8. Siam orange (*Citrus nobilis* L.) nectar characteristics with variations in stabilizer and sucrose level

Jurnal Internasional bereputasi

Nama Jurnal : Food Research

Vol 6 no 3, Juni 2022

1. Cover
2. Editor
3. Daftar isi
4. Artikel
5. Indexing (Q3, SJR 0,23)
6. Bukti koresponden
7. Turnitin

Vol 1 · Iss 1 · 2021

FOOD RESEARCH

OPEN ACCESS

Syrinx Lean Resources

www.myfoodresearch.com

EDITORIAL BOARD

Nikos Tzortzakis
Cyprus University of Technology
Cyprus

Pin Kar Yong
Forest Research Institute Malaysia (FRIM)
Malaysia

Chim Chay
University of Agriculture
Cambodia

Le Van Viet Man
Ho Chi Minh City University of Technology
Viet Nam

Oscar Herrera-Calderon
Universidad Nacional Mayor de San Marcos
Peru

Hasmadi Mamat
University Malaysia Sabah
Malaysia

Regiane Ribeiro dos Santos
Federal Rural University of Rio de Janeiro
Brazil

Koh Soo Peng
Malaysian Agricultural Research and Development Institute (MARDI)

Saisamorn Lumyong
Chiang Mai University
Thailand

Hanifah Nuryani Lioe
Bogor Agricultural University
Indonesia

Michelle Galindo de Oliveira
Federal University of Pernambuco
Brazil

Alper Sener
Onzekiz Mart University
Turkey

Angelo Maria Giuffrè
Mediterranea University of Reggio Calabria
Italy

Javier Garcia-Lomillo
University of Burgos
Spain

Laura Marcela Zárate Polanco
National University of Colombia-Bogotá
Colombia

Swapan K. Banerjee
HPFB Health Canada,
Canada

Adel Abu Bakr Abd El-Hamid

Ekachai Chukeatirote
Mae Fah Luang University
Thailand

Saroat Rawdkuen
Mae Fah Luang University
Thailand

Giovanna Giacalone
Università di Torino
Italy

Lorina Acilo Galvez
Visavas State University
Philippines

Sergio Soto Simental
Universidad Autónoma del Esta de Hidalgo
Mexico

Fernando Cebola Lidon
Universidade Nova de Lisboa
Portugal

Linda Lim Biaw Leng
Universiti Brunei Darussalam
Brunei Darussalam

J.M. Krishanti Jayarukshi Kum Premarathne
Wayamba University of Sri Lan
Sri Lanka

Katherine Ann T. Castillo-Isra
University of the Philippines L

FOOD RESEARCH
Volume 6, Issue 3
June 2022 *(In Progress)*

Mini Review

A review on production, application, and toxicological analyses of nanocrystalline cellulose as a novel fat replacer food additive

Aida Safina, A., Chin N.L., Nur Akmal, I., Nor Nadiah, M.Y. and Yus Aniza, Y.

Available Online: 5 MAY 2022 | https://doi.org/10.26656/fr.2017.6(3).231

Aida Safina *et al*. reviewed on the production, application and toxicological analyses of nanocrystalline cellulose as a novel fat replacer food additive.

Full Papers

Moisture content and application rates of inert dust: effects on dust and wheat physical properties

Yao, K.D., Subramanyam, B. and Maghirang, R.G.

Available Online: 5 MAY 2022 | https://doi.org/10.26656/fr.2017.6(3).280

Yao *et al*. studied on the effects on dust and wheat physical properties on the moisture content and application rates of inert dust.

Preparation of a protein drink from fish protein hydrolysate obtained from tilapia skin waste

Osiriphun, S., Wangtueai, S., Rachatanaphun, P. and Jirarattanarangsri, W.

Available Online: 5 MAY 2022 | https://doi.org/10.26656/fr.2017.6(3).342

Osiriphun *et al*. developed a protein drink from fish protein hydrolysate obtained from tilapia skin waste.

The addition of lactic acid bacteria in the soybean soaking process of tempeh

Magdalena, S., Hogaputri, J.E, Yulandi, A. and Yogiara, Y.

Available Online: 5 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).304

The addition of lactic acid bacteria in the soybean soaking process of tempeh was studied by Magdalena *et al*.

Breadfruit (*Artocarpus altilis*) starch-based nanoparticle formation through dropwise mixing nanoprecipitation

Harsanto, B.W., Pranoto, Y., Supriyanto and Kartini, I.

Available Online: 8 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).308

Harsanto *et al*. formed breadfruit (*Artocarpus altilis*) starch-based nanoparticle through dropwise mixing nanoprecipitation.

Physical properties and sensory acceptability of gum arabic-coated cherry tomato fruit during storage

Sumonsiri, N., Charoensantisuk, K., Paonoi, N. and Kittayangkul, P.

Available Online: 8 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).395

The physical properties and sensory acceptability of gum arabic-coated cherry tomato fruit during storage was evaluated by Sumonsiri *et al*.

Physicochemical properties of yam starches from fifty-five lines of Dioscorea species

Olayide, S.L., Kehinde, O.S., Adeolu, A.A., Olushola, S.A., Nishinari, K. and Simphiwe, M.N.

Available Online: 8 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).224

Olayide *et al*. evaluated the physicochemical properties of yam starches from fifty-five lines of Dioscorea species

Whey protein concentrate mixed beverages and plasma amino acid response in young males

Klaewkla, J., Hudthagosol, C., Chaijenkij, K., Panya, A., Sang-ngoen, D., Phonsatta, N. and Kaewkul K.

Available Online: 8 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).630

Klaewkla *et al*. evaluated the plasma amino acid response in young males consuming whey protein concentrate mixed beverages.

Antioxidant activities and polyphenol compounds of kenaf leaf tea infusion after in-vitro gastrointestinal digestion and consumer perception survey

Goh, K.M., Lee, S.W. and Nyam, K.L.

Available Online: 11 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).590

The antioxidant activities and polyphenol compounds of kenaf leaf tea infusion after in-vitro gastrointestinal digestion and consumer perception survey was conducted by Goh *et al.*

Assessment of *Pseudomonas aeruginosa* biofilm-forming capacities from drinking water in water vending machine

Elexson, N., Sabrina, H., Dalene, L., Eddy, B., Nurul, F.R., Nasra, P., Grace, B., Nick, L., Amirah, Z.J., Nur, D.Z., Dayang, N.A.B., Manju, S. and Tunung, R.

Available Online: 11 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).324

Elexson *et al.* assessed the biofilm-forming capacities of Pseudomonas aeruginosa from drinking water in water vending machine.

Isolation of active compound from *Nephelium lappaceum* L. rind as an antioxidant

Nurani, L.H., Edityaningrum, C.A., Suhaera, Windarsih, A., Riyanto, S. and Rohman, A.

Available Online: 11 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).331

Nurani *et al.* isolated and studied the active compound from *Nephelium lappaceum* L. rind as an antioxidant.

Halal food: a social responsibility on cartel meat issue in Malaysia

Mohd Riza, N.S., Md Ariffin M.F., Hamdan, M.N. and Ramli, N.

Available Online: 11 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).277

Mohd Riza *et al.* evaluated the social responsibility on cartel meat issue on halal in Malaysia.

A comparative study of the physico-chemical properties of prominent cocoa bean in Southern Vietnam

Lam, T.V.H., Phan, T.B.T., Truong, T.N. and Ha, T.T.

Available Online: 14 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).359

Lam *et al.* performed a comparative study on the physico-chemical properites of prominent cocoa bean in Southern Vietnam

Comparison of the mass tissue strength of strawberry fruit between vertical and horizontal compaction

Ansar, A., Murad, M., Sukmawaty, S. and Ilmaknun, L.

Available Online: 14 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).373

The meat tissue strength of strawberry fruit between vertical and horizontal compaction was compared by Ansar *et al.*

Optimum condition of roasting process of Liberica coffee towards the local and international preference

Halim-Lim, S. A., Wan-Mohtar, W.A.A.Q.I., Surapinchai, S. and Azizan, N.A.Z.

Available Online: 14 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).340

The optimum conditions of roasting process of Liberica coffee towards the local and international preference was evaluated by Halim-Lim *et al.*

Optimization of heat treatment and pH of red and white pear cactus [*Opuntia ficus-indica* (l.) mill.] fruit juice using response surface methodology

Abdulkadir, N., Solomon, W.K. and Woldetsadik, K.

Available Online: 14 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).306

Abdulkadir *et al*. optimized the heat treatment and pH of red and white pear cactus [*Opuntia ficus-indica* (l.) mill.] fruit juice using response surface methodology

Meatball model of porcine DNA detection by TaqMan probe real-time PCR

Sajali, N., Ting, S.M.L., Koh, C.C., Desa, M.N.M., Wong, S.C. and Bakar, S.

Available Online: 19 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).384

Sajali *et al*. evaluated the meatball model of porcine DNA detection by TaqMan probe real-time PCR.

Simultaneous determination of nitrite and nitrate in meat and meat products using ion-exchange chromatography

Mazumdar, R.M., Sharif, M., Khan, T.A., Rahman, M.M. and Abdullah A.T.M.

Available Online: 19 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).339

Mazumdat *et al*. performed a simulatenous determination of nitrite in meat and meat products using ion-exchange chromatography.

Prediction of diffusion coefficient for losses of minerals from potato during frying

Samir, Z.T., Saeed, S.K., Mohammed, N.K., and Abdul-Rezzak, R.K.

Available Online: 19 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).382

Samir *et al.* predicted the diffusion coefficient for losses of minerals from potato during frying.

Effects of lyotropic series salts on the functional properties of bambara groundnut (*Voandzeia subterranean*) protein isolate

Lawal, O.S., Sodeinde, K.O., Adediran, A.A., Nishinari, K., Olatunji, O.S., and Ayanda, O.S.

Available Online: 19 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).771

The effects of lyotropic series salts on the functional properties of bambara groundnut (*Voandzeia subterranean*) protein isolate were studied by Lawal *et al.*

Physicochemical properties of post laying hen breast meat thawed using various methods

Dwiloka, B., Setiani, B.E., Pramono Y.B., Prihatiningsih, R., Nurussyifa, S.Y. and Puspitoasih, A.D.

Available Online: 22 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).296

The physicochemical properties of post laying hen breast meat thawed using various methods were studied by Dwiloka *et al.*

Anthropometry indicators that are most related to metabolic profiles in female college students

Dieny, F.F., Rose S., Tsani, A.F.A., Jauharany, F.F. and Fitranti, D.Y.

Available Online: 22 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).250

Dieny *et al.* evaluated the anthropometry indicators that are most related to metabolic profiles in female college students.

Screening of *Lactobacillus rhamnosus*-producing gamma aminobutyric acid (GABA) isolated from Sumbawa mare milk and its potential application to increase GABA content in fermented milk

Nursini, N.W., Antara, N.S., Sugitha, I.M. and Sujaya, I.N.

Available Online: 22 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).380

Nursini *et al.* screened *Lactobacillus rhamnosus*-producing gamma aminobutyric acid (GABA) isolated from Sumbawa mare milk and studied on its potential to increase GABA content in fermented milk.

The effect of rotary drying temperature on drying characteristic and antioxidant activity of *Etlingera elatior* Jack

Simanjuntak, M.E., Ristiarini, S. and Widyawati, P.S.

Available Online: 22 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).333

The effect of rotary drying temperature on the drying characteristics and antioxidant activity of *Etlingera elatior* Jack was studied by Simanjuntak *et al.*

The effect of differences in ozonation time and storage temperature on physical, chemical, and sensory characteristics of Japanese spinach (*Spinacia oleracea* L.)

Prabawa, S., Safitri, D.I., Rofandi, H., Amanto, B. and Yudhistira, B.

Available Online: 26 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).350

Prabawa *et al*. studied the effect of differences in ozonation time and storage temperature on physical, chemical and sensory characteristics of Japanese spinach (*Spinacia oleracea* L.)

Development and acceptability of value-added products from green mussel (*Perna viridis*) in Samar, Philippines

Sorio, J.C. and Arcales, J.A.A.

Available Online: 26 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).320

Sorio and Arcales developed and evaluated the acceptability of value-added products from green mussel (*Perna viridis*) in Samar, Philippines.

Identification and quantification of sodium benzoate in soft drinks available in Tangail region by high-performance liquid chromatography

Esrafil, M., Akter, S., Alam, M.J., Haque, M.A., Zubair, M.A. and Khan, M.S.H

Available Online: 26 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).348

Esrafil *et al*. identified and quantified sodium benzoate in soft drinks available in Tangail region using high-performance liquid chromatography.

Comparison between Polymerase Chain Reaction and Loop Mediated Isothermal Amplification for the detection of *Staphylococcus aureus* in food

Bashar, Q.K., Aziz, A.Z. and Kadhim, N.I.

Available Online: 29 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).335

Bashar *et al*. compared Polymerase Chain Reaction and Loop Mediated Isothermal Amplification for the detection of *Staphylococcus aureus* in food.

Studies on the effect of methionine level on cheese colour as a solid substrate of *Monascus purpureus* JK2 fermentation

Sulandari, L., Utami, T., Hidayat, C. and Rahayu, E.S.

Available Online: 29 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).422

The effect of methionine level on cheese colour as a solid substrate of *Monascus purpureus* JK2 fermentation was study by Sulandari *et al*.

Effectiveness of banana juice (*Musa acuminata* Linn.) on blood pressure, blood sugar levels, and low-density lipoprotein in elderly

Fitri, Y., Suryana, S., Ahmad, A., Hendra, A., Fitrianingsih, E., Arnisam and Yunianto, A.E.

Available Online: 29 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).213

The effectiveness of banana juice (*Musa acuminata* Linn.) on blood pressure, blood sugar levels, and low-density lipoprotein in elderly was studied by Fitri *et al*.

Development and quality evaluation of jelly coated tapai as a cocktail product

Banin, M.M., Azizah, A., Jusni, Farahdina, R., Candra, K.P., Saragih, B. and Yuliani

Available Online: 29 MAY 2022 I https://doi.org/10.26656/fr.2017.6(3).290

Banin *et al*. developed and evaluated the quality of jelly coated tapai as a cocktail product.

Conversion of left-over ice cream into bakery product for food sustainability

Jamaludin, N.S., Baharuddin, A.S., Karim, S., Wakisaka, M. and Rahman, N.A.A.

Available Online: 5 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).410

Jamaludin *et al*. studied on the conversion of left-over ice cream into bakery product for food sustainability.

Simultaneous analysis of patin fish oil (*Pangasius micronemus*) and bandeng (*Chanos chanos*) fish oil using FTIR spectroscopy and chemometrics

Ikhsan, A.N., Irnawati, I. and Rohman, A.

Available Online: 5 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).353

Ikhsan *et al*. performed a simultaneous analysis of patin fish oil (*Pangasius micronemus*) and bandeng (*Chanos chanos*) fish oil using FTIR spectroscopy and chemometrics.

Organoleptic acceptability and nutritional evaluation of innovative *Moringa oleifera* leaves-based herbal teas incorporated various aromatic herbs

Barakat, H.

Available Online: 5 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).411

Barakat studied the organoleptic acceptability and nutritional evaluation of innovative *Moringa oleifera* leaves- based herbal teas incorporated various aromatic herbs.

Optimization of roasting temperature and time of the durian seed (*Durio zibethinus* L.) as coffee substitution and its flavour profile

Natania, K. and Wijaya, E.

Available Online: 5 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).413

Natania and Wijaya optimized of roasting temperature and time of the durian seed (*Durio zibenthinus* L.) as coffee substitution and its flavour profile.

Development of pastilles from flesh and rind of watermelon

Din, S.N., Mubarak, A., Lani, M.N., Yahaya M.Z. and Wan Abdullah, W.Z.

Available Online: 12 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).248

Din *et al*. developed pastilles from flesh and rind of watermelon

The effect of konjac glucomannan and Aloe vera gel concentration on physical and mechanical properties of edible film

Warkoyo, Purnomo, I., Siskawardani, D.D. and Husna, A.

Available Online: 12 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).415

Warkoyo *et al*. evaluated the effect of konjac glucomannan and Aloe vera gel concentration on physical and mechanical properties of edible film.

The effects of adding lysine to sap on chemical characteristics and antioxidant activity of granulated coconut sugar

Haryanti, P. and Sulistyo, S.B.

Available Online: 12 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).420

The effects of adding lysine to sap on chemical characteristics and antioxidant activity of granulated coconut sugar were studied by Haryanti and Sulistyo.

Siam orange (*Citrus nobilis* L.) nectar characteristics with variations in stabilizer and sucrose level

Aini, N., Dwiyanti, H., Setyawati, R., Handayani, I., Septiana, A.T., Sustriawan, B. and Aena, D.A.Q.

Available Online: 16 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).386

Aini *et al*. studied on the Siam orange (*Citrus nobilis* L.) nectar characteristics with variations in stabilizer and sucrose level.

Chemical and microbiological analysis of fermented probiotic watermelon juice

Lani, M.N, MohdMangsor, N.H., Sharifudin, S.A., Abdullah, W.Z.W., MohdIsa, N.S., Jamzuri, M.N.S. and MohdMaidin, N.

Available Online: 16 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).402

The chemical and microbiological analysis of fermented probiotic watermelon juice were studied by Lani *et al*.

Phytochemical content and antioxidant activity of Komba-komba (*Eupatorium odoratum* L)

Sabarudin, Nuralifah, Zubaydah, W.O.S., Sahumena, M.H., Sari, F.N., Nelisa and Yamin

Available Online: 16 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).495

The phytochemical content and antioxidant activity of Komba-komba (*Eupatorim odoratum* L) were evaluated by Sabarudin *et al.*

Effect of operational conditions on physicochemical profiles of spray-dried powder of mango (*Mangifera indica* L.) juice from Tu Quy variety in Vietnam

Pham, T.V., Nguyen, M.T.P., Do, L.V., Truong, M.N., Vo, A.N., Van, K.C. and Le, T.D.

Available Online: 16 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).319

Pham *et al*. studied on the effect of operational conditions on physicochemical profiles of spray-dried powder of mango (*Mangifera indica* L.) juice from Tu Quy variety in Vietnam.

The characterization of Enterobacteriaceae and Pseudomonadaceae isolated from natural salt licks in Sarawak Borneo

Lihan, S., Jalin, F.J.E., Mohd-Azlan, J., Chiew, S.T. and Chai, L.C.

Available Online: 19 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).208

Lihan *et al*. characterized Enterobacteriaceae and Pseudomonadaceae isolated from natural salt licks in Sarawak Borneo.

Cryogenic freezing preserves the quality of whole durian fruit for the export market

Razali, N.A., Wan Ibrahim, W.M., Safari, S., Rosly, N.K., Hamzah, F.A. and Wan Husin, W.M.R.

Available Online: 19 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).428

Razali *et al*. studied on the quality of cryogenic freezing of whole durian fruit for the export market.

Effect of jambu mawar [*Syzygium jambos* (L.) Alston] leaves extract on natural microbial populations in food

Ali, S.K., Son, R., Nor Khaizura, M.A.R. and Rukayadi, Y.

Available Online: 19 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).446

The effect of jambu mawar [*Syzgium jambos* (L.) Alston] leaves extract on the natural microbial populations in food was evaluated by Ali *et al.*

Effects of extraction methods on antioxidants and methoxyflavones of *Kaempferia parviflora*

Chaisuwan, V., Dajanta, K. and Srikaeo, K.

Available Online: 19 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).408

The effects of extraction methods on the antioxidants and methoxyflavones of *Kaempferia parviflora* were studied by Chaisuwan *et al.*

The effect of red guava (*Psidium guajava* L.) juice on pregnant women's hemoglobin level

Olii, N., Sukaisi, Asriah, Kusika, S.Y., Situmorang, C.C., Haumahu, C.M., Tompunuh, M.M. and Zuraidah

Available Online: 26 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).435

The effect of red guava (*Psidium guajava* L.) juice on pregnant women's haemoglobin levels was stuided by Olii et al.

Effect of conventional and ultrasonic-assisted extracts on betacyanin content of red dragon fruit (*Hylocereus polyrhizus*)

Thuy, N.M., Ngoc, P.T.B. and Tai, N.V.

Available Online: 26 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).754

The effect of conventional an ultrasonic-assisted extracts on betacyanin content of red dragon fruit (*Hylocereus polyrhizus*) was studied by Thuy *et al.*

Replacing a part of wheat flour with starchy food containing high levels of resistant starch in noodles processing

Vuong, K.M., Tram, N.B., Tuyen, L.N., Vy, L.T.T., Tai, N.V. and Thuy, N.M.

Available Online: 26 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).1020

Vuong *et al.* evaluated the effects of replacing a part of wheat flour with starchy food containing high levels of resistant starch in noodles processing.

Antioxidant, anti-tyrosinase, and anti-angiogenic activities of dragon fruit (*Hylocereus* spp.)

Cruz, M.M., Reyes, S.B., Angeles, H.G., Del Rosario, J.M., Lirazan, M.B., Estacio, R.C., Corales, L.M. and Dalmacio, L.M.

Available Online: 26 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).400

Cruz *et al.* studied on the antioxidant, anti-tyrosinase, and anti-angiogenic activities of dragon fruit (*Hylocereus* spp.)

Comparative study of nutritional and functional characteristics of pearl millet, buckwheat, amaranth and unripe banana flours for gluten-free bakery products

Rustagi, S., Khan, S. and Jain, T.

Available Online: 30 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).624

Rustagi *et al*. performed a comparative study on the nutritional and functional characteristics of pearl millet, buckwheat, amaranth and unripe banana flours for gluten-free bakery products.

Optimization of enzymatic hydrolysis of boso fish (*Oxyeleotris marmorata*) protein based on the degree of hydrolysis and the physical properties of the resultant hydrolysates

Priatni, S., Ratnaningrum, D., Kosasih, W., Eriska, H., Devi, A.F. and Budiari, S.

Available Online: 30 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).593

Priatni *et al*. optimized the enzymatic hydrolysis of boso fish (*Oxyeleotris marmorata*) protein based on the degree of hydrolysis and the physical properties of the resultant hydrolysates.

Immunonutrition as a potential strategy to prevent and cope with coronavirus disease (COVID-19)

Acevedo-Espinola, R. and Torres-Obregón, S.E.B.

Available Online: 12 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).346

Acevedo-Espinoala and Torres-Obregón studied on immunonutrition as a potential strategy for COVID-19 prevention.

Analysis of amino acids in food using High Performance Liquid Chromatography with derivatization techniques: a review

Lestari, L.A., Rohman, A., Riswahyuli, Purwaningsih, S., Kurniawati, F. and Irnawati

Available Online: 30 JUNE 2022 I https://doi.org/10.26656/fr.2017.6(3).442

Lestari *et al*. reviewed on the analysis of amino acids in food using High Performance Liquid Chromatography (HPLC) with derivatization techniques.

Food Research 6 (3) : 315 - 323 (June 2022)
Journal homepage: https://www.myfoodresearch.com

FOOD RESEARCH

FULL PAPER

Siam orange (*Citrus nobilis* L.) nectar characteristics with variations in stabilizer and sucrose level

*Aini, N., Dwiyanti, H., Setyawati, R., Handayani, I., Septiana, A.T., Sustriawan, B. and Aena, D.A.Q.

Department of Food Technology, Jenderal Soedirman University, Jalan Dr. Soeparno, Purwokerto, 53123, Central Java, Indonesia

Article history:
Received: 1 June 2021
Received in revised form: 23 July 2021
Accepted: 4 November 2021
Available Online: 16 June 2022

Keywords:
Carrageenan,
Citrus nobilis L.,
Nectar,
Sucrose,
Stabilizer,
Viscosity

DOI:
https://doi.org/10.26656/fr.2017.6(3).386

Abstract

The Siam orange (*Citrus nobilis* L.) has low economic value because of its sour taste and unattractive appearance. However, processing the fruit into nectar can increase its value. Nectar production requires the addition of sugar and the appropriate stabilizer for consumer acceptance. This research aimed to study the ideal combination of sucrose and stabilizer in Siam orange nectar production. A factorial completely randomized design was employed with two factors, the concentration of sucrose (10%, 15%, and 20%) and the type of stabilizer (CMC, carrageenan, pectin). As more sucrose was added to the juice, the moisture content decreased and the volume of soluble solids increased. The type of stabilizer only affected nectar pH and viscosity. CMC produced the highest nectar pH, followed by carrageenan and pectin. However, based on the results of the analysis of all parameters using the effectiveness index, carrageenan was the best stabilizer. Orange nectar with 20% sucrose and 0.5% carrageenan contained 24.2% total soluble solids, 76.6% moisture content, 7.9% reducing sugar, 23.5% vitamin C, and 3.38% crude fibre, with a viscosity of 109 cP and pH of 3.7. The product's sensory characteristics were an orange colour, a sweet, citrus aroma, and a slightly thick texture. Additional research on the storage stability of this nectar formulation is necessary.

1. Introduction

There is high potential genetic diversity in Indonesia's citrus fruits, and the country's orange production is substantial, reaching 2,510,442 tons in 2018 (Badan Pusat Statistik, 2020). One variety of orange grown in Indonesia is the Siam orange (*Citrus nobilis* L.), which constitutes approximately 80–85% of citrus production in Indonesia (Hanif and Zamzami, 2012). However, they have a sour taste, and their greenish or yellowish skin colour is unevenly distributed. Currently, consumers tend to prefer sweet oranges (*Citrus sinensis*) for direct consumption, demonstrating less interest in Siam oranges, particularly sour ones (Sadeli and Utami, 2013). The compositions and properties of oranges vary by type (De-Carvalho *et al.*, 2020), and orange fruits can be easily damaged, making their shelf life relatively short (Arshad *et al.*, 2019). These factors indicate that appropriate technology is needed to increase the economic value of Siam oranges, one method of which is to process the oranges into nectar (Lozano *et al.*, 2020).

Nectars are fermented or unfermented products obtained by adding water to fruit juice, concentrated fruit juice, fruit puree, or concentrated fruit puree, or a mixture of these that conform to the specifications and may contain up to 20% added sugar (De Sousa *et al.*, 2010). Depending on the fruit type, the minimum fruit content in fruit nectar is approximately 25 to 50% (Krumreich *et al.*, 2018), but nectar can be 10–99% fruit pulp or juice (Najafabadi *et al.*, 2020). Highly acidic and fibrous fruits are often transformed into nectar. Adding water makes the nectar more drinkable. Nectar production may also involve heating and filtration processes, possibly affecting the concentration of bioactive compounds. Nectar turbidity is associated with colloidal suspensions in varying amounts, and the solid content is usually 5 to 20% (w/w) (Krumreich *et al.*, 2018). The same kind of fruit with different compositions require different and precise nectar formulations (Bahlol *et al.*, 2018).

The production of fruit nectar has been studied for multiple fruits, such as mango (Lozano *et al.*, 2020), soursop (Tran et *al.*, 2020), guava (Krumreich *et al.*, 2018), peach (Nedić-Tiban *et al.*, 2003), and mixed fruits

*Corresponding author.
Email: *nur.aini@unsoed.ac.id*

eISSN: 2550-2166
Published by Rynnye Lyan Resources

(Bahlol *et al*., 2018). Furthermore, Stella *et al*. (2011) investigated the antioxidant activity of commercial orange nectar of *Citrus reticulata*, and Matiashe *et al*. (2014) developed nectar from lemons (*Citrus limon*). However, the production and composition of nectar from Siam orange (*Citrus nobilis* L.) have not been investigated, and this research is necessary to increase the fruit's economic value.

Adding sucrose to nectar increases the sweetness and enhances the flavour (Nedić-Tiban *et al*., 2003). Sucrose is a sweetener that is colourless and soluble in water. It can play an important role in increasing the acceptance of certain foods (Brochier *et al*., 2019), and its addition will help develop a product with the desired properties. For example, working with guava, Khan *et al*. (2014) found that different concentrations of sucrose produced guava bars with different characteristics. Furthermore, Ferrarezi *et al*. (2013) stated that consumers' desire to buy orange juice and nectar is influenced by sensory properties, in addition to price and labelling. Hoffmann *et al*. (2017) developed *Butia* fruit nectar using a xanthan gum stabilizer and variable amounts of added sucrose, and the authors found that samples with 14°Bx sucrose had the best sensory characteristics, including colour, aroma, flavour, sweetness, and overall acceptability.

Stabilizers increase the nectar's viscosity, physical consistency, and stability (Hoffmann *et al*., 2017). In the production of orange nectar, carboxymethylcellulose (CMC), carrageenan, and pectin can be used, and different stabilizers are appropriate depending on the nectar produced. CMC as sodium carboxymethyl cellulose salt provides good shape, consistency, and texture. It also acts as a water binder, thickener, emulsion stabilizer, and gum texture (Akkarachaneeyakorn and Tinrat, 2015). In the production of soursop and mango nectars, CMC is used as a stabilizer and produces nectar of good viscosity (Tran et *al*., 2020; Lozano *et al*., 2020). Carrageenan is seaweed sap extracted from certain Rhodophyceae species using water or an alkaline solution. It is an emulsifier, thickener, and stabilizer (Nedić-Tiban *et al*., 2003) that was shown to provide greater viscosity than CMC in the production of dragon fruit velva (Basito *et al*., 2018). Pectin is a type of α-D-galacturonic acid carbohydrate biopolymer that contains methyl ester and can be extracted from fruit flesh and skin with an acidic solvent. It is often used as a stabilizer in foodstuffs, jelly ingredients, and films (Krumreich *et al*., 2018). When preparing guava nectar, pectin has demonstrated good viscosity generation and vitamin C retention during storage.

The objectives of this study were to examine Siam orange nectar's physical, chemical, and sensory properties using different sugar concentrations, determine the physical, chemical, and sensory effects of an added stabilizer and determine the combination of sucrose concentration and stabilizer that produces the best Siam orange nectar.

2. Materials and methods

2.1 Materials

Siam oranges (*Citrus nobilis* L.) were purchased from a local market in Purwokerto, Indonesia. The stabilizers tested were carrageenan (kappa carrageenan, produced by CV Karagen Indonesia), CMC (Butterfly brand, purchased from Intisari, Purwokerto, Indonesia), and powdered pectin (low methoxy pectin, product of PT Chemindo Ekatama).

2.2 Experimental design

The research used a factorial completely randomized design with two factors: sucrose concentration (at 10%, 15%, and 20%) and three types of stabilizers (CMC, carrageenan, and pectin). The treatments were arranged factorially to obtain nine treatment combinations, and each treatment combination was repeated three times to obtain 27 experimental units. The data were analyzed by ANOVA (F-test). If the ANOVA revealed a significant effect, Duncan's multiple range test (α = 5%) was performed.

2.3 Production of nectar

The orange nectar was produced according to Hoffmann *et al*. (2017), with modifications to the ingredient proportions and stabilizer type. The nectar was made by mixing water and pulp (1:4), sucrose, and stabilizer. The amount of sucrose added was 15%, 20%, or 25% (w/v). The stabilizer used was carrageenan, CMC, or pectin. Nectar samples (150 mL) were pasteurized in a 250 mL bottle for three minutes at 100±5°C. The nectar was cooled at 30°C until it reached 28°C, then analyzed.

2.4 Nectar sample analyses

Moisture content, reducing sugar content, soluble solids, crude fibre, vitamin C, viscosity, and pH were determined. Moisture content was determined by the oven method (AOAC, 2005). Soluble solids were measured using a refractometer (AOAC, 2005) and the pH was measured using a pH meter (AOAC, 2005). Reducing sugars were analyzed using the Nelson–Somogyi method, and viscosity was measured according to Steele *et al*. (2014). The crude fibre was analyzed using the gravimetric method (AOAC, 2005).

Total soluble solids (TSS) were measured with a

refractometer after calibration. Several drops of each sample were placed on a blue prism and the TSS (°Bx) read. The refractometer was calibrated after each sample.

The reducing sugar was measured in 2 g of sample diluted with distilled water to 100 mL. From the solution, 1 mL was taken and then diluted with distilled water to 10 mL. To 1 mL of this second solution, 1 mL of Nelson's reagent was added. The solution was heated in a water bath for 20 mins. The sample was cooled by holding the flask under running water, 1 mL of arsenomolybdate was added, the sample was shaken using a vortex, and 7 mL of distilled water was added. The absorbance was measured using a spectrophotometer at a wavelength of 540 nm. Reducing sugar content can be measured by converting the absorbance with a standard curve.

Viscosity was measured using a viscometer (Steele *et al*., 2014). A spindle rod was installed on a viscometer with a number that corresponded to the type of sample. The spindle rod was inserted into the sample in a glass beaker. The viscometer was turned on, and the viscosity was read after 5 mins using the viscometer scale. All values were converted to viscosity according to the speed and spindle used.

The crude fibre was analyzed by the gravimetric method (AOAC, 2005). To 2 g of sample in a 250 mL Erlenmeyer flask, 50 mL of 1.25% H_2SO_4 solution was added. The sample was heated for 30 mins, and 50 mL of a 3.25% NaOH solution was added. The sample was reheated for 30 mins in an 80°C water bath. The suspension was filtered through filter paper that had been oven-dried and weighed. The residue left in the filter paper was washed with 15 mL of hot 3.25% H_2SO_4 and 15 mL of boiling distilled water, then washed again with 15 mL of hot 96% ethanol. Sample washing was continued until the washing water was not acidic. The filter paper was dried in an oven at 110°C to a constant weight, cooled in a desiccator, and weighed. Crude fibre content was calculated based on the ratio between the dried residue and the initial sample weight.

The pH was measured using a pH meter (model Do700, Extech Instruments, Shanghai, China). Before use, the pH meter was calibrated using buffer solutions of pH 7 and pH 4. Then, the pH meter electrode was dipped into a sample of orange nectar until the value stabilized.

Vitamin C was determined using the titration method based on the reduction of the indicator 2,6-dichlorophenol. The sample (5 g) was added to a 100 mL volumetric flask, and distilled water was added to 100 mL. The filtrate was homogenized, filtered, and 25 mL was added to an Erlenmeyer flask with 1 mL of a 1% starch solution. The filtrate was then titrated with a standard 0.01 N iodine solution until a colour change occurred.

The sensory evaluation utilized the Meillgard method (De Sousa *et al.*, 2010). Sensory analysis was performed, using test scores for taste, colour, aroma, thickness, and preference parameters on a scale of 1 to 5. The scales for taste were 1 = bitter and 5 = very sweet; for colour, 1 = light yellow and 5 = very orange; for aroma, 1 = not strong and 5 = very strong; for viscosity, 1 = not thick and 5 = very thick; for personal preferences, 1 = dislike and 5 = like very much. Twenty trained panellists were employed, and the Friedman test was used to analyze the organoleptic results. If there was an effect, a multiple comparison test with $\alpha = 5\%$ was conducted. The orange nectar sensory test variables based on a numeric scale can be viewed in Table 1.

3. Results and discussion

3.1 Total soluble solids

The concentration of sucrose significantly affected the TSS of orange nectar. The greater the quantity of sucrose added, the higher the nectar TSS. The highest soluble solid value was 23.4°Bx, with the addition of 20% sucrose (Figure 1). Sucrose contains high TSS. According to Krumreich *et al.* (2018), the solid content of sucrose is 95%, and the more sucrose added, the greater the TSS. This result is consistent with the increase detected in sucrose content as the TSS in orange nectar increased (Stella *et al.*, 2011).

The interaction between the sucrose concentration and the type of stabilizer had a significant effect on TSS (Figure 2). The highest TSS values were found with the addition of 20% sucrose and carrageenan as stabilizers. Carrageenan has higher TSS than CMC and pectin due to its high protein content of 3.4%, while CMC has no protein (Septianti *et al*., 2019). The 20% sucrose in this study provided higher TSS than the 10% and 15%, and

Table 1. Numeric scale of attribute

Numeric Scale	Colour	Taste	Aroma (citrus flavour)	Viscosity	Preference
1	Light yellow	Not sweet	No citrus flavour	Thin	Dislike
2	Dark yellow	Little sweet	Little	Little thick	Little like
3	Slightly orange	Slightly sweet	Slightly	Slightly thick	Slightly like
4	Orange	Sweet	Citrus flavour	Thick	Like
5	Very orange	Very sweet	Very strong	Very thick	Very like

eISSN: 2550-2166

in combination with carrageenan as a stabilizer, it produced orange nectar with the highest TSS, at 24.1°Bx. With 10% sucrose added with CMC, carrageenan, and pectin stabilizers, the nectar showed no significant differences in TSS, at 16.3, 16.4, and 16.8°Bx, respectively (Figure 1).

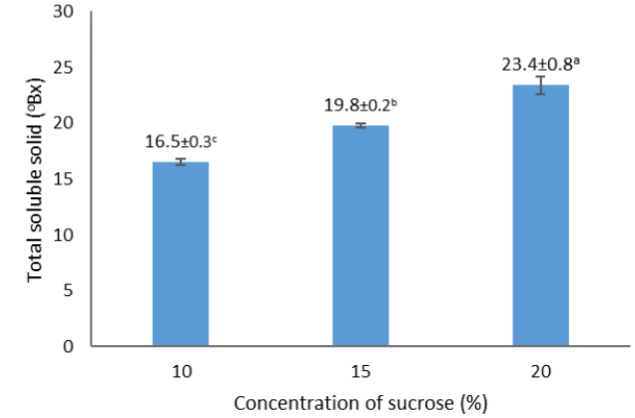


Figure 1. Effect of sucrose levels on the soluble solids of the orange nectar. Values with different superscript are significantly different ($p<0.05$).

As free water was bound by a stabilizer, TSS increased. As more particles bind to stabilizers, the TSS increases, and the precipitate decreases. In the presence of a stabilizer, the suspended particles will be trapped in the system and will not settle under the influence of gravity (Krumreich *et al*., 2018). Prasetijo *et al.* (2017) found that the higher the sucrose concentration in ripe fruit, the higher the total dissolved solids. Sucrose and pectin play a role in increasing the total dissolved solids content.

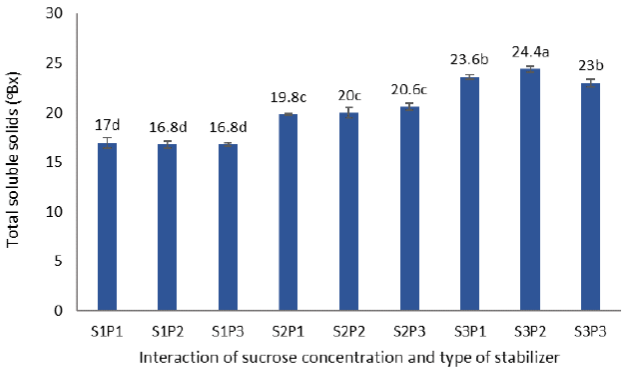


Figure 2. Effect of sucrose content and type of stabilizer on the soluble solids of the orange nectar. Values with different superscript are significantly different ($p<0.05$).

The orange nectar in this study had TSS values of 16.3–24.1°Bx (Figure 2). The TSS of these nectars were higher than those found for lime (13–13.2°Bx), guava (14.1–16.2°Bx), and mango (11.94–12.45°Bx) nectars (Matiashe *et al*., 2014; Krumreich *et al.*, 2018; Lozano *et al.*, 2020). However, the TSS of orange nectar was lower than mango nectar (72–75.4°Bx) (Khan *et al.*, 2014), as mangoes have more total solids than oranges.

3.2 pH

The concentration of sucrose did not affect the pH of the orange nectar significantly. The average pH values of the orange nectars with 10%, 15%, and 20% added sucrose were the same (3.7). This is because sucrose has a neutral pH, so it does not affect the pH when added to orange nectar. These results are consistent with Khan *et al.* (2014), who found that adding sucrose did not affect nectar pH.

The stabilizer type had an impact on the pH of the orange nectar, and nectars with CMC as a stabilizer had the highest pH (3.9), followed by carrageenan (3.7) and pectin (3.6), as shown in Figure 3. As CMC is an alkaline stabilizer, the orange nectar with added CMC will have a higher pH than those with carrageenan and pectin. Khan *et al.* (2014) noted that the pH of guava bars with the addition of CMC was slightly higher than that of those with added pectin. Our results are also consistent with Prasetyo (2014), in which the addition of CMC in the manufacture of red guava fruit drinks had a pH ranging from 5.3 to 5.9. Furthermore, adding 0.5% CMC to cashew syrup resulted in a pH of 5.34 (Manoi 2006). According to Simamomar and Rossi (2017), adding 0.5% pectin in the manufacture of mangrove apple (*Sonneratia caseolaris)* jam resulted in a pH of 3.20. Therefore, applying pectin to citrus fruit nectar will result in a more acidic pH than citrus nectar with CMC or carrageenan.

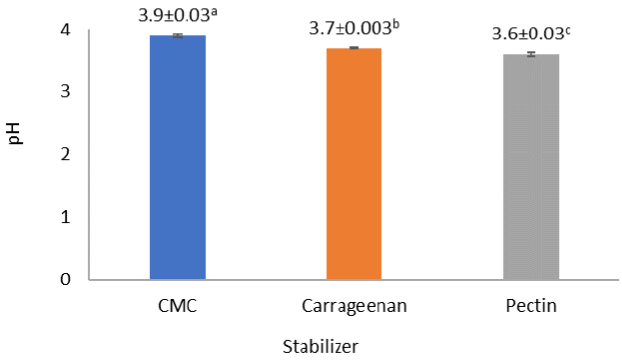


Figure 3. Effect of stabilizer on the pH of the orange nectar. Values with different superscript are significantly different ($p<0.05$).

The addition of CMC will cause the pH to increase because CMC is a salt of a strong base and a weak acid, so the resulting solution will have a high pH (Marchelina *et al*., 2020). In addition, there are large amounts of hydrocolloids in CMC to increase the pH (Malaka *et al*., 2017). The addition of pectin will increase the acidity so that the pH decreases. This process occurs because, during nectar production, pectin is hydrolyzed into pectinate and pectic acid so that the more pectin is added, the higher the acid produced and the lower the pH (Tran *et al*., 2020).

The interaction between the stabilizer type and sucrose concentration did not significantly affect the pH of the nectar. The pH of the citrus nectar in this study was 3.6–3.9, which was lower than the 4.2 found by Matiashe *et al.* (2014), who studied lime nectar production.

The pH of a food product is extremely important, as it limits the growth of disease and spoilage bacteria. According to Xiang-Ng and Kuppusamy (2019), heat treatment also promotes the stability of ascorbic acid because this vitamin is more stable at acidic pH. There is no pH standard for orange nectar, although the standard range for orange juice, according to the FDA Center for Food Safety and Applied Nutrition (2008), is 3.3 to 4.19. Based on this FDA standard, the pH of orange nectar from 3.6–3.9 would meet FDA standards.

3.3 Viscosity

The type of stabilizer had a significant impact on the viscosity of the orange nectar (Figure 4). CMC produced the highest viscosity (195 cP), followed by carrageen (119 cP) and pectin (26 cP). The high viscosity of orange nectar with added CMC is due to the dispersal of CMC in the fluid phase, which binds large amounts of water and forms a gel framework, preventing the free movement of water molecules (Akkarachaneeyakorn and Tinrat, 2015). According to Utomo *et al.* (2014), the viscosity of many water molecules is increased because the crosslinks formed by the helical arrangement and their interactions are trapped within the three-dimensional structure. The water previously free to move outside the granules can no longer do so because it is absorbed and bound to the CMC granules, increasing viscosity (Siskawardhani *et al.*, 2013).

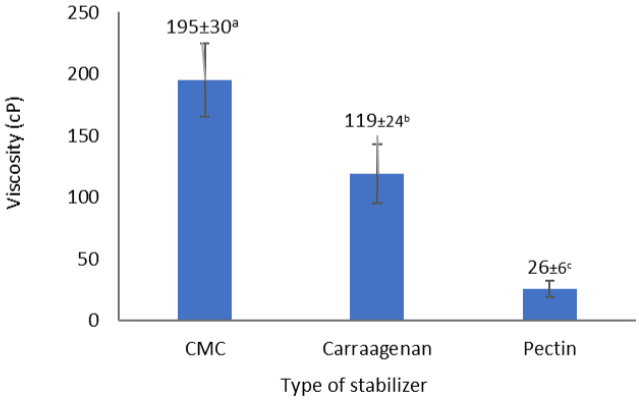


Figure 4. Effect of stabilizer on the viscosity of the orange nectar. Values with different superscript are significantly different ($p<0.05$).

The addition of carrageenan will cause decreased stability, especially at high temperatures. Carrageenan is capable of forming a gel of polymer chains that form a three-dimensional mesh. This network captures or mobilizes water therein and forms a strong and rigid structure (Sharma *et al.*, 2017). However, the tissue formed by carrageenan is weaker than CMC, so the viscosity of nectar added with carrageenan was lower than the viscosity of nectar added with CMC. According to Penjumras *et al.* (2019), adding more CMC rather than carrageenan to the dough will increase its viscosity.

Compared to other stabilizers, pectin produced the lowest orange nectar viscosity. Khushbu and Sunil (2018) stated that mayonnaise had a lower viscosity with added pectin than CMC. Similarly, Tran et *al.* (2020) found that adding pectin in low concentrations resulted in a reduction in soursop nectar viscosity.

The interaction between sucrose concentration and stabilizer type did not significantly influence the viscosity of the orange nectar. According to the guidelines of the National Dysphagia Diet (Steele *et al.* 2014), the viscosity of orange nectar should be 51–350 cP. The viscosity of orange nectar produced in this study was 21.7–221.7 cP (Figure 5). Orange nectar with pectin stabilizer does not fulfil these requirements, as its viscosity is less than 50 cP, while orange nectar with carrageenan and CMC stabilizers fulfilled the dysphagia diet criterion.

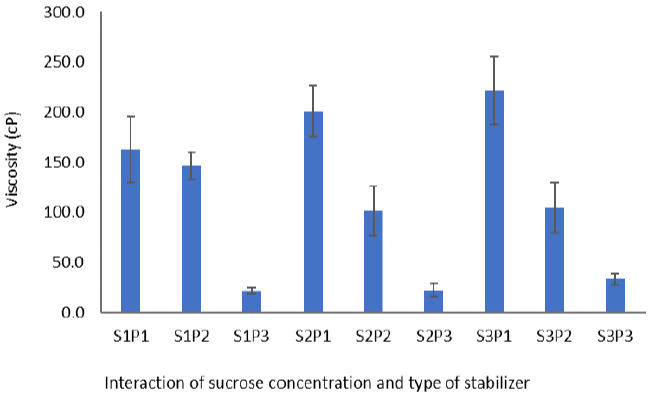


Figure 5. Effect of stabilizers and sucrose levels on the viscosity of the orange nectar

3.4 Reducing sugar content

Sucrose concentration and stabilizer type, and the interaction between them, did not affect sugar reduction significantly. Figure 6 shows that the reducing sugar content was 5.7–11.1%. No studies have investigated the reducing sugar levels of nectar, but Nuraeni *et al.* (2019) found an 8–10% lower sugar content for fruit juice. Sugar reduction in citrus nectar is similar to that in guava bars, at 839–1138 (Khan *et al.*, 2014).

3.5 Vitamin C content

Sugar concentration and type of stabilizer had no significant effect on the orange nectar ascorbic acid levels, which were 21.1–28.2 mg/100 mL (Figure 7).

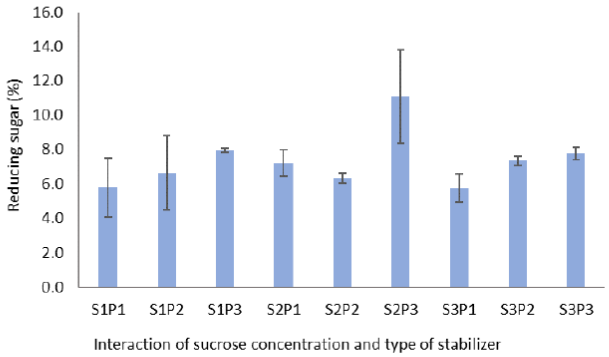


Figure 6. Effect of stabilizers and sucrose levels on the reducing sugar of the orange nectar

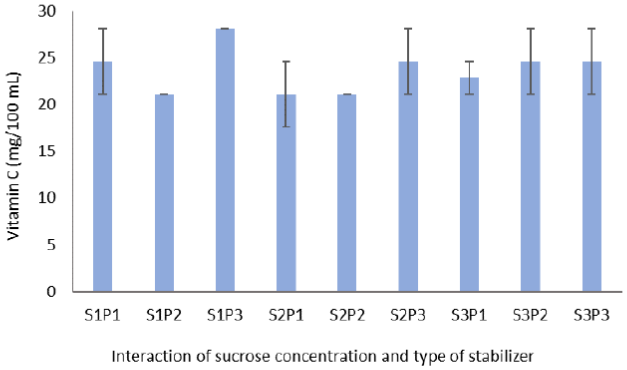


Figure 7. Effect of stabilizers and sucrose levels on the vitamin C of the orange nectar

According to Wariyah (2010), Siam oranges contain 20–60 mg/100 mL of vitamin C. The proportion of juice to the water in the manufacture of orange nectar is the same (4:1), so the levels of vitamin C could be compared.

Krumreich *et al*. (2018) found that ascorbic acid was higher in guava nectar (5.2%), and Kumalasari (2015) found that it was 9.7% in papaya-pineapple juice. Khan *et al*. (2014) also stated that the type of stabilizer did not affect ascorbic acid levels.

3.6 Crude fibre content

The analysis of variance showed that the type of stabilizer had a significant effect on the crude fibre content of citrus nectar. Moreover, the sucrose concentration and the interaction between sucrose and stabilizer had no significant effect on the crude fibre content of citrus nectar.

The crude fibre content of orange nectar with added pectin was 3.27%, carrageenan 3.17%, and CMC 2.57%. The differences are due to the different characteristics of each type of stabilizer. These results are consistent with Herlina (2020) that adding 0.5% carrageenan to fruit leather of *Chrysophyllum cainito* resulted in higher fibre content (6.81%) than adding 0.5% CMC (5.16%). Mangrove apple jam with 0.5% pectin had a crude fibre content of 2.08%, according to Simamomar and Rossi (2017).

Fibre is composed of carbohydrates that cannot be hydrolyzed by strong acids or bases under controlled conditions (Palafox-Carlos *et al*., 2011). Anderson *et al.* (2009) reported that there are two fibre classes, namely water-soluble fibre and insoluble fibre. Soluble fibre includes pectin, gum, and carrageenan. Meanwhile, the fibres that are not soluble in water are cellulose, hemicellulose, and lignin. *Penjumras et al.* (2019) stated that CMC contains water-soluble fibre, which will increase the fibre content in the product. However, the total dietary fibre content of CMC is 74 g/100 g, which is less than that of carrageenan (83.62 g/100 g) (Muzaifa 2006). In this study, the product with the highest crude fibre content was the product with added pectin. Pectin is a soluble dietary fibre that the higher the concentration of pectin added, the higher the soluble fibre content (Dickinson 2009).

3.7 Sensory evaluation

Sensory testing of six products was performed on those nectar products with added CMC and carrageenan. Nectar with pectin as a stabilizer was not tested because it did not comply with viscosity standards.

Colour is an important element that helps to determine the acceptance level of a specific food. If a product has good nutritional value, good taste, and attractive colour, it will interest the public (Akkarachaneeyakorn and Tinrat, 2015). In this case, the orange nectar colour scored 3.84–4.24, which means the nectar had a yellow colour, and the difference between treatments was not significant. The colour of oranges results from the presence of beta carotene.

Taste is a major parameter in consumer food selection since it is a quality attribute capable of determining the level of consumer acceptance of products (Chakraborty *et al*., 2020). Different perceptions of food products are also determined by taste. The taste of the orange nectar had a score of 3.24 (slightly sweet)–4.4 (sweet), which was influenced by the combination of stabilizer type and sucrose concentration. As shown in Figure 8, the highest taste score was for the nectar with the addition of 20% sucrose and carrageenan stabilizer. The addition of a high amount of sucrose and carrageenan increased the sweetness. Similarly, Marzelly *et al*. (2018) found that adding sugar and carrageenan increased the sweetness of fruit leather.

Aroma is one of the sensory parameters used by consumers when selecting food (Tuan-Azlan *et al*., 2020). Most people will first smell the product before tasting it. There was no significant difference in the

aroma of the orange nectar between the treatments, with scores of 2.60–3.24, indicating a mild citrus aroma. Marzelly *et al*. (2018) proposed that sugar and carrageenan form a network of matrixes that traps and produces the characteristic citrus aroma.

Sensory texture tests were performed on the product viscosity. Texture considerably influences the images of foods and is sometimes more important than flavour (Chakraborty *et al*., 2020). The sensory score for the viscosity of the orange nectar was 2.00–3.56, differing significantly by treatment effect. The highest viscosity (3.56) was in the nectar with the addition of 20% sucrose and CMC stabilizer . The sensory viscosity test results are consistent with viscometer results. The high viscosity of orange nectar with CMC was due to the dispersed CMC during the fluid phase, which binds large quantities of water and creates a gel-frame, preventing water molecules from moving freely (Akkarachaneeyakorn and Tinrat, 2015).

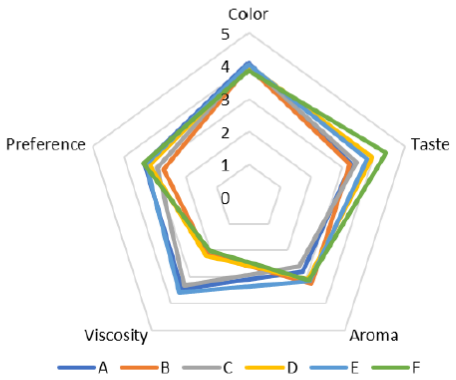


Figure 8. Sensory properties of orange nectar on various stabilizers and sucrose levels (A: 10% sucrose and CMC; B: 10% sucrose and carrageenan; C: 15% sucrose and CMC; D: 15% sucrose and carrageenan; E: 20% sucrose and CMC; F: 20% sucrose and carrageenan).

The panellists' overall taste verdict was the final evaluation, combining the parameters of colour, aroma, taste, and texture. The preference score for citrus nectar was 2.72–3.36, influenced by the sucrose concentration and the type of stabilizer. The highest preference (3.36) was for the orange nectar with 20% saccharose and carrageenan stabilizer (Figure 8).

4. Conclusion

Squeezed oranges can be processed into nectar with the addition of sucrose and a stabilizer. The more sucrose added to the nectar, the lower the moisture content and the more soluble solids produced. The type of stabilizer had a major impact on the pH and viscosity of orange nectar, and the best stabilizer was found to be carrageenan. The preferred citrus nectar was made with the addition of 20% sucrose and carrageenan. The favoured product had the sweetest taste, an orange colour was slightly dense, and had a slightly orange aroma. The preferred nectar had a moisture content of 76.6%, total dissolved solids of 24.2%, pH of 3.7, a viscosity of 109 cP, vitamin C of 23.5%, reducing sugar of 7.9%, and crude fibre of 3.38%. Squeezed oranges of low economic value can be made into orange nectar by adding 20% sucrose and 1% carrageenan. The processing of squeezed oranges into citrus nectar is expected to increase its shelf -life and economic value. More research on its stability during storage is needed.

Conflict of interest

The authors declare no conflict of interest.

Acknowledgements

This research was funded by the Institute for Research and Community Service, Jenderal Soedirman University, through Institutional Research (contract number T/251/UN23.18/ PT.01.03/2020).

References

Akkarachaneeyakorn, S. and Tinrat, S. (2015). Effects of types and amounts of stabilizers on physical and sensory characteristics of cloudy ready-to-drink mulberry fruit juice. *Food Science and Nutrition*, 3 (3), 213–220. https://doi.org/10.1002/fsn3.206

Anderson, J.W., Baird, P., Davis-Jr, R.H., Ferreri, S., Knudtson, M., Koraym, A., Waters, V. and Williams, C.L. (2009). Health Benefits of Dietary Fiber. *Nutrition Reviews,* 67(4), 188–205. https://doi.org/10.1111/j.1753-4887.2009.00189.x

AOAC. (2005). Official Methods of Analysis of the Association of Official Agricultural Chemists International. USA: AOAC.

Arshad, M., Ullah, M.I., Afzal, M., Khalid, S., Raza, A.B.M. and Iftikhar, Y. (2019). Evaluation of plant extracts for the management of citrus leafminer, Phyllocnistis citrella (*Lepidoptera: Gracillariidae*). *Kuwait Journal of Science*, 46(1), 58–67.

Badan Pusat Statistik (2020) Produksi Jeruk di Indonesia. Retreived from BPS website: www.bps.go.id. [In Bahasa Indonesia].

Bahlol, H.E.M., El-Desouky, A.I., Sharoba, A.M., Morsy, O.M. and Abd El-Mawla, E.M. (2018). Utilization of Sprulina Algae to improve the nutritional value of kiwifruits and cantaloupe nectar blends. *Annals of Agricultural Science, Moshtohor,* 56, 315–324. https://doi.org/10.21608/assjm.2018.214391

Basito, B., Yudhistira, B. and Meriza, D.A. (2018).

Kajian penggunaan bahan penstabil CMC (Carboxyl Methyl Cellulose) dan karagenan dalam pembuatan velva buah naga super merah (*Hylocereus costaricensis)*. *Jurnal Teknologi dan Industri Pertanian Indonesia*, 10(1), 42–49. https://doi.org/10.17969/jtipi.v10i1.9577 [In Bahasa Indonesia].

Brochier, B., Inácio, J.M. and Noreña, C.P.Z. (2019). Study of osmotic dehydration of kiwi fruit using sucrose solution. *Brazilian Journal of Food Technology*, 22(4), 1–9. https://doi.org/10.1590/1981-6723.14618

Chakraborty, N., Chakraborty, R. and Saha, A.K. (2020). Fortified and freeze-dried kiwi fruit (*Actinidia deliciosa*): Quality and sensory assessment. *Brazilian Journal of Food Technology*, 23, e2019077. https://doi.org/10.1590/1981-6723.07719

Carvalho, D.U, da-Cruz, M.A., Colombo, R.C., Watanabe, L.S., Tazima, Z.H and Neves, C.S.V.J. (2020). Determination of organic acids and carbohydrates in 'Salustiana' orange fruit from different Rootstocks. *Brazilian Journal of Food Technology,* 23(1), 1–11. https://doi.org/10.1590/1981-6723.32918

Dickinson, E. (2009). Hydrocolloids as emulsifiers and emulsion stabilizers. *Food Hydrocolloids,* 23(6), 1473–1482. https://doi.org/10.1016/J.FOODHYD.2008.08.005

FDA Center for Food Safety and Applied Nutrition. (2008). Approximate pH of foods and food products. Retrieved from FDA website: http://www.foodscience.caes.uga.edu/extension/documents/fdaapproximatephoffoodslacf-phs.pdf.

Ferrarezi, A., Minin, V.P., dos-Santos, K.M. and Monteiro, M. (2013). Consumer attitude towards purchasing intent for ready to drink orange juice and Nectar. *Nutrition and Food Science,* 43(4), 304–312. https://doi.org/10.1108/NFS-03-2012-0021

Hanif, Z. and Zamzami, L. (2012). Trend Jeruk Impor Dan Posisi Indonesia Sebagai Produsen Jeruk Dunia, presented at the Prosiding Workshop Rencana Aksi Rehabilitasi Agribisnis Jeruk Keprok Soe Yang Berkelanjutan Untuk Substitusi Impor, p. 10. Kupang, Indonesia: Jakarta Puslibang Hortikultura 2012. [In Bahasa Indonesia].

Hoffmann, J.F., Zandona, G.P., dos santos, P.S., Dallmann, C.M., Madruga, F.B., Rombaldi, C.V. and Chaves, F.C. (2017). Stability of bioactive compounds in butiá (*Butia odorata*) fruit pulp and nectar. *Food Chemistry*, 237, 638–644. https://doi.org/10.1016/j.foodchem.2017.05.154

Khan, M., Ayub, M., Durrani, Y., Wahab, S., Muhammad, A., Ali, S.A., Shakoor, A., Arsalan, L. and Rehman, Z. (2014). Effect of sucrose and stabilizer on the overall quality of guava bar. *World Journal of Pharmacy and Pharmaceutical Sciences*, 3(5), 130–146. https://doi.org/10.1126/science.1103411

Krumreich, F.D., Correa, A.P.A., Nachtigal, J.C., Buss, G.L., Rutz, J.K., Crizel-Cardozo, M.M., Jansen, C. and Zambiazi, R.C. (2018). Stabilization of guava nectar with hydrocolloids and pectinases. *Polimeros*, 28(1), 53–60. https://doi.org/10.1590/0104-1428.04916

Kumalasari, R. (2015). Effect of stabilizer type and ratio of fruit puree on the quality of papaya-pineapple mixed juice. *Jurnal Hortikultura*, 25(3), 266–276. https://doi.org/10.21082/jhort.v25n3.2015.p266-276

Lozano, E., Salcedo, J. and Andrade, R. (2020). Evaluation of yam (*Dioscorea rotundata*) mucilage as a stabilizer in the production of mango nectar. *Heliyon*, 6(6), e04359. https://doi.org/10.1016/j.heliyon.2020.e04359

Malaka, R., Hatta, W. and Baco, S. (2017). Evaluation of using edible coating and ripening on Dangke, a traditional cheese of Indonesia. *Food Research,* 1(2), 51–56. https://doi.org/10.26656/fr.2017.2.006

Manoi, F. (2006). Pengaruh konsentrasi karboksil metil selulosa (CMC) terhadap mutu sirup jambu mete (*Anacardium occidentale* L.). *Buletin Penelitian Tanaman Rempah Dan Obat,* 17(2), 72–78. https://doi.org/10.21082/bullittro.v17n2.2006 [In Bahasa Indonesia].

Marchelina, C., Sinaga, H. and Lubis, L.M. (2020). Effect of the types and percentages of stabilizer on the quality of instant garfish condiment. *Indonesian Journal of Agricultural Research,* 3(1), 10–22. https://doi.org/10.32734/injar.v3i1.3615

Marzelly, A.D., Lindriati, T. and Yuwanti, S. (2018). Karakteristik fisik, kimia dan sensoris fruit leather pisang ambon (*Musa paradisiaca S.*) dengan penambahan gula dan karagenan. *Jurnal Agroteknologi*, 11(2), 172-185. https://doi.org/10.19184/j-agt.v11i02.6526 [In Bahasa Indonesia].

Matiashe, I., Mahara, P. and Marume, P. (2014). Development of lemon and lime nectar at mazoe citrus Estate, Zimbabwe. *IOSR Journal of Engineering*, 4(1), 51–60. https://doi.org/10.9790/3021-04145160

Muzaifa, M. (2006). Pembuatan CMC dari selulosa bakterial (nata de coco). *Agrista,* 10(2), 100-106. [In Bahasa Indonesia].

Najafabadi, N.S., Sahari, M.A., Barzegar, M. and Esfahani, Z.H. (2020). Role of extraction conditions in the recovery of some phytochemical compounds

of the jujube fruit. *Journal of Agricultural Science and Technology*, 22(2), 439–451.

Nedić-Tiban, N., Pilizota, V., Subaric, D., Miličević, D. and Kopjar, M. (2003). Influence of hydrocolloids and sweeteners on flow behaviour of peach nectar. *Acta Alimentaria*, 32(4), 383–393. https://doi.org/10.1556/AAlim.32.2003.4.6

Nuraeni, Y., Wijana, S. and Susilo, B. (2019). Analisis kualitas dan uji organoleptik minuman buah nanas Queen (*Ananas Comosus (L) Merr.*). *Jurnal Teknologi Pertanian*, 20(1), 67–78. https://doi.org/10.21776/ub.jtp.2019.020.01.7

Palafox-Carlos, H., Ayala-Zavala, J.F. and González-Aguilar, G.A. (2011). The role of dietary fiber in the bioaccessibility and bioavailability of fruit and vegetable antioxidants. *Journal of Food Science,* 76 (1), R6–R15. https://doi.org/10.1111/j.1750-3841.2010.01957.x

Penjumras, P., Janmeesup, C., Umnat, S., Chokeprasert, P., Wattananapakasem, I. and Phaiphan, A. (2019). Development of gluten-free cream puff with the addition of carboxymethylcellulose and carrageenan. *Food Research,* 3(2), 138–44. https://doi.org/10.26656/fr.2017.3(2).133

Prasetijo, L.D., Trisnawati, C.Y. and Srianta, I. (2017). Physicochemical and sensory characteristics of reduced sugar starfruit juice. *Food Research,* 1(4), 114–17. https://doi.org/10.26656/fr.2017.4.053.

Prasetyo, B.B. (2014). Penambahan CMC (Carboxy Methyl Cellulose) pada pembuatan minuman madu sari buah jambu merah (*Psidium Guajava*) ditinjau dari pH, viskositas, total kapang dan mutu organoleptic. Indonesia: Universitas Brawijaya, MSc. Thesis. [In Bahasa Indonesia].

Sadeli, A.H. and Utami, H.N. (2013). Sikap konsumen terhadap atribut produk untuk mengukur daya saing produk jeruk. *Trikonomika*, 12(1), 61. https://doi.org/10.23969/trikonomika.v12i1.460 [In Bahasa Indonesia].

Septianti, E., Syamsuri, R. and Dewayani, W. (2019). Analisis mutu minuman sari kacang hijau dengan berbagai jenis dan konsentrasi bahan penstabil. *Buletin Inovasi Teknologi Pertanian*, 15(1), 43–50.

Sharma, M., Kristo, E. Corredig, M. and Duizer, L. (2017). Effect of hydrocolloid type on texture of pureed carrots: rheological and sensory measures. *Food Hydrocolloids,* 63, 478–87. https://doi.org/10.1016/j.foodhyd.2016.09.040

Simamomar, D. and Rossi, E. (2017). Penambahan pektin dalam pembuatan selai lembaran buah Pedada (*Sonneratia Caseolaris*). *JOM Fakultas Pertanian,* 4 (2), 1–14. [In Bahasa Indonesia].

Siskawardhani, D.D., Komar N. and Hermanto, M.B. (2013). Pengaruh konsentrasi Na-CMC (Natrium – Carboxymethyle Cellulose) dan lama sentrifugasi terhadap sifat fisik kimia minuman asam sari tebu (*Saccharum officinarum* L). *Jurnal Bioproses Komoditas Tropis,* 1, 54–61. [In Bahasa Indonesia].

Sousa, P.H.M., Maia, G.A., De-Azeredo, H.M.C., Ramos, A.M. and De- Figueiredo, R.W. (2010). Storage stability of a tropical fruit (cashew apple, acerola, papaya, guava and passion fruit) mixed nectar added caffeine. *International Journal of Food Science and Technology,* 45(10), 2162–2166. https://doi.org/10.1111/j.1365-2621.2010.02383.x

Steele, C.M., James, D.F., Hori, S., Polacco, R.C. and Yee, C. (2014). Oral perceptual discrimination of viscosity differences for non-newtonian liquids in the nectar and honey-thick ranges. *Dysphagia*, 29(3), 355–364. https://doi.org/10.1007/s00455-014-9518-9

Stella, S.P. Ferrarezi, A.C., dos Santos, K.O. and Monteiro, M. (2011). Antioxidant Activity of Commercial Ready-to-Drink Orange Juice and Nectar. *Journal of Food Science*, 76(3), C392–C397. https://doi.org/10.1111/j.1750-3841.2011.02055.x

Tuan-Azlan, T.N.N., Hamzah, Y. and Mohd Abd Majid, H.A. (2020). Effect of gum arabic (*Acacia senegal*) addition on physicochemical properties and sensory acceptability of roselle juice. *Food Research*, 4(2), 449–458. https://doi.org/10.26656/fr.2017.4(2).293

Utomo, B.S.B., Darmawan, M., Hakim, A.R. and Debby T.A. (2014). Physicochemical properties and sensory evaluation of jelly made from different ratio of κ-carrageenan and konjac. *Squalen Bulletin of Marine and Fisheries Postharvest and Biotechnology,* 9(1), 25-34. https://doi.org/10.15578/squalen.v9i1.93

Wariyah, C. (2010). Vitamin C Retention and Acceptability of Orange (*Citrus Nobilis* Var. Microcarpa) Juice During Storage in Refrigerator. *Jurnal AgriSains,* 1(1), 50–55.

Xiang-Ng, Z.X. and Kuppusamy, U.R. (2019). Effects of Different Heat Treatments on the Antioxidant Activity and Ascorbic Acid Content of Bitter Melon, Momordica Charantia. *Brazilian Journal of Food Technology,* 22(7), 1–9. https://doi.org/10.1590/1981-6723.28318

Tran, N.Y.T., Phat, D.T., Pham, B.T., Quyen, N.N., Tam, H.N.T. and Truc, T.T. (2020). Formulation for a soursop (*Annona muricata* L.) nectar supplement using Response Surface Methodology for optimization of food thickener. *IOP Conference Series: Materials Science and Engineering*, 991, 012061. https://doi.org/10.1088/1757-899X/991/1/012061

FULL PAPER

Food Research

COUNTRY

Malaysia

Universities and research institutions in Malaysia

SUBJECT AREA AND CATEGORY

Agricultural and Biological Sciences
Food Science

PUBLISHER

H-INDEX

10

PUBLICATION TYPE

Journals

ISSN

25502166

COVERAGE

2017-2021

INFORMATION

Homepage

How to publish in this journal

foodresearch.my@outlook.com

SCOPE

Food Research welcomes submissions that are relevant to food science and technology, food service management, nutrition, nutraceuticals, food innovation and agriculture food science. Manuscript types accepted are reviews, short reviews, original research articles and short communications that discusses on the current research and scientific views of the following scope: Food science and food chemistry; Food technology, food processing, and food engineering; Food safety and quality – microbiological and chemical; Sensory, habits, consumer behaviour/practice and preference; Nutrition and dietetics; Nutraceuticals and functional food/ingredients; Food service management; Food trends, innovation and business; Post-harvest and agribusiness; Food security; Food packaging.

FIND SIMILAR JOURNALS

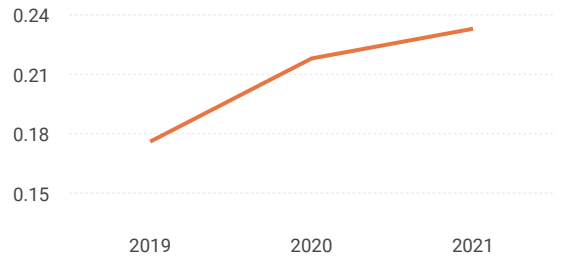
1
International Food Research Journal
MYS
89%
similarity

2
Food Science and Nutrition
GBR
82%
similarity

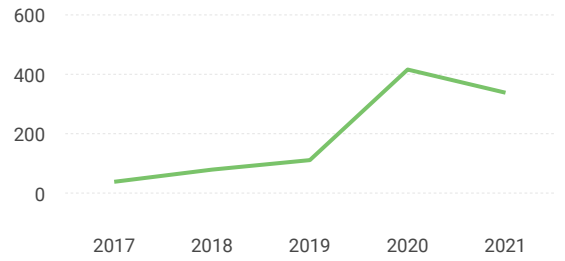
3
Carpathian Journal of Food Science and Technology
ROU
79%
similarity

4
Internationa Science
EGY
7
s

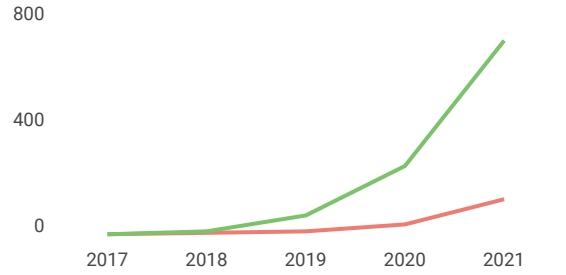
SJR



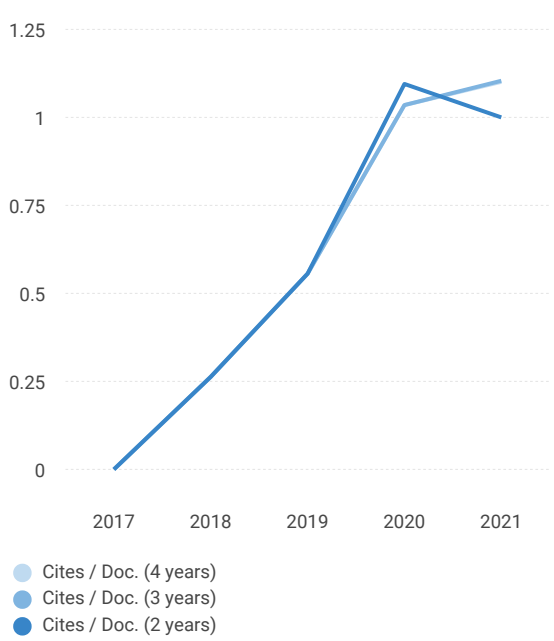
Total Documents



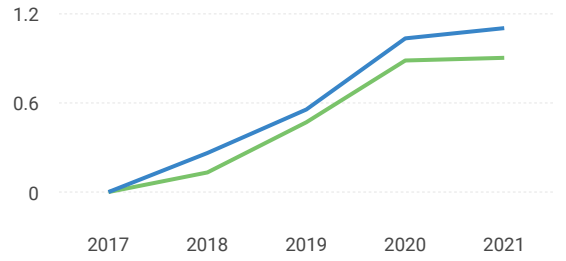
Total Cites Self-Cites



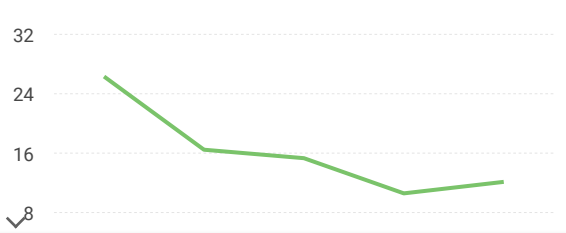
Citations per document



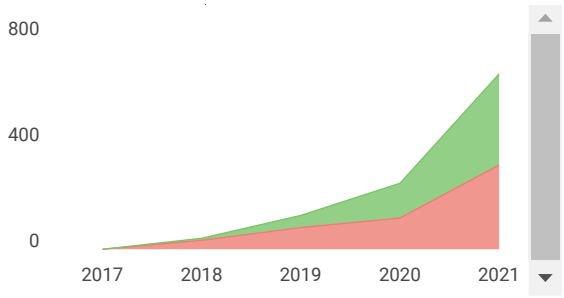
External Cites per Doc Cites per Doc



% International Collaboration



Citable documents Non-citable documents



← Show this widget in your own website

Just copy the code below and paste within your html code:

<a href="https://www.scimag

SCImago Graphica

Explore, visually communicate and make sense of data with our **new data visualization tool**.

Metrics based on Scopus® data as of April 2022

T **Tai Ngo Van** 2 months ago

Dear Mr/Mrs,
I am Ngo Van Tai, a researcher in Thailand. I would like to ask the current index status as SJR is a static image of Food Research journal (ISSN: 2550-2166).
Thanks for your support.
Best regards,

reply

SCImago Team

Melanie Ortiz 2 months ago

Dear Tai Ngo Van, thank you very much for your comment. We suggest you consult the Scopus database directly. Keep in mind that the SJR is a static image (the update is made one time per year) of a database (Scopus) which is changing every day.
The Scopus' update list can also be consulted here:
https://www.elsevier.com/solutions/scopus/how-scopus-works/content
Best Regards, SCImago Team

S **Syamsul Rahman** 4 months ago

Please enlighten me, if searching on Scopus Food Research it says 22% it means you are in Q4, but on the Food Research page it says Q3 with SJR 0.2

reply

Foods | WhatsApp | MANUSCRIPT SUBMISSION - nur

mail.google.com/mail/u/1/#search/in%3Asent+foodresearch.my%40outlook.com/QgrcJHsBrnXWVLnJcXdNzZrJVnlGM...

KORESPONDENSI

Gmail

in:sent foodresearch.my@outlook.com

Active

Compose

Mail 15
Chat
Spaces
Meet

Inbox 15
Starred
Snoozed
Sent
Scheduled
Spam
Trash
More

Labels

6 of 13

MANUSCRIPT SUBMISSION

nur.aini 1 <nur.aini@unsoed.ac.id>
to foodresearch.my

Tue, Jun 1, 2021, 9:27 PM

Dear editor,
Herewith I submit an article to be published in Food Research. Thank you for your attention and opportunity.

Best regards

Nur Aini
Department of Food Technology,
Jenderal Soedirman University
Purwokerto, Indonesia

3 Attachments


FR nectar.docx


manuscript_subm...


cover letter FR.pdf

Reply Forward

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C Kabut

16:08 30/06/2022

Foods | WhatsApp | Manuscript ID: FR-2021-386 - nu

mail.google.com/mail/u/1/#search/in%3Asent+foodresearch.my%40outlook.com/FMfcgzGkXcxzkklFBZWBFkPKsXXFjh...

Gmail

in:sent foodresearch.my@outlook.com

Active

Mail 15
Chat
Spaces
Meet

Compose

Inbox 15
Starred
Snoozed
Sent
Scheduled
Spam
Trash
More

Labels

5 of 13

Manuscript ID: FR-2021-386

External Inbox ×

Food Research <foodresearch.my@outlook.com>
to me

Wed, Jun 2, 2021, 12:24 AM

Dear Dr. Nur Aini,

This message is to acknowledge receipt of the above manuscript that you submitted via email to Food Research. Your manuscript has been successfully checked-in. Please refer to the assigned manuscript ID number in any correspondence with the Food Research Editorial Office or with the editor.

Your paper will be reviewed by three or more reviewers assigned by the Food Research editorial board and final decision made by the editor will be informed by email in due course. Reviewers' suggestions and editor's comments will be then made available via email attached file. You can monitor the review process for your paper by emailing us on the "Status of my manuscript".

If your manuscript is accepted for publication, Food Research editorial office will contact you for the production of your manuscript.

Thank you very much for submitting your manuscript to Food Research.

Sincerely,

Son Radu, Ph.D.
Chief Editor

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C Kabut

16:10 30/06/2022

Foods | WhatsApp | Manuscript ID: FR-2021-386 - nu

mail.google.com/mail/u/1/#search/in%3Asent+foodresearch.my%40outlook.com/FMfcgzGkXcxzkklFBZWBFkPKsXXFjh...

Gmail

in:sent foodresearch.my@outlook.com

Active

Compose

Inbox 15
Starred
Snoozed
Sent
Scheduled
Spam
Trash
More

Labels

5 of 13

Food Research <foodresearch.my@outlook.com>
to me

Tue, Jul 6, 2021, 1:17 AM

Dear Dr. Nur Aini,

Manuscript FR-2021-386 entitled " Nectar characteristics from squeezed orange with variations in stabilizer and sucrose level " 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 16th July 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,

Son Radu, PhD
Chief Editor, Food Research
foodresearch.my@outlook.com

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C Kabut

16:10 30/06/2022

Foods | WhatsApp | Manuscript ID: FR-2021-386 - nu

mail.google.com/mail/u/1/#search/in%3Asent+foodresearch.my%40outlook.com/FMfcgzGkXcxzkklFBZWBFkPKsXXFjh...

Gmail

in:sent foodresearch.my@outlook.com

Active

Mail 15
Chat
Spaces
Meet

Compose

Inbox 15
Starred
Snoozed
Sent
Scheduled
Spam
Trash
More

Labels

5 of 13

nur.aini 1 <nur.aini@unsoed.ac.id> Tue, Jul 13, 2021, 2:29 PM
to Food

Dear Prof Son Radu,
Sorry, can I request an extension of time to improve my manuscript?
I'm fixing the article, and I try to finish on time, but I also need time to send to proofreading again on the advice of the reviewer.
Can I return this manuscript by July 20th?
Thank you

Best regards

Nur Aini

Virus-free. www.avast.com

Food Research <foodresearch.my@outlook.com> Tue, Jul 13, 2021, 2:36 PM
to me

Dear Dr Nur Aini,

Sure, we will wait for your manuscript. Thank you for informing us.

Best regards,
Son Radu, PhD
Chief Editor

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C Kabut

16:11 30/06/2022

Foods | WhatsApp | revision Manuscript ID: FR-2021-

mail.google.com/mail/u/1/#search/in%3Asent+foodresearch.my%40outlook.com/KtbxLzflhsdpjvhzDxSkJcBtcgzMfzN...

Gmail

in:sent foodresearch.my@outlook.com

Active

Mail 16
Chat
Spaces
Meet

Compose

Inbox 16
Starred
Snoozed
Sent
Scheduled
Spam 1
Trash
More

Labels

4 of 13

revision Manuscript ID: FR-2021-386

External Inbox ×

nur.aini 1 <nur.aini@unsoed.ac.id>
to Food

Fri, Jul 23, 2021, 12:19 PM

Dear Prof Son Radu,
Herewith we submit the revised article number ID FR-2021-386. We apologize for the delay in submission because we have to wait for the results of proofreading.
We've been trying to improve the manuscript according to the direction of both reviewers.
Hopefully, they fulfil the criteria as expected by the reviewer comments and can be published in Food Review.
Thank you

Best regards.
Nur Aini

4 Attachments


167-38-73_rev.docx


Evaluation Form F...


Evaluation Form F...

certificate proofr...

Food Research <foodresearch.my@outlook.com>
to me

Fri, Jul 23, 2021, 4:35 PM

Dear Nur Aini

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C Kabut

19:42 30/06/2022

Foods | WhatsApp | FR-2021-386 - Decision on your

mail.google.com/mail/u/1/#search/in%3Asent+foodresearch.my%40outlook.com/FMfcgzGlkjbRkJCbLFLdlQDkPzSMLsfg

Gmail

in:sent foodresearch.my@outlook.com

Active

Mail 16
Chat
Spaces
Meet

Compose

Inbox 16
Starred
Snoozed
Sent
Scheduled
Spam 1
Trash
More

Labels

3 of 13

FR-2021-386 - Decision on your manuscript

External Inbox ×

Food Research <foodresearch.my@outlook.com>
to me

Thu, Nov 4, 2021, 10:43 AM

Dear Dr Aini,

It is a pleasure to accept your manuscript for publication in Food Research journal. Please refer to the attachment for your acceptance letter. I will contact you again once the galley proof is ready for viewing and approval.

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

Sincerely,
Dr Vivian New
Editor
Food Research

FR-2021-386 Acc...

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C
Kabut

19:43
30/06/2022

FOOD
RESEARCH

4th November 2021

Dear Dr Aini,

ACCEPTANCE LETTER

Food Research is pleased to inform you that the following manuscript has been accepted for publication in Food Research journal.

Manuscript Title	:	Siam orange (*Citrus nobilis* L.) nectar characteristics with variations in stabilizer and sucrose level
Authors	:	Aini, N., Dwiyanti, H., Setyawati, R., Handayani, I., Septiana, A.T., Sustriawan, B. and Aena, D.A.Q

We thank you for your fine contribution to the Food Research journal and encourage you to submit other articles to the Journal.

Yours sincerely,

Professor Dr. Son Radu
Chief Editor
Food Research

Foods | WhatsApp | Re: FR-2021-386 - Article Production

mail.google.com/mail/u/1/#search/in%3Asent+foodresearch.my%40outlook.com/FMfcgzGpGBCwCFDSHpkzfmljdHn...

WhatsApp
web.whatsapp.com

Gmail

in:sent foodresearch.my@outlook.com

Active

Compose

Inbox 16
Starred
Snoozed
Sent
Scheduled
Spam 1
Trash
More

Labels

Mail 16
Chat
Spaces
Meet

2 of 13

Re: FR-2021-386 - Article Production

External Inbox ×

Food Research <foodresearch.my@outlook.com>
to me

Wed, May 25, 9:24 AM

Dear Dr Aini,

Manuscript ID: FR-2021-386
Manuscript Title: Siam orange (*Citrus nobilis* L.) nectar characteristics with variations in stabilizer and sucrose level

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

From: nur.aini 1 <nur.aini@unsoed.ac.id>
Sent: Thursday, 4 November, 2021 12:33 PM
To: Food Research <foodresearch.my@outlook.com>

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C Kabut

19:46 30/06/2022

Foods | WhatsApp | Re: FR-2021-386 - Article Produc

mail.google.com/mail/u/1/#search/in%3Asent+foodresearch.my%40outlook.com/FMfcgzGpGBCwCFDSHpkzfmljdHn...

Gmail

in:sent foodresearch.my@outlook.com

Active

Mail 16
Chat
Spaces
Meet

Compose

Inbox 16
Starred
Snoozed
Sent
Scheduled
Spam 1
Trash
More

Labels

2 of 13

FR-2021-386.docx

nur.aini 1 <nur.aini@unsoed.ac.id>
to Food

Fri, May 27, 4:07 PM

Dear Dr. Vivian
I have clarified and revised the article. Herewith I attach 2 article, one with the comment and revision, and which one have done clear.
Thank you very much for the opportunity.

Best regards
Nur Aini

2 Attachments

FR-2021-386 com...

FR-2021-386 rev....

Food Research <foodresearch.my@outlook.com>
to me

Fri, May 27, 7:54 PM

Dear Nur Aini.

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C
Kabut

19:47
30/06/2022

Gmail

in:sent foodresearch.my@outlook.com

Active

Compose

Inbox 16
Starred
Snoozed
Sent
Scheduled
Spam 1
Trash
More

Labels

2 of 13

Food Research <foodresearch.my@outlook.com>
to me

Sat, May 28, 2:48 PM

Dear Dr Nur Aini,

Please address the comment raised in the manuscript.

Thanks & Regards
Vivian New
Editor
Food Research

From: nur.aini 1 <nur.aini@unsoed.ac.id>
Sent: Friday, 27 May, 2022 5:07 PM
To: Food Research <foodresearch.my@outlook.com>
Subject: Re: FR-2021-386 - Article Production

FR-2021-386 com...

nur.aini 1 <nur.aini@unsoed.ac.id>
to Food

May 29, 2022, 8:44 AM

Dear Dr. Vivian
I have clarified it.

Thank you
Best regards

Nur Aini

Gmail

in:sent foodresearch.my@outlook.com

Active

Compose

Inbox 16
Starred
Snoozed
Sent
Scheduled
Spam 1
Trash
More

Labels

2 of 13

Food Research <foodresearch.my@outlook.com>
to me

May 28, 2022, 2:48 PM

Dear Dr Nur Aini,

Please address the comment raised in the manuscript.

Thanks & Regards
Vivian New
Editor
Food Research

From: nur.aini 1 <nur.aini@unsoed.ac.id>
Sent: Friday, 27 May, 2022 5:07 PM
To: Food Research <foodresearch.my@outlook.com>
Subject: Re: FR-2021-386 - Article Production

nur.aini 1 <nur.aini@unsoed.ac.id>
to Food

May 29, 2022, 8:44 AM

Dear Dr. Vivian
I have clarified it.

Thank you
Best regards

Nur Aini

Foods | WhatsApp | Re: FR-2021-386 - Article Publish

mail.google.com/mail/u/1/#search/foodresearch.my%40outlook.com/FMfcgzGpGTJVFzRsQmmxwBnZwpsbwrpp

Gmail

foodresearch.my@outlook.com

Active

Compose

Inbox 15
Starred
Snoozed
Sent
Scheduled
Spam 1
Trash
More

Labels

1 of 15

Re: FR-2021-386 - Article Published

External Inbox ×

Food Research
to me

Thu, Jun 16, 8:15 PM

Dear Dr Nur Aini,

Kindly be informed that your manuscript has been assigned to Food Research 2022, Vol. 6, Issue 3 (June). 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.2017.6(3).386

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

From: Food Research <foodresearch.my@outlook.com>
Sent: Monday, 6 June, 2022 3:32 PM
To: nur.aini 1 <nur.aini@unsoed.ac.id>
Subject: Re: FR-2021-386 - Article Production

Dear Dr Nur Aini,

Thank you very much for the payment. I'll notify you of the article's publication soon.

Thanks & Regards
Vivian New
Editor
Food Research

formulir_rencana k....pdf | formulir_persetuju....pdf | surat pernyataan....docx | DRAFT SKRIPSI_A....docx | Show all

32°C Kabut

19:52 30/06/2022