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REFERENCES

Akesowan, A. and Choonhairun, A. 2014. Optimization of Konjac Gel Texture Prepared with κ-carrageenan and Sweeteners and their Applications in Orange Jelly. *Advance Journal of Food Science and Technology*, 6(8), pp.961-967.

Akesowan, A. and Choonhairun, A. 2021. The Use of Stevia and Monk Fruit Sweeteners for Sugar Replacement in Green Tea Agar Jellies. *Food Scientech Journal*, 3(2), pp.93-100.

Ali, N. M. *et al.* 2012. The Promising Future of Chia, *Salvia hispanica* L. *Journal of Biomedicine and Biotechnology*, 2012(1), pp.1-9.

Álvarez-Chávez, L. M., Valdivia-López, M. D. L. A., Aburto-Juarez, M. D. L., & Tecante, A. 2008. Chemical characterization of the lipid fraction of Mexican chia seed (*Salvia hispanica* L.). *International Journal of Food Properties*, 11(3), pp.687-697.

Ambriz-Perez, D. L., Leyva-López, N., Gutiérrez-Grijalva, E. P., and Heredia, J. B. 2016. Phenolic compounds: Natural alternative in inflammation treatment. A Review. *Cogent Food & Agriculture*, 2(1), pp.1-14.

UNIVERSITAS
GADJAH MADA
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Atteh, J., Onagbesan, O., Tona, K., Buyse, J., Decuypere, E., and Geuns, J. 2011. Potential use of *Stevia rebaudiana* in animal feeds. *Arch de Zootec*, 60(229), pp.133-136.

Ayerza, R. 2016. Crop year effects on seed yields, growing cycle length, and chemical composition of chia (*Salvia hispanica* L.) growing in Ecuador and Bolivia. *Emirates Journal of Food and Agriculture*, 28(3), pp.196-200.

Bayarri, S., L. Izquierdo, L. Durán and E. Costell, 2006. Effect of addition of sucrose and aspartame on the compression resistance of hydrocolloids gels. *International Journal of Food Science and Technology*, 41, pp. 980-986.

Bellavite, P. and Donzelli, A. 2020. Hesperidin and SARS-CoV-2: new light on the healthy function of citrus fruits. *Antioxidants*, 9(8), pp.742.

Beltz, L.A. *et al.* 2006. Mechanisms of cancer prevention by green and black tea polyphenols. *Anti-cancer Agents in Medicinal Chemistry*, 6(5), pp.389-406. https://doi.org/10.2174/187152006778226468.

Berk, Z. (2016). *Citrus Fruit Processing*, Israel: Academic press.

Brah, A.S. *et al.* 2023. Toxicity and therapeutic applications of citrus essential oils (CEOs): a review. *International Journal of Food Properties*, 26(1), pp.301-326. https://doi.org/10.1080/10942912.2022.2158864.

UNIVERSITAS
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Breksa, A.P. *et al.* 2011. Limonoid content of sour orange varieties. *Journal of the Science of Food and Agriculture*, 91(10), pp.1789-1794. https://doi.org/10.1002/jsfa.4383.

Brütsch, L. *et al.* 2019. Chia seed mucilage—a vegan thickener: isolation, tailoring viscoelasticity and rehydration. *Food and Function*, 10(8). pp.4854-4860. https://doi.org/10.1039/c8fo00173a.

Campo, V. L., Kawano, D. F., da Silva Jr., D. B., and Carvalho, I. 2009. 'Carrageenans: biological properties, chemical modifications and structural analysis: a review', *Carbohydr*ate *Polym*ers, 77(2), pp.167-180.

Capitani, M. I., Spotorno, V., Nolasco, S. M., & Tomás, M. C. 2012. Physicochemical and functional characterization of by-products from chia (*Salvia hispanica* L.) seeds of Argentina. *LWT – Food Science and Technology*, 45(1), pp.94-102. https://doi.org/10.1016/j.lwt.2011.07.012

Carrera-Lanestosa, A., Moguel-Ordóñez, Y., and Segura-Campos, M. 2017. *Stevia rebaudiana* Bertoni: A natural alternative for treating diseases associated with metabolic syndrome. *Journal of Medicinal Food*, 20(10), pp.933–943.

Chaturvedula, V. S. P.; Upreti, M.; and Prakash, I. 2011. Diterpene Glycosides from Stevia Rebaudiana. *Molecules*, 16, pp.3552-3562.

UNIVERSITAS
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Ciau-Solís, N. *et al.* 2014. Chemical and Functional Properties of Chia Seed (*Salvia hispanica* L.) Gum. *International Journal of Food Science*, 2014(1), pp.1-5. https://doi.org/10.1155/2014/241053.

de Falco, B., Amato, M., and Lanzotti, V. 2017. Chia seeds products: An overview. *Phytochemistry Reviews*, 16(4), pp.745-760.

da Luz, J.M.R., Nunes, M.D., Paes, S.A., Torres, D.P., Silva, M.D.C.S.D., Kasuya, M.C.M. 2012. Lignocellulolytic enzyme production of Pleurotus ostreatus growth in agroindustrial wastes. *Brazilian Journal of Microbiology*, 43(4), pp.1508-1515.

da Silva, V.M. *et al.* 2018. Bocaiuva jelly: preparation, physicochemical and sensory evaluation', *Revista Brasileira de Fruticultura*, 40(5), pp.1-9.

Das, A. 2018. Advances in Chia Seed Research. *Applied Microbiology and Biotechnology*, 5(3), pp.5-7.

De Ancos, B., Cilla, A., Barbera, R., Sanchez-Moreno, C., and Cano, M.P. 2017. Influence of orange cultivar and mandarin postharvest storage on polyphenols, ascorbic acid and antioxidant activity during gastrointestinal digestion. *Food Chemistry*, 225(1), pp.114-124.

Djimtoingar, S. S., Derkyi, N. S. A., Kuranchie, F. A., and Yankyera, J. K. 2022. A review of response surface methodology for biogas process optimization. Cogent Engineering, 9(1), pp.1-35.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Ejaz, S., Ejaz, A., Matsuda, K., Chae, W. L. 2006. Limonoids as cancer chemopreventive agents. *Journal of the Science of Food and Agriculture*, 86(3), pp.339-345.

Ersus, S., & Cam, M. 2007. Determination of organic acids, total phenolic content, and antioxidant capacity of sour *Citrus aurantium* fruits. *Chemistry of Natural Compounds*, 43(5), pp.607-609.

Etebu, E. and Nwauzoma, A.B. 2014. A review on sweet orange (*Citrus Sinensis* L. Osbeck): Health, Diseases, and Management. *American Journal of Research Communication*, 2(2), pp.33-70.

Farag, M.A. *et al.* 2020. Sweet and bitter oranges: An updated comparative review of their bioactives, nutrition, food quality, therapeutic merits and biowaste valorization practices. *Food Chemistry*, 331(1), pp.1-13.

FAOSTAT. 2020. *Data of the Food and Agriculture Organization of the United States*. http://www.fao.org/faostat/es/#data/QC/. Accessed on 2 February 2024.

Formagio, A.S.N. *et al.* 2014. Evaluation of antioxidant activity, total flavonoids, tannins and phenolic compounds in psychotria leaf extracts. *Antioxidants*, 3(4), pp.745-757. https://doi.org/10.3390/antiox3040745.

Fresco, P., Borges, F., Marques, M. P. M., & Diniz, C. 2010. The anticancer properties of dietary polyphenols and its relation with apoptosis, *Current Pharmaceutical Design*, 16(1), pp.114-134.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Gao, J., Brenan, M. A., Mason, S. L., and Brenan, C. S. 2016. Effect of Sugar Replacement with Stevianna and Inulin on the Texture and Predictive Glycaemic Response of Muffins. *International Journal of Food Science and Technology*, 51(9), pp.1979-1987.

Gattuso, G. *et al.* 2007. Flavonoid composition of citrus juices, *Molecules*, 12(8), pp.1641-1673. https://doi.org/10.3390/12081641.

Goyal, S. K., Samsher, S., and Goyal, R. K. 2010. Stevia (*Stevia rebaudiana*) a bio-sweetener: a review. *International Journal of Food Sciences and Nutrition*, 61(1), pp.1-10.

Grancieri, M., Martino, H.S.D., Gonzalez de Mejia, E. 2019. Chia Seed (*Salvia hispanica* L.) as a Source of Proteins and Bioactive Peptides with Health Benefits: A Review. *Comprehensive Reviews in Food Science and Food Safety*, 18(2), pp.480-499.

Grembecka, M. 2015. Natural sweeteners in a human diet. *Annals of the National Institute of Hygiene*, 66(3), pp.195-202. https://pubmed.ncbi.nlm.nih.gov/26400114.

Gwak, M.J. *et al.* 2012. Relative sweetness and sensory characteristics of bulk and intense sweeteners. *Food Science and Biotechnology*, 21(3), pp.889-894. https://doi.org/10.1007/s10068-012-0115-0.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Holdt, S. L. and Kraan, S. 2011. Bioactive compounds in seaweed: functional food applications and legislation. *Journal of Applied Phycology*, 23(3), pp.543-597.

Hrncic, M.K. *et al.* 2020. Chia seeds (*Salvia hispanica* L.): An Overview—Phytochemical Profile, isolation Methods, and Application. *Molecules*, 25(11), pp.1-19. https://doi.org/10.3390/molecules25010011.

Huang, H.Y. and K.W. Lin. 2004. Influence of pH and added gums on the properties of konjac flour gels. *International Journal of Food Science and Technology*, 39, pp.1009-1016.

Ixtaina, V.Y., Nolasco, S.M., Tomás, M.C. 2008. Physical properties of chia (*Salvia hispanica* L.) seeds. *Industrial Crops and Products*, 28(3), pp.286-293.

Jabraili, A. *et al.* 2021. Biodegradable nanocomposite film based on Gluten/Silica/Calcium chloride: physicochemical properties and bioactive compounds extraction capacity. *Journal of Polymers and the Environment*, 29(8), pp.2557-2571. https://doi.org/10.1007/s10924-021-02050-4.

Jarosz, M. 2012. *Nutrition Standards for the Polish population - amendment.* Poland: Instytut Żywności i Żywienia.

Jian, J. *et al.* 2010. Formation Mechanism and Stability Study of Konjac Glucomannan Helical Structure. *Chinese Journal of Structural Chemistry*, 29(4), pp.543-550.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Jin, H. *et al.* 2013. Flavonoids from *Citrus unshiu* Marc. inhibit cancer cell adhesion to endothelial cells by selective inhibition of VCAM-1. *Oncology Reports*, 30(5), pp.2336-2342. https://doi.org/10.3892/or.2013.2711.

Kaplan, B. and Turgut, K. 2019. Improvement of rebaudioside A diterpene glycoside content in *Stevia rebaudiana* Bertoni using clone selection. *Turkish Journal of Agriculture and Forestry*, 43(2), pp.232-240.

Karadeniz, F. 2004. Main organic acid distribution of authentic citrus juices in Turkey. *Turkish Journal of Agriculture and Forestry*, 28(4), pp.267-271. https://journals.tubitak.gov.tr/agriculture/issues/tar-04-28-4/tar-28-4-8-0310-2.pdf.

Keinänen, M. 1993. Comparison of methods for the extraction of flavonoids from birch leaves (*Betula pendula* Roth.) carried out using high-performance liquid chromatography. *Journal of Agricultural and Food Chemistry*, 41(11), pp.1986-1990. https://doi.org/10.1021/jf00035a032.

Kelebek, H., Canbaş, A. and Cabaroğlu, T. 2009. HPLC determination of organic acids, sugars, phenolic compositions and antioxidant capacity of orange juice and orange wine made from a Turkish cv. Kozan. *Microchemical Journal*, 91(2), pp.187-192. https://doi.org/10.1016/j.microc.2008.10.008.

Kenawi, M.A. *et al.* 1994. The storage effects of calcium-fortified orange juice concentrate in different packaging materials. *Plant Foods for Human Nutrition*, 45(3), pp.265-275.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Khalid, W., Khalid, M.Z., Arshad, M.S., Aziz, A., Rahim, M.A., Afzal, F. *et al.* 2022. Chia seeds (*Salvia hispanica* L.): A therapeutic weapon in metabolic disorders. *Food Science & Nutrition*, 2023(11), pp. 3-16.

Khan, M.K., Zill-E-Huma, and Dangles, O. 2014. A comprehensive review on flavanones, the major citrus polyphenols. *Journal of Food Composition and Analysis*, 33(1), pp.85-104. https://doi.org/10.1016/j.jfca.2013.11.004.

Klimczak, I. *et al.* 2007. Effect of storage on the content of polyphenols, vitamin C and the antioxidant activity of orange juices. *Journal of Food Composition and Analysis*, 20(3–4), pp.313-322. https://doi.org/10.1016/j.jfca.2006.02.012.

Kochikyan, V.T.; Markosyan, A.A.; Abelyan, L.A.; Balayan, A.M.; Abelyan, V.A. 2006. Combined enzymatic modification of stevioside and rebaudioside A. *Applied Biochemistry and Microbiology*, 42(1), pp.31-37.

Kopjar, M. *et al.* 2016. Influence of trehalose addition on antioxidant activity, colour and texture of orange jelly during storage. *International Journal of Food Science and Technology*, 51(12), pp.2640-2646. https://doi.org/10.1111/ijfs.13250.

Kosiorowska, A. *et al.* 2022. The effect of the addition of gold fax (*Linum usitatissimum* L.) and chia seeds (*Salvia hispanica* L.) on the physicochemical and antioxidant properties of cranberry jams. *European Food Research and Technology*, 248(11), pp.2865-2876.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Kothari, V. K. and Bal, K. 2010. An Infra-Red Heating Based Fast Method of Moisture Content Measurement and Its Application to Measure Blend Proportion of Polyester-Viscose Woven Fabrics. *Journal of Engineered Fibers and Fabrics*, 5(2), pp.22-26.

Kulczynski, B.; Kobus-Cisowska, J.; Taczanowski, M.; Kmiecik, D.; Gramza-Michałowska, A. 2019. The Chemical Composition and Nutritional Value of Chia Seeds-Current State of Knowledge. *Nutrients*, 11(6), pp.1-16.

Kumar, N. and Goel, N. 2019. Phytochemical Analysis of Leaf, Stem Bark, and Root Extracts of Cassia abbreviata Grown in Zambia. *Pharmacology & Pharmacy*, 13(5), pp.1-10.

Kuncoro, M. 2013. *Research Method for Business and Economics (4th ed.)*. Jakarta: Erlangga.

Lau, M. H., Tang, J., and Swanson, B.G. 2000. Kinetics of textural and colour changes in green asparagus during thermal treatments. *Journal of Food Engineering*, 45(4), pp.231-236.

Lestari, Y.N. *et al.* 2020. Analysis of Physicochemical and Sensory Quality of Chia Seeds Sport Energy Gel (*Salvia hispanica* L.) during Storage. *Proceedings of the 5th International Seminar of Public Health and Education*, Semarang: 22 July 2020, pp.603-612.

Letaief, H., Zemni, H., Mliki, A., and Chebil, S. 2016. Composition of Citrus sinensis (L.) Osbeck cv «Maltaise demi-sanguine» juice. A comparison

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
Muhammad Haekal Azman, Dr. Dwi Larasatie Nur Fibri, S.T.P., M.Sc.; Asst. Prof. Dr. Chutha Takahashi Yupanqui
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

between organic and conventional farming. *Food Chemistry*, 194, pp.290-295.

Li, X. *et al.* 2012. Concordance between antioxidant activities*in vitro*and chemical components of *Radix Astragali (Huangqi*). *Natural Product Research*, 26(11), pp.1050-1053. https://doi.org/10.1080/14786419.2010.551771.

Liang, R. H., Chen, J., Liu, W., Liu, C. M., Yu, W., Yuan, M. and Zhou, X.Q. 2012. Extraction, characterization and spontaneous gel-forming property of pectin from creeping fig (*Ficus pumila* Linn.) seeds. *Carbohydrate Polymers*, 87(1), pp.76-83.

Libik-Konieczny, M. *et al.* 2021. Synthesis and production of steviol glycosides: recent research trends and perspectives. *Applied Microbiology and Biotechnology*, 105(10), pp.3883-3900.

Lima, M. B. *et al.* 2019. Characterization and influence of hydrocolloids on low caloric orange jellies. *Emirates Journal of Food and Agriculture*, 31(1), pp.7-15. https://doi.org/10.9755/ejfa.2019.v31.i1.1894.

Lin, K. Y., Daniel, J. R., and Whistler, R. L. 1994. Structure of chia seed polysaccharide exudate. *Carbohydrate Polymers*, 23(1), pp.13-18.

Liu, J., Wang, X., and Ding, Y. 2013. Optimization of adding konjac glucomannan to improve gel properties of low-quality surimi. *Carbohydrate Polymers*, 92(1), pp.484-489.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Madaan, R. *et al.* 2020. Formulation and characterization of fast dissolving tablets using *Salvia hispanica* (chia seed) mucilage as superdisintegrant, *Acta Pharmaceutica Sciencia*, 58(1), pp.69-82. https://doi.org/10.23893/1307-2080.aps.05805.

Marcinek, K. and Krejpcio, Z. 2015. *Stevia rebaudiana* Bertoni – chemical composition and functional properties. *Acta Scientiarum Polonorum Technologia Alimentaria*, 14(2), pp.145–152.

Martínez-Cruz, O., and Paredes-López, O. 2014. Phytochemical profile and nutraceutical potential of chia seeds (*Salvia hispanica* L.) by ultra high performance liquid chromatography. *Journal of Chromatography A*, 1346(1), pp.43-48. https://doi.org/10.1016/j.chroma.2014.04.007

Martirosyan, D. and Pisarski, K. 2017. Bioactive Compounds: Their Role in Functional Food and Human Health, Classifications, and Definitions. In: *Bioactive Compounds and Cancer*. Edited by Danik Martirosyan and Jin-Rong Zhou. San Diego: Food Science Publisher; pp.238-277.

Mascheroni, R. H. and Salvadori, V. O. 2011. *Household refrigerators and freezers*. In D. W. Sun (Ed.), *Handbook of frozen food processing and packaging (2nd ed.)*. Florida: CRC Press, pp.253-272.

McDowell, L. R. 2008. *Vitamins in animal and human nutrition*. New York: John Wiley & Sons.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Melo, D., Machado, T. B., & Oliveira, M. B. P. 2019. Chia seeds: An ancient grain trending in modern human diets. *Food and Function*, 10(6), pp.3068-3089.

Mente, A., O'Donnell, M., and Yusuf, S. 2021. Sodium Intake and Health: What Should We Recommend Based on the Current Evidence?. *Nutrients*, 13(3232), pp.1-11.

Milani, J. and Maleki, G. 2012. Hydrocolloids in food industry. In: *Food Industrial Processes-Methods and Equipment*. Edited by Benjamin Valdez. London: IntechOpen; pp.2-37.

Mojzer, E.B., *et al.* 2016. Polyphenols: Extraction Methods, Antioxidative Action, Bioavailability and Anticarcinogenic Effects, *Molecules*, 21(7), pp.1-38.

Montgomery, D. C. 2017. *Design and analysis of experiments (9th ed.)*. New Jersey: John Wiley & Sons, Inc.

Morand, C. *et al.* 2011. Hesperidin contributes to the vascular protective effects of orange juice: a randomized crossover study in healthy volunteers. *The American Journal of Clinical Nutrition*, 93(1), pp.73-80. https://doi.org/10.3945/ajcn.110.004945.

Mu, R. *et al.* 2018. Microencapsulation of *Lactobacillus acidophilus* with konjac glucomannan hydrogel. *Food Hydrocolloids*, 76(1), pp.42-48.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Muenprasitivej, N., Tao, R., Nardone, S. J., and Cho, S. 2022. The Effect of Steviol Glycosides on Sensory Properties and Acceptability of Ice Cream. *Foods*, 11(12), pp.1-15.

Muñoz, L. A., Cobos, A., Diaz, O., Aguilera, J. M. 2012. Chia seeds: Microstructure, mucilage extraction and hydration. *Journal of Food Engineering*, 108(1), pp.216-224.

Nogata, Y. *et al.* 2006. Flavonoid Composition of Fruit Tissues of Citrus Species. *Bioscience, Biotechnology, and Biochemistry*, 70(1), pp.178-192.

Nomura, T., Fukai, T., and Akiyama, T. 2002. Chemistry of phenolic compounds of licorice (Glycyrrhiza species) and their estrogenic and cytotoxic activities. *Pure and Applied Chemistry*, 74(7), pp.1199-1206.

Noshe, A. S. and Al-Bayyar, A. H. M. 2017. Effect of extraction method of Chia seeds Oil on its content of fatty acids and antioxidants. *International Research Journal of Engineering and Technology*, 4(10), pp.545-551.

Oliveira-Alves, S. C., Vendramini-Costa, D. B., Betim Cazarin, C. B., Maróstica, M. R., Borges Ferreira, J. P., Silva, A. B., Prado, M. A., & Bronze, M. R. 2017. Characterization of phenolic compounds in chia (*Salvia hispanica* L.) seeds, fiber flour and oil. *Food Chemistry*, 232(1), pp.295-305.

Olivos-Lugo, B. L., Valdivia-López, M. Á., & Tecante, A. 2010. Thermal and physicochemical properties and nutritional value of the protein fraction of

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Mexican chia seed (*Salvia hispanica* L.). *Food Science and Technology International*, 16(1), pp.89-96. https://doi.org/10.1177/1082013209353087

Padmaningrum, R.T. 2013. *Jelly Production from Fruits*. Yogyakarta: UNY.

Pang *et al.* 2006. Studies on single chain structure of Konjac glucomannan. *Chinese Journal of Structural Chemistry*, 25(12), pp.1441-1448.

Peng, M. *et al.* 2022. Development of Citrus-Based functional jelly and an investigation of its Anti-Obesity and antioxidant properties. *Antioxidants*, 11(12), pp.1-20. https://doi.org/10.3390/antiox11122418.

Peteliuk, V. *et al.* 2021. Natural sweetener Stevia rebaudiana: Functionalities, health benefits and potential risks. *EXCLI Journal*, 2021(20), pp.1421-1430. https://doi.org/10.17179/excli2021-4211.

Pirsa, S. and Hafezi, K. 2023. Hydrocolloids: Structure, preparation method, and application in food industry. *Food Chemistry*, 399(1), pp.1—14.

Ragain, J. C. 2016. A Review of Color Science in Dentistry: Colorimetry and Color Space. *Journal of Dentistry, Oral Disorders & Therapy*, 4(1), pp.1-5.

Ramos, S. 2008. Cancer chemoprevention and chemotherapy: Dietary polyphenols and signalling pathways. *Molecular Nutrition & Food Research*, 52(5), pp.507-526. https://doi.org/10.1002/mnfr.200700326.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Rampersaud, G. C. and Valim, M. F. 2017. 100% citrus juice: nutritional contribution, dietary benefits, and association with anthropometric measures. *Critical Reviews in Food Science and Nutrition*, 57(1), pp.129-140.

Rejeb, I. B., Dhen, N., Kassebi, S., and Gargouri, M. 2020. Quality Evaluation and Functional Properties of Reduced Sugar Jellies Formulated from Citrus Fruits. Journal of Chemistry, 2020, pp.1-8.

Repo-Carrasco-Valencia, R., Hellström, J.K., Pihlava, J.-M., and Mattila, P.H. 2010. Flavonoids and other phenolic compounds in Andean indigenous grains: Quinoa (*Chenopodium quinoa*), kañiwa (*Chenopodium pallidicaule*) and kiwicha (*Amaranthus caudatus*). *Food Chemistry*, 120(1), pp.128-133.

Reyes-Caudillo, E., Tecante, A., Valdivia-López, M.A. 2008. Dietary fibre content and antioxidant activity of phenolic compounds present in Mexican chia (*Salvia hispanica* L.) seeds. *Food Chemistry*, 107(2), pp.656-663.

Richa, R. *et al.* 2023. Citrus fruit: Classification, value addition, nutritional and medicinal values, and relation with pandemic and hidden hunge., *Journal of Agriculture and Food Research*, 14(1), pp.1-13.

Rodrigo, M. J., and Zacarías, L. 2007. Horticultural and quality aspects of citrus fruits'. In. *Handbook of fruits and fruit processing*. Edited by Y.H. Hui.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

USA: Blackwell Publishing, pp.293-307. https://doi.org/10.1002/9780470277737.ch18.

Rubio-Arraez, S. *et al.* 2016. Physicochemical characteristics of citrus jelly with non cariogenic and functional sweeteners. *Journal of Food Science and Technology*, 53(10), pp.3642-3650. https://doi.org/10.1007/s13197-016-2319-4.

Saha, D. and Bhattacharya, S. 2010. Hydrocolloids as thickening and gelling agents in food: a critical review. *Journal of food science and technology*, 47(6), pp.587-597.

Saini, R. K. and Keum, Y. S. 2018. Omega-3 and omega-6 polyunsaturated fatty acids: Dietary sources, metabolism, and significance—A review. *Life Sciences*, 203(1), pp.255-267. https://doi.org/10.1016/j.lfs.2018.04.049

Salgado-Cruz, M., Cedillo-López, D., & Beltrán-Orozco, M. 2005. Estudio de las propiedades funcionales de la semilla de chia (*Salvia hispanica*) y de la fibra dietaria obtendia de la misma. *Proceedings of VII Congreso Nacional De Ciencias De Los Alimentos,* Guanajuato: 12-14 June 2013. pp.358-366.

Scalbert, A. *et al.* 2005. Dietary polyphenols and the prevention of diseases', *Critical Reviews in Food Science and Nutrition*, 45(4), pp.287-306. https://doi.org/10.1080/1040869059096.

Shan, Y. 2015. *Canned Citrus Processing: Techniques, Equipment, and Food Safety*. Academic Press.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Silva, C., Garcia, V. A. S., and Zanette, C.M. 2016. Chia (*Salvia hispanica* L.) oil extraction using different organic solvents: oil yield, fatty acids profile and technological analysis of defatted meal. *International Food Research Journal*, 23(3), pp.998-1004. https://www.cabdirect.org/cabdirect/abstract/20163160829.

Singh, S. D. and Rao, G. P. 2005. *Stevia*: The herbal sugar of 21st century. *Sugar Tech*, 7(1), pp.17-24.

Singh, B., Chauhan, G. S., Bhatt, S. S., and Kumar, K. 2006. Metal ion sorption and swelling studies of psyllium and acrylic acid based hydrogels. *Carbohydrate Polymers*, 64(1), pp.50-56.

Siswantoro, J. 2019. Application of Color and Size Measurement in Food Products Inspection. *IJIS—Indonesian Journal of Information Systems*, 1(2), pp.90-107.

Sopyan, I., Gozali, D., Sriwidodo, S., and Guntina, R. K. 2022. Design-Expert Software (Doe): An Application Tool for Optimization in Pharmaceutical Preparations Formulation. *International Journal of Applied Pharmaceutics*, 14(4), pp.55-62.

Sun, J., Jiang, H., Wu, H., Tong, C., Pang, J., and Wu, C. 2020. Multifunctional bionanocomposite films based on konjac glucomannan/chitosan with nano–ZnO and mulberry anthocyanin extract for active food packaging. *Food Hydrocolloids*, 107(105942), pp.1-10.

UNIVERSITAS
GADJAH MADA
Development of Jelly Product Fortified with Chia Seeds (Salvia hispanica L.) and Shogun Orange (Citrus sinensis) and its Physicochemical and Nutritional Properties
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Suri, S., Singh, A., and Nema, P.K. 2021. Recent advances in valorization of citrus fruits processing waste: a way forward towards environmental sustainability. *Food Science and Biotechnology*, 30(13), pp.1601-1626.

Suryaningsih, S., Muslim, B., and Djali, M. 2020. The antioxidant activity of roselle and dragon fruit peel functional drink in free radical inhibition. *Journal of Physics: Conference Series*, 1836(2021), pp.1-9.

Syam, Y. *et al.* 2016. Nutrition and pH of trigona honey from Masamba, South Sulawesi, Indonesia. *International Journal of Sciences: Basic and Applied Research*, 27(1), pp.32-36.

Tabrez, S. *et al.* 2013. Cancer chemoprevention by polyphenols and their potential application as nanomedicine. *Journal of Environmental Science and Health, Part A*, 31(1), pp.67-T98. https://doi.org/10.1080/10590501.2013.763577.

Teixeria-Lemos, E., Almeida, A. R., Vouga, B., Morais, C., Correia, I., Pereira, P., and Guiné, R. P. F. 2021. Development and characterization of healthy gummy jellies containing natural fruits. *Open Agriculture*, 6(1), pp.466-478.

Toews, I. *et al.* 2018. Association between intake of non-sugar sweeteners and health outcomes: systematic review and meta-analyses of randomised and non-randomised controlled trials and observational studies. *BMJ*, 364, pp.k4718.

UNIVERSITAS
GADJAH MADA
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Thailand Ministry of Public Health. 1998. *Notification of the Ministry of Public Health (No. 182) B.E. 2541 Re: Nutrition Labelling*. Thailand: Food and Agriculture Organization (FAO).

Thailand Ministry of Public Health. 2003. *Thailand Food and Drug Administration (Re: Jam, jelly, and marmalade in sealed containers)*. Thailand: Food and Drug Administration.

Thomas, W.R. 1997. Konjac Gum. In: Imeson, A. (Ed.), *Thickening and Gelling Agents for Food*. 2nd Edn., London: Chapman and Hall, pp.169-179.

Ullah, R. *et al.* 2016. Nutritional and therapeutic perspectives of Chia (*Salvia hispanica* L.): a review. *Journal of Food Science and Technology*, 53(4), pp.1750-1758.

U.S. Department of Agriculture, Agricultural Research Service. 2019. *Oranges, raw, all commercial varieties*. FoodData Central.

U.S. Department of Agriculture, Agricultural Research Service. 2019. *Seeds, chia seeds, dried*. FoodData Central.

Wang, L. *et al.* 2019. Bioinspired aerogel based on konjac glucomannan and functionalized carbon nanotube for controlled drug release. *International Journal of Biological Macromolecules*, 133(1), pp.693-701. https://doi.org/10.1016/j.ijbiomac.2019.04.148.

White, Jr., J. R. 2018. Sugar. *Clin Diabetes*, 36(1), pp.74-76.

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GADJAH MADA
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Yamin, Y. *et al.* 2020. Determination of total phenolic and flavonoid contents of jackfruit peel and in vitro antiradical test, *Food Research*, 5(1), pp.84-90. https://doi.org/10.26656/fr.2017.5(1).350.

Yang, X. Y., Xie, J. X., Wang, F. F., Zhong, J., Liu, Y. Z., Li, G. H., and Peng, S. A. 2011. Comparison of ascorbate metabolism in fruits of two citrus species with obvious difference in ascorbate content in pulp. *Journal of Plant Physiology*, 168(18), pp.2196-2205.

Ye, S. *et al.* 2021. Konjac Glucomannan (KGM), Deacetylated KGM (DA-KGM), and Degraded KGM derivatives: a special focus on colloidal nutrition. *Journal of Agricultural and Food Chemistry*, 69(44), pp.12921-12932. https://doi.org/10.1021/acs.jafc.1c03647.

Yi, L., Ma, S. and Ren, D. 2017. Phytochemistry and bioactivity of Citrus flavonoids: a focus on antioxidant, anti-inflammatory, anticancer and cardiovascular protection activities. *Phytochemistry Reviews*, 16(3), pp.479-511. https://doi.org/10.1007/s11101-017-9497-1.

Yuan, Y. *et al.* (2018). Effects of konjac glucomannan on the structure, properties, and drug release characteristics of agarose hydrogels. *Carbohydrate Polymers*, 190(1), pp.196-203. https://doi.org/10.1016/j.carbpol.2018.02.049.10.

UNIVERSITAS
GADJAH MADA
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Yuan, C. *et al.* 2019. Gelation of κ-carrageenan/Konjac glucommanan compound gel: Effect of cyclodextrins. *Food Hydrocolloids*, 87(1), pp.158-164. https://doi.org/10.1016/j.foodhyd.2018.07.037.

Yusof, N., Jaswir, I., Jamal, P., and Jami, M. S. 2019. Texture Profile Analysis (TPA) of the jelly dessert prepared from halal gelatin extracted using High Pressure Processing (HPP). *Malaysian Journal of Fundamental and Applied Sciences*, 15(4), pp.604-608

Zae, T.K. *et al.* 2020. Comparison of selected local honey with manuka honey based on their nutritional and antioxidant properties. *Food Research*, 4(1), pp.205-213.

Zempleni, J., Suttie, J. W., Gregory, J. F., III, & Stover, P. J. (Eds.). 2013. *Handbook of vitamins*. Florida: CRC Press.

Zhou, Y. *et al.* 2018, Morphology evolution and gelation mechanism of alkali induced konjac glucomannan hydrogel. *Food Chemistry*, 269(1), pp.80-88.

Zhou, N. *et al.* (2021). Konjac glucomannan: A review of structure, physicochemical properties, and wound dressing applications. *Journal of Applied Polymer Science*, 139(11), pp.1-16. https://doi.org/10.1002/app.51780.

Zhu, C.H. *et al.* 2016. Consumption of canned citrus fruit meals increases human plasma β-cryptoxanthin concentration, whereas lycopene and β-carotene

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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

concentrations did not change in healthy adults. *Nutrition Research*, 36(7), pp.679-688.

Zitha, E.Z.M., do Lago, R.C., Carvalho, E.E.N. *et al.* 2021. Changes in the bioactive compounds and antioxidant activity in red-fleshed dragon fruit during its development. *Scientia Horticulturae*, 291(1), pp.1-9.