Category	Rank	Percentile
Agricultural and Biological Sciences — Food Science	#127/299	57th
Chemical Engineering — General Chemical Engineering	#126/281	55th

View CiteScore methodology > | CiteScore FAQ >

Return to Search Results

JOURNAL OF FOOD PROCESS ENGINEERING

Share This Journal

ISSN / eISSN **0145-8876 / 1745-4530**
Publisher **WILEY, 111 RIVER ST, HOBOKEN, USA, NJ, 07030-5774**

General Information

Journal Website	Visit Site
Publisher Website	Visit Site
1st Year Published	1977
Frequency	Bi-monthly
Issues Per Year	8
Country / Region	UNITED STATES OF AMERICA
Primary Language	English

Some general information was sourced from the Directory of Open Access Journals and/or Transpose.

Web of Science Coverage

***Web of Science* Core Collection**
Science Citation Index Expanded (SCIE)

Additional *Web of Science* Indexes
Current Contents Agriculture, Biology & Environmental Sciences
Essential Science Indicators

Categories: Engineering, Chemical | Food Science & Technology | Food

Journal Citation Report

Journal Citation Reports™ 2020

Journal Impact Factor™

2019	2018
Deciding where to submit your manuscript? You need to know more than just one number. If you have access to ***Journal Citation Reports™*** through your institution's subscription, you can view the latest Journal Impact Factor™ and additional metrics to better understand a journal's content and audience.	1.448
Categories: Engineering, Chemical | Food Science & Technology	**Categories:** Engineering, Chemical | Food Science & Technology

View in Journal Citation Reports™

Learn About Journal Citation Reports™

Peer Review Information

Publons Partner	Yes
Claimed Reviews on Publons	3,175
Public Reports on Publons	No
Signed Reports on Publons	No
Publons Transparent Peer Review Partner	No

Feedback

management of any journal or the business practices of any publisher. Publishers are accountable for their journal performance and compliance with ethical publishing standards. The views and opinions expressed in any journal are those of the author(s) and do not necessarily reflect the views or opinions of Clarivate. Clarivate remains neutral in relation to territorial disputes, and allows journals, publishers, institutes and authors to specify their address and affiliation details including territory.

Criteria for selection of newly submitted titles and re-evaluation of existing titles in the Web of Science are determined by the Web of Science Editors in their sole discretion. If a publisher's editorial policy or business practices negatively impact the quality of a journal, or its role in the surrounding literature of the subject, the Web of Science Editors may decline to include the journal in any Clarivate product or service. The Web of Science Editors, in their sole discretion, may remove titles from coverage at any point if the titles fail to maintain our standard of quality, do not comply with ethical standards, or otherwise do not meet the criteria determined by the Web of Science Editors. If a journal is deselected or removed from coverage, the journal will cease to be indexed in the Web of Science from a date determined by the Web of Science Editors in their sole discretion – articles published after that date will not be indexed. The Web of Science Editors' decision on all matters relating to journal coverage will be final.

Clarivate.™ Accelerating innovation.

Journal of
Food Process Engineering

Volume 43, Issue 9

September 2020

‹ Previous Issue

GO TO SECTION

Select / Deselect all

Export Citation(s)

ISSUE INFORMATION

Free Access

Issue Information

First Published: 01 September 2020

PDF | Request permissions

ORIGINAL ARTICLES

Effect of drying air temperature on drying kinetics and physicochemical characteristics of dried banana

Leandro Levate Macedo, Wallaf Costa Vimercati, Cintia da Silva Araújo, Sérgio Henriques Saraiva, Luciano José Quintão Teixeira

First Published: 28 May 2020

Journal of
Food Process Engineering

EDITOR-IN-CHIEF

ASSOCIATE EDITORS

EMERITUS EDITORS

M. Elena Castell-Perez
Professor, Department of Biological and Agricultural Engineering
Texas A&M University
College Station, TX 77843-2117
USA

Rosana Moreira
Professor, Department of Biological and Agricultural Engineering
Texas A&M University
College Station, TX 77843-2117
USA

Prof. Dennis R. Heldman
Professor, Department of Food Science and Tech., Department of Food Ag Bio Eng
The Ohio State University
Columbus, OH

EDITORIAL BOARD

Journal of
Food Process Engineering

Volume 43, Issue 9

September 2020

Previous Issue

GO TO SECTION

Export Citation(s)

ISSUE INFORMATION

Free Access

Issue Information

First Published: 01 September 2020

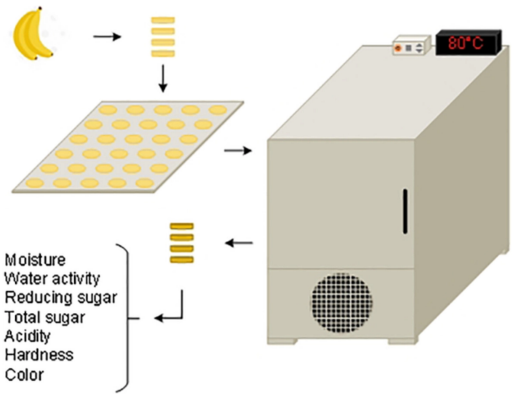
PDF | Request permissions

ORIGINAL ARTICLES

Effect of drying air temperature on drying kinetics and physicochemical characteristics of dried banana

Leandro Levate Macedo, Wallaf Costa Vimercati, Cintia da Silva Araújo, Sérgio Henriques Saraiva, Luciano José Quintão Teixeira

First Published: 28 May 2020

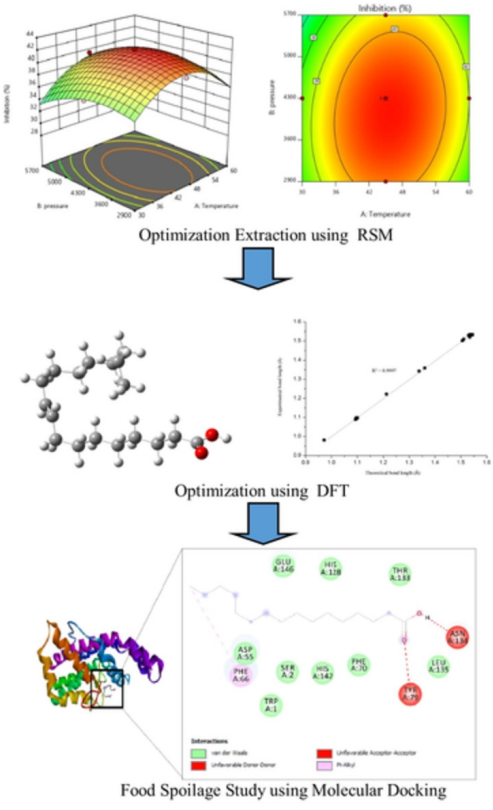


Abstract | Full text | PDF | References | Request permissions

Inhibitory effects of *Manihot esculenta* extracts on Food-Borne pathogens and their antioxidant properties: Supercritical fluid extraction, statistical analysis, and molecular docking study

Mohammad Norazmi Ahmad, Nur Hidayah Mohd Azli, Hakimah Ismail, Mohammad Anwar Mohamed Iqbal, Bijarimi Mat Piah, Erna Normaya

First Published: 29 May 2020

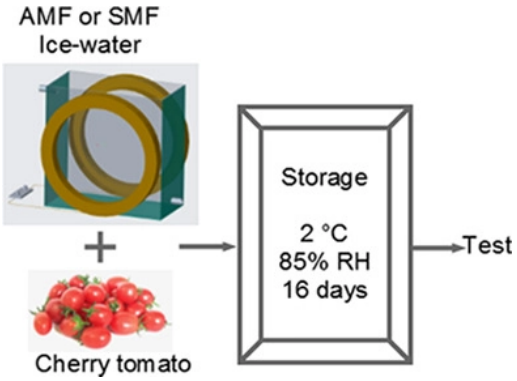


Abstract | Full text | PDF | References | Request permissions

Comparison study of static and alternating magnetic field treatments on the quality preservation effect of cherry tomato at low temperature

Zhao Yang, Lei Zhang, Songsong Zhao, Na Luo, Qiujia Deng

First Published: 02 June 2020

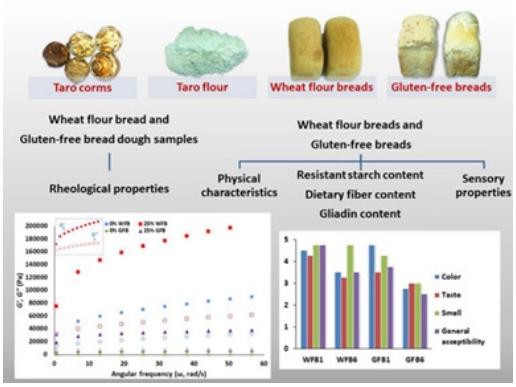


Abstract | Full text | PDF | References | Request permissions

Taro flour usage in wheat flour bread and gluten-free bread: Evaluation of rheological, technological and some nutritional properties

Muhammet Arıcı, Görkem Özülkü, Burcu Kahraman, Ruşen Metin Yıldırım, Ömer Said Toker

First Published: 29 May 2020

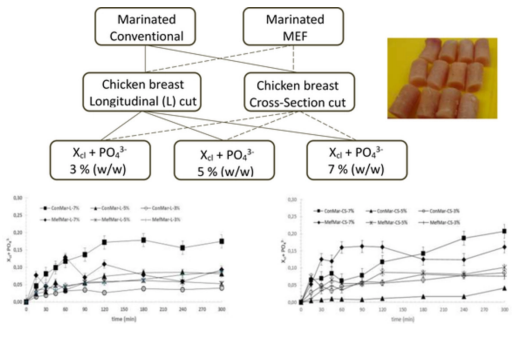


Abstract | Full text | PDF | References | Request permissions

Comparison of moderate electric field and conventional marination methods applied to chicken breast muscles

Jorge Moreno, Pabala Mphachoe, Guido Sáez-Trautmann, María Guerra-Valle, Ricardo Simpson, Helena Nuñez

First Published: 02 July 2020

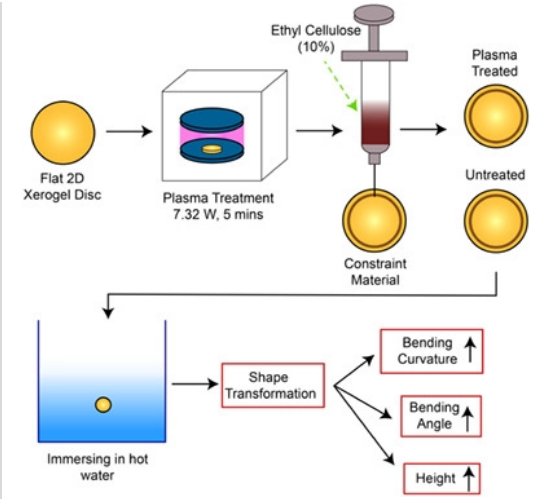


Abstract | Full text | PDF | References | Request permissions

Cold plasma-assisted shape-shifting of a flat two-dimensional wheat xerogel and its morphological behavior

Vidhi Gupta, Ranjitha Gracy T K, Jaspin Stephen, Mahendran Radhakrishnan

First Published: 27 May 2020



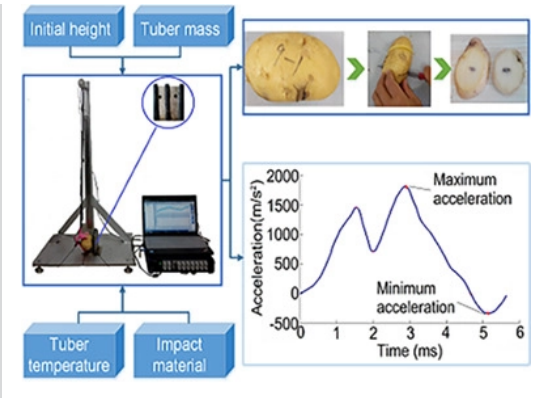
Cold plasma-assisted shape-shifting

Abstract | Full text | PDF | References | Request permissions

Experimental study on collision acceleration and damage characteristics of potato

Shengshi Xie, Chunguang Wang, Weigang Deng

First Published: 26 June 2020

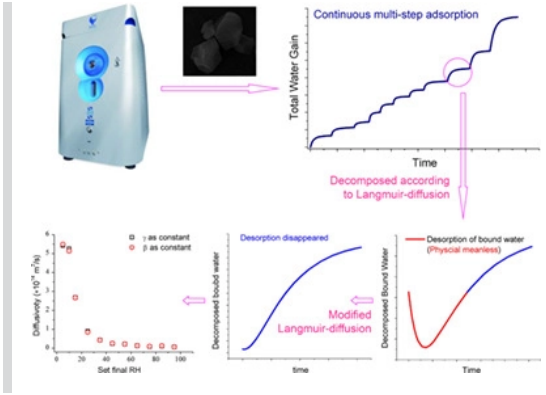


Abstract | Full text | PDF | References | Request permissions

Langmuir-diffusion model: Its modification and further application to glutinous rice flour particles

Xuewei Zhao, Hua Zhang, Wangming Li, Xingke Li, Wen Fan, Yanyan Zhang

First Published: 29 June 2020

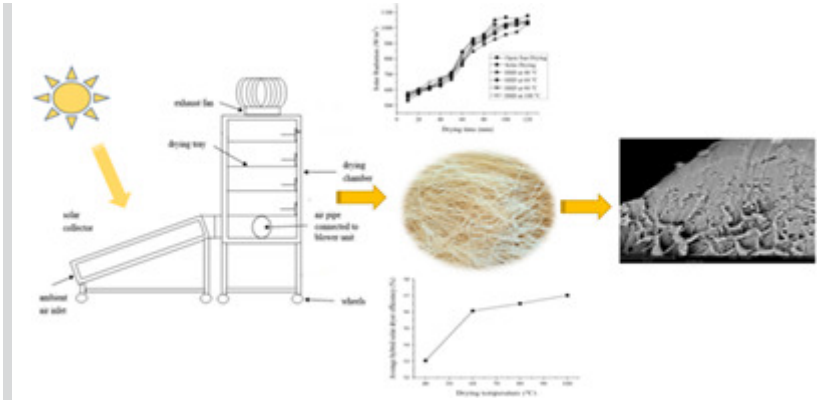


Abstract | Full text | PDF | References | Request permissions

Hybrid solar dryer for sugar-palm vermicelli drying

Suherman Suherman, Hadiyanto Hadiyanto, Evan Eduard Susanto, Iftitania Ardita Putri Utami, Tri Ningrum

First Published: 23 June 2020

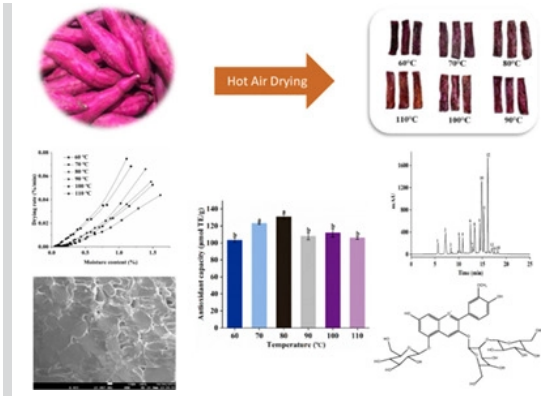


Abstract | Full text | PDF | References | Request permissions

The influence of processing conditions on kinetics, anthocyanin profile and antioxidant activity of purple sweet potato subjected to hot air drying

Junmin Wang, Guangxu Wu, Zhineng Wang, Bin Shu, Li Li, Ruifen Zhang, Fei Huang, Lihong Dong, Mingwei Zhang, Suo Chen, Dongxiao Su

First Published: 25 June 2020



Abstract | Full text | PDF | References | Request permissions

Prediction of size and mass of pistachio kernels using random Forest machine learning

Sriram K. Vidyarthi, Rakhee Tiwari, Samrendra K. Singh, Hong-Wei Xiao

First Published: 25 June 2020

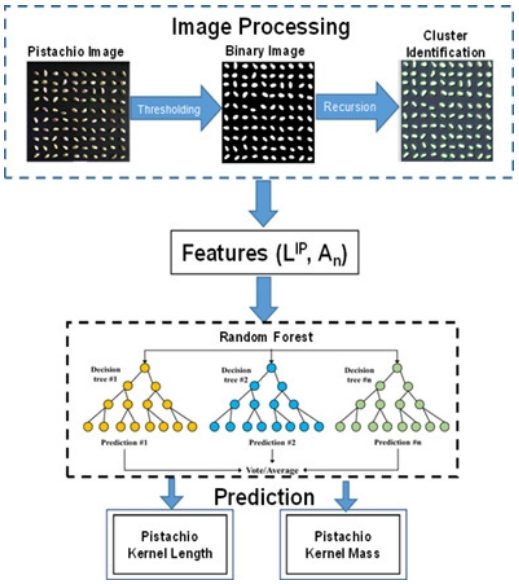


Image processing was implemented to precisely predict size of pistachio kernels. Random Forest (RF) machine learning was employed to accurately predict mass of pistachio kernels. The low values of mean errors and uncertainties indicate the robustness and accuracy of the methodology. The proposed method can be useful in rapid pistachio yield assessment in pistachio industry.

Abstract | Full text | PDF | References | Request permissions

Automatic sorting of fresh tea leaves using vision-based recognition method

Zhiwei Chen, Leiying He, Yang Ye, Jianneng Chen, Liang Sun, Chuanyu Wu, Lin Chen, Rongyang Wang

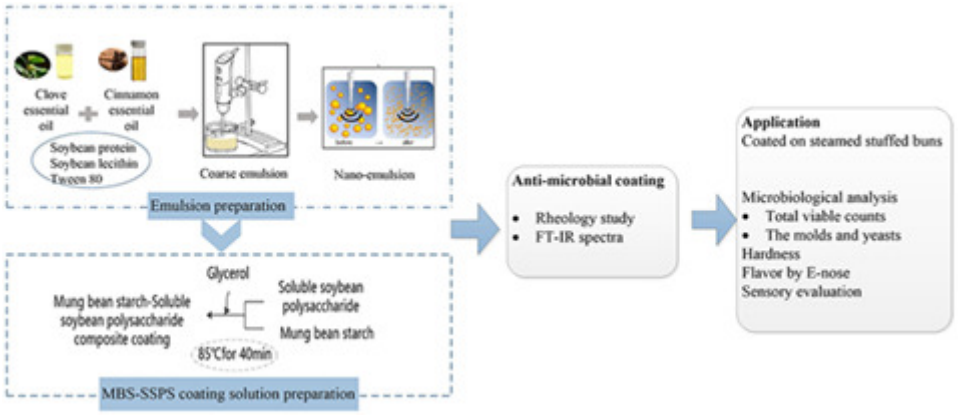
First Published: 02 July 2020

Abstract | Full text | PDF | References | Request permissions

Improving storage quality of refrigerated steamed buns by mung bean starch composite coating enriched with nano-emulsified essential oils

Kun Li, Min Zhang, Bhesh Bhandari, Jicheng Xu, Chaohui Yang

First Published: 26 June 2020



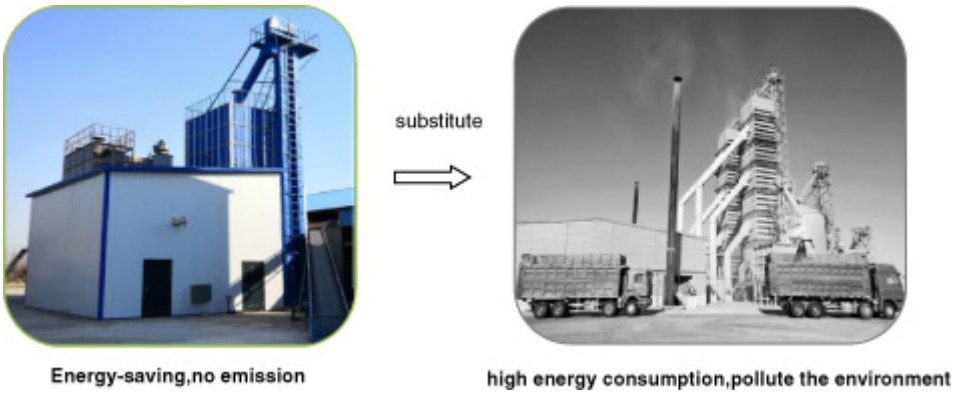
Abstract | Full text | PDF | References | Request permissions

Open Access

Research on an electric energy-saving grain drying system with internal circulation of the drying medium

Guiying Wang, Wenfu Wu, Fengxiang Qiao, Daping Fu, Zhe Liu, Feng Han

First Published: 12 June 2020

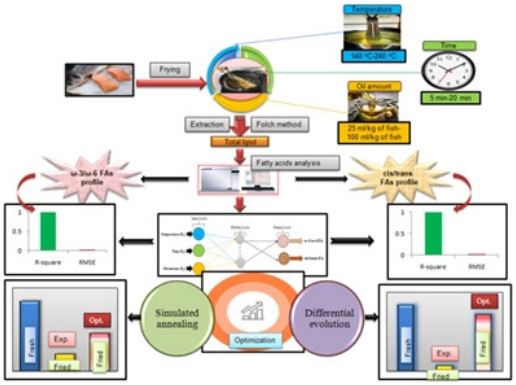


Abstract | Full text | PDF | References | Request permissions

Modeling and optimization of cooking process parameters to improve the nutritional profile of fried fish by robust hybrid artificial intelligence approach

Tithli Sadhu, Indrani Banerjee, Sandip Kumar Lahiri, Jitamanyu Chakrabarty

First Published: 30 June 2020



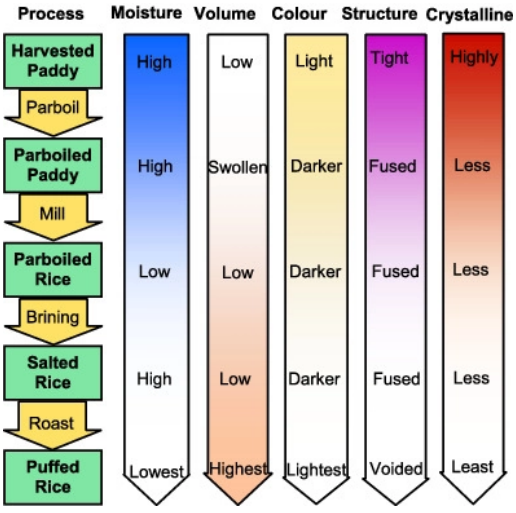
Abstract | Full text | PDF | References | Request permissions

REVIEW ARTICLE

Puffed rice: A materialistic understanding of rice puffing and its associated changes in physicochemical and nutritional characteristics

Sreyajit Saha, Anupam Roy

First Published: 05 July 2020



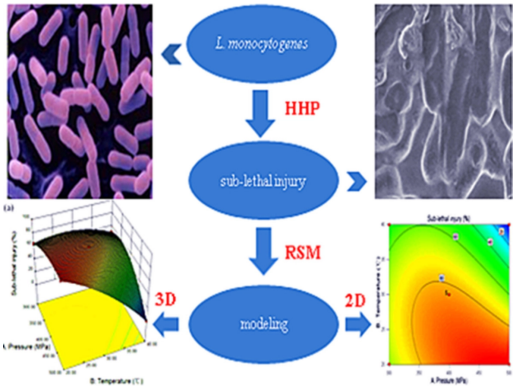
Abstract | Full text | PDF | References | Request permissions

ORIGINAL ARTICLES

Modeling the combined effect of high hydrostatic pressure and mild heat on the sub-lethal injury of *Listeria monocytogenes* by Box–Behnken design

Hua Zhu, Yanyan Xu, Guohong Qi, Suilou Wang, Haixiang Wang

First Published: 19 July 2020

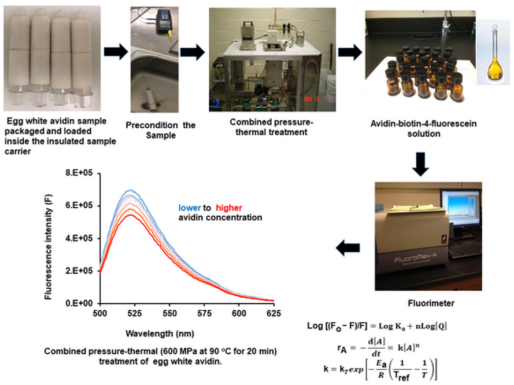


Abstract | Full text | PDF | References | Request permissions

Thermal and high-pressure treatment stability of egg-white avidin in aqueous solution

Santosh Dhakal, Hannah Shafaat, V. M. Balasubramaniam

First Published: 19 July 2020

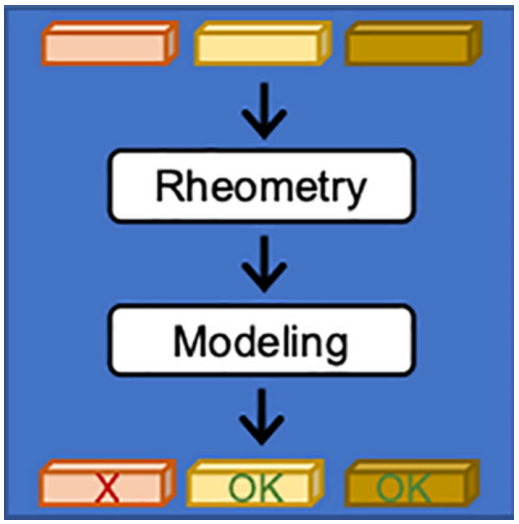


Abstract | Full text | PDF | References | Request permissions

Predicting high-protein bar processing ability from rheological and tribological analyses

Kristen Sparkman, Brennan Smith, Helen S. Joyner

First Published: 20 July 2020

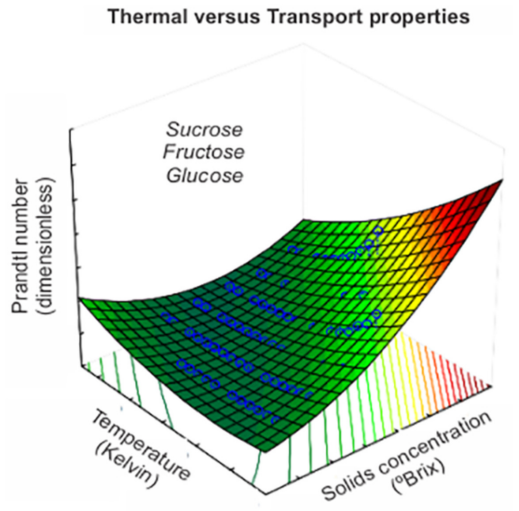


Abstract | Full text | PDF | References | Request permissions

Thermophysical properties of carbohydrate solutions: Correlation between thermal and transport properties

Maria Júlia Neves Martins, Bianca Guimarães, Tiago Carregari Polachini, Javier Telis-Romero

First Published: 14 July 2020



Abstract | Full text | PDF | References | Request permissions

Tools

Submit an Article

Browse free sample issue

Get content alerts

Journal of Food Process Engineering / Volume 43, Issue 9

ORIGINAL ARTICLE

Modeling the combined effect of high hydrostatic pressure and mild heat on the sub-lethal injury of *Listeria monocytogenes* by Box–Behnken design

Hua Zhu, Yanyan Xu, Guohong Qi, Suilou Wang, Haixiang Wang

First published: 19 July 2020
https://doi.org/10.1111/jfpe.13480

Funding information: High Level Talented Person Cultivating Program of Lishui Science and Technology Bureau, Grant/Award Number: 2018RC06; the open project funds of Beijing Advanced Innovation Center for Food Nutrition and Human Health, Grant/Award Number: 20181009; Zhejiang Provincial Natural Science Foundation of China, Grant/Award Number: LY18H300007

Abstract

In this study, a predictive model based on the Box–Behnken design of response surface methodology was applied to investigate the effects of high hydrostatic pressure (300, 400 and 500 MPa), temperature (20, 30 and 40°C) and treatment time (5, 10 and 15 min) on the sub-lethal injury of *Listeria monocytogenes* (*L. monocytogenes)*. The percentage of sub-lethal injury was calculated by the difference in *L. monocytogenes* counts observed on nonselective and selective media. The established predictive model presented a goodness of fit to the experimental data ($p < .001$) with high correlation coefficient value ($R^2 = .9999$) and adjusted correlation coefficient value (Adj-$R^2 = .9995$), along with an insignificant lack-of-fit term ($p = .4299$). The synergistic effects of pressure, temperature and treatment time on the sub-lethal injury of *L. monocytogenes* were found within the tested experimental ranges. Results indicated that the established model has the potential for predicting the effects of high hydrostatic pressure processing on the sub-lethal injury of *L. monocytogenes*.

Practical Applications

High hydrostatic pressure (HHP) processing has been an attractive way to replace conventional heat treatments to inactivate microorganisms for the preservation of foods. However, HHP processing can cause microorganisms to enter sub-lethal injury state which pose a threat to food safety. There is a great need of quantification of injured

population of *L. monocytogenes* in a wide range of pressure and temperature conditions. In this study, the changes of sub-lethal injury of *L. monocytogenes* are described, which can be used to assess the HHP treatment efficacy and the synergistic action in food sterilization processes. The modeling for the sub-lethal injury of *L. monocytogenes* cells induced by HHP processing combined mild heat was established. The effects of HHP processing on the sub-lethal injury of *L. monocytogenes* could be understood further by this modeling which was helpful to facilitate industrial adoption of this technology. Based on these data, there was a reference for us to select appropriate processing parameters to avoid appearance of sub-lethal injury of *L. monocytogenes* cells as far as possible during HHP in food industry.

Open Research

DATA AVAILABILITY STATEMENT

Research data are not shared.

Journal of Food Process Engineering / Volume 43, Issue 9

ORIGINAL ARTICLE

Inhibitory effects of *Manihot esculenta* extracts on Food-Borne pathogens and their antioxidant properties: Supercritical fluid extraction, statistical analysis, and molecular docking study

Mohammad Norazmi Ahmad ✉, Nur Hidayah Mohd Azli, Hakimah Ismail, Mohammad Anwar Mohamed Iqbal, Bijarimi Mat Piah, Erna Normaya

First published: 29 May 2020
https://doi.org/10.1111/jfpe.13452

Funding information: Ministry of Higher Education, Malaysia, Grant/Award Number: FRGS16-058-0557

Abstract

An alternative natural additive from *Manihot esculenta* has been recently discovered. Using a response surface methodology (RSM) approach, a high content of antioxidant activity based on DPPH inhibition from the plant source was found, with the optimum production conditions being 45.9°C, 4,100 psi, and 44 min for temperature, pressure, and time, respectively. The optimized extract was analyzed using gas chromatography–mass spectrometry (GC–MS), Fourier-transform infrared spectroscopy (FTIR), and UV–Vis spectroscopy. Based on the GC–MS result, the optimized extract contains two major compounds, namely, hexadecanoic acid (40.43%) and 9-octadecenoic acid (32.75%). The optimized extract also showed good activity in inhibiting *Bacillus cereus* (9.9 ± 0.17 mm) and *Escherichia coli* (10.7 ± 0.18 mm). To verify the activity of these two compounds toward *B. cereus* and *E. coli*, a theoretical approach with molecular docking was used. These two compounds demonstrated good binding affinity toward 2HUC and 1L8A proteins and could be isolated for use as alternative additives in the food industry.

Practical Application

Because there will always be substantial spoilage, losses and wastage in the food supply chain, preserving foods is essential to reduce food waste and ensure safety for consumers. *M. esculenta* extract can be used as an alternative food additive or

preservative in the food industry that can enhance the shelf life of foods with a safe, inexpensive and less time-consuming additive.

Supporting Information

Filename	Description
jfpe13452-sup-0001-FigureS1.tif image/tif, 1.1 MB	**Figure S1**: Contour Plot of the effect of interaction between (a) temperature and pressure on DPPH inhibition (%), (b) temperature and extraction time on DPPH inhibition (%), and (c) pressure and extraction time on DPPH inhibition (%).
jfpe13452-sup-0002-FigureS2.tif image/tif, 289.4 KB	**Figure S2**: Chromatogram of the mixture of Hexadenoic Acid and 9-octadenoic acid.

Please note: The publisher is not responsible for the content or functionality of any supporting information supplied by the authors. Any queries (other than missing content) should be directed to the corresponding author for the article.