

DAFTAR PUSTAKA

- Abbas, A., Murtaza, S., Aslam, F., & Khawar, A. (2011). Effect of Processing on Nutritional Value of Rice (*Oryza sativa*). *World Journal of Medical Sciences*, 6(2), 68–73.
- Abdelrazek, H. M. A., Kilany, O. E., Muhammad, M. A. A., Tag, H. M., & Abdelazim, A. M. (2018). Black seed thymoquinone improved insulin secretion , hepatic glycogen storage , and oxidative stress in streptozotocin-induced diabetic male wistar rats. *Hindawi Oxidative Medicine and Cellular Longevity Volume 2018*, 1-10. <https://doi.org/10.1155/2018/8104165>.
- [ADA], American Diabetes Association (2011). Definition and description of diabetes other categories of glucose. *S62 diabetes care journal*, 34(1),62-69. <https://doi.org/10.2337/dc11-S062>
- Adi, A. C., Rifqi, M. A., Adriani, M., Haryana, N. R., & Astina, J. (2020). Effect of cooking methods and rice variety on the sensory quality and consumer acceptance. *Media Gizi Indonesia (National Nutrition Journal)*. 15(3): 159–166 <https://doi.org/10.204736/mgi.v15i3.152-166>.
- Adler, M. L. (2015). Clinical review 102 Type 2 diabetes mellitus : update on diagnosis , pathophysiology , and treatment. *The Journal of Clinical Endocrinology & Metabolism*, 84(4), 1165–1171. [https://doi.org/0021-972X/99/\\$03.00/0](https://doi.org/0021-972X/99/$03.00/0)
- Agamou, J. A. A., Fombang, E. N., & Mbofung, C. M. F. (2015). Particular benefits can be attributed to *Moringa oleifera* leaves based on origin and stage of maturity. *Journal of Experimental Biology and Agricultural Sciences*, 3(6), 541–555. [https://doi.org/10.18006/2015.3\(6\).541.555](https://doi.org/10.18006/2015.3(6).541.555)
- Ahmed, F., Sairam, S., & Urooj, A. (2011). In vitro hypoglycemic effects of selected dietary fiber sources. *Journal of Food Science and Technology*, 48(3), 285–289. <https://doi.org/10.1007/s13197-010-0153-7>
- Alavi, S., Bugusu, B., Cramer, G. (2008). Rice fortification in developing countries : a critical review of the technical and economic feasibility. Academy for Educational Development 1825 Connecticut Avenue, NW Washington, DC 20009.
- Amic, D., Davidovic-Amic, D., Beslo, D., Rastija, V., Lucic, B., & Trinajstić, N. (2007). SAR and QSAR of the Antioxidant Activity of Flavonoids. *Current Medicinal Chemistry*, 14(7), 827–845. <https://doi.org/10.2174/092986707780090954>
- Annur, N. D., Nugrohoningtyas, B. S. H., Rodríguez Dodero, M. C., & Setyaningsih, W. (2020). Consumers’ willingness to pay for functional rice: A survey from

- Indonesia. *Food Research*, 4(4), 1344–1350.
[https://doi.org/10.26656/FR.2017.4\(4\).095](https://doi.org/10.26656/FR.2017.4(4).095)
- Ansari, M. M., & Kumar, D. S. (2012). Fortification of Food and Beverages with Phytonutrients. *Food and Public Health*, 2(6), 241–253.
<https://doi.org/10.5923/j.fph.20120206.09>
- Anugrahati, N. A., Pranoto, Y., Marsono, Y., & Marseno, D. W. (2015). In Vitro Digestibility of Indonesian Cooked Rice Treated with Cooling-Reheating Process and Coconut Milk Addition. *International Research Journal of Biological Sciences*, 4(12), 34–39. Retrieved from www.isca.me
- Ao, Z., Simsek, S., Zhang, G., Venkatachalam, M., Reuhs, B. L., & Hamaker, B. R. (2007). Starch with a slow digestion property produced by altering its chain length, branch density, and crystalline structure. *Journal of Agricultural and Food Chemistry*, 55(11), 4540–4547. <https://doi.org/10.1021/jf063123x>
- AOAC. (n.d.). *Official Methods of Analytical of The Association of Official Analytical Chemist*. WashingtonDC.
- Apak R. (2019). Current issues in antioxidant measurement Reşat Apak. *J. Agric.Food.Chem*, 1–57. <https://doi.org/10.1021/acs.jafc.9b03657>
- Ariani, M. (2010). Diversifikasi Konsumsi Pangan Pokok Mendukung Swasembada Beras. *Prosiding Pekan Serealia Nasional*, 978–979.
- Arif, A. Bin, & Budiyanto, A. (2013). Glicemic Index of Foods and Its Affecting Factors. *J Litbang Pert*, 32(2).
- Arum, Y., Supartono, & Sudarmin. (2012). Jurnal MIPA. *Jurnal MIPA*, 35(0215), 165–174.
- Aruna Sindhe, M., Bodke, Y. D., & Chandrashekar, A. (2013). Antioxidant and in vivo anti-hyperglycemic activity of muntingia calabura leaves extracts. *Der Pharmacia Lettre*, 5(3), 427–435.
- Asenstorfer, R. E., Wang, Y., & Mares, D. J. (2006). Chemical structure of flavonoid compounds in wheat (*Triticum aestivum* L.) flour that contribute to the yellow colour of Asian alkaline noodles. *Journal of Cereal Science*, 43(1), 108–119.
<https://doi.org/10.1016/j.jcs.2005.09.001>
- Ayala, A., Muñoz, M. F., & Argüelles, S. (2014). Lipid peroxidation : production , metabolism , and signaling mechanisms of malondialdehyde and 4-hydroxy-2-nonenal. *Hindawi Publishing Corporation Oxidative Medicine and Cellular Longevity* Volume 2014, Article ID 360438, 31 pages
<http://dx.doi.org/10.1155/2014/360438>
- Ayeleso, A., Brooks, N., & Oguntibeju, O. (2014). Modulation of antioxidant status

in streptozotocin-induced diabetic male wistar rats following intake of red palm oil and/or rooibos. *Asian Pacific Journal of Tropical Medicine*, 7(7), 536–544. [https://doi.org/10.1016/S1995-7645\(14\)60090-0](https://doi.org/10.1016/S1995-7645(14)60090-0)

Azantsa, B. G. K., Takuissu, G. R., Tcheumeni, E. J., Fonkoua, M., Dibacto, E. R. K., Ngondi, J. L., & Oben, J. E. (2020). Antihyperglycemic Mechanisms of Allium sativum, Citrus sinensis and Persea americana Extracts: Effects on Inhibition of Digestive Enzymes, Glucose Adsorption and Absorption on Yeast Cells and Psoas Muscles. *Diabetes Research – Open Journal*, 6(1), 1–9. <https://doi.org/10.17140/droj-6-143>.

[BPOM], Badan Pengawasan Obat dan Makanan (2004). *Ketentuan Pokok Pengawasan Pangan Fungsional*. Jakarta.

Balan, T., Hijaz, M., Sani, M., Haji, S., Ahmad, M., Suppaiah, V., & Amiruddin, Z. (2015). Antioxidant and anti-inflammatory activities contribute to the prophylactic effect of semi-purified fractions obtained from the crude methanol extract of Muntingia calabura leaves against gastric ulceration in rats. *Journal of Ethnopharmacology*, 164, 1–15. <https://doi.org/10.1016/j.jep.2014.12.017>

Barros, F., Awika, J. M., & Rooney, L. W. (2012). Interaction of tannins and other sorghum phenolic compounds with starch and effects on in vitro starch digestibility. *Journal of Agricultural and Food Chemistry*, 60(46), 11609–11617. <https://doi.org/10.1021/jf3034539>

Bashir, K., Nozoye, T., Ishimaru, Y., Nakanishi, H., & Nishizawa, N. K. (2013). Exploiting new tools for iron bio-fortification of rice. *Biotechnology Advances*, 31(8), 1624–1633. <https://doi.org/10.1016/j.biotechadv.2013.08.012>

Bhutkar, M. (2018). Studies on Glucose Adsorption Capacity of Some Indigenous Plants. *Global Journal of Pharmacy & Pharmaceutical Sciences*, 5(1), 1–4. <https://doi.org/10.19080/gjpps.2018.05.555651>

Budi, F. S., Hariyadi, P., Budijanto, S., & Syah, D. (2013). Teknologi Proses Ekstrusi untuk Membuat Beras Analog. *Majalah Pangan IPB*, 22(23), 263–275. <https://doi.org/10.1021/cm050787y>

Chan, E. W. C., Lim, Y. Y., & Chew, Y. L. (2007). Antioxidant activity of Camellia sinensis leaves and tea from a lowland plantation in Malaysia. *Food Chemistry*, 102(4), 1214–1222. <https://doi.org/10.1016/j.foodchem.2006.07.009>

Chang, X., Lu, Y., Lin, Z., Qiu, J., Guo, X., Pan, J., & Abbasi, A. M. (2018). Impact of leaf development stage on polyphenolics profile and antioxidant activity in Clausena lansium (Lour.) Skeels. *Hindawi BioMed Research International*, 2018, 1–8.

Chapagai, M. K., Wan Rosli, W. I., Wan Manan, W. M., Jalil, R. A., Karrila, T., &

- Pinkaew, S. (2017). Effect of domestic cooking methods on physicochemical, nutritional and sensory properties of different varieties of brown rice from Southern Thailand and Malaysia. *International Food Research Journal*, 24(3), 1140–1147.
- Colasanto, A., Travaglia, F., Bordiga, M., Monteduro, S., Arlorio, M., Coisson, J. D., & Locatelli, M. (2021). Cooking of artemide black rice: impact on proximate composition and phenolic compounds. *Foods*, 10(4). <https://doi.org/10.3390/foods10040824>
- Darandakumbura, H. D. K., Wijesinghe, D. G. N. G., & Prasantha, B. D. R. (2013). Effect of processing conditions and cooking methods on resistant starch , dietary fiber and glycemic index of rice. *Tropical Agricultural Research* Vol. 24 (2): 163 - 174 (2013) <https://doi.org/10.13140/RG.2.1.4741.0407>
- Das, A. B., Goud, V. V., & Das, C. (2019). Microencapsulation of anthocyanin extract from purple rice bran using modified rice starch and its effect on rice dough rheology. *International Journal of Biological Macromolecules*, 124, 573–581. <https://doi.org/10.1016/j.ijbiomac.2018.11.247>
- de Pee, S. (2014). Proposing nutrients and nutrient levels for rice fortification. *Annals of the New York Academy of Sciences*, 1324(1), 55–66. <https://doi.org/10.1111/nyas.12478>
- Dharmadasa R.M1, Abeysinghe D.C, Dissanayake DMN. Abeywardhane K.W.2, Fernando N.S. (2015). leaf essential oil composition , antioxidant activity , total phenolic content and total flavonoid content of pimenta dioica (l .) merr (myrtaceae): a superior quality spice grown in Sri Lanka. *Universal Journal of Agricultural Research* 3(2): 49-52, 2015 <https://doi.org/10.13189/ujar.2015.030203>
- Du, J., Yang, Z., Xu, X., Wang, X., & Du, X. (2019). Effects of tea polyphenols on the structural and physicochemical properties of high-hydrostatic-pressure-gelatinized rice starch. *Food Hydrocolloids*. <https://doi.org/10.1016/j.foodhyd.2019.01.035>
- Dupuis, J. H., Liu, Q., & Yada, R. Y. (2014). Methodologies for Increasing the Resistant Starch Content of Food Starches: A Review. *Comprehensive Reviews in Food Science and Food Safety*, 13(6), 1219–1234. <https://doi.org/10.1111/1541-4337.12104>
- Egwaikhide, P. A., & Gimba, C. E. (2007). Analysis of the Phytochemical Content and Anti-microbial Activity of Plectranthus glandulosus Whole Plant. *Middle-East Journal of Scientific Research*, 2(3–4), 135–138.
- Englyst, H. N., Kingman, S. M., & Cummings, J. H. (1992). Classification and measurement of nutritionally important starch fractions. *European Journal of*

Clinical Nutrition, 46(SUPPL. 2).

- Ferreira, P., Mendes, C., Reis, S., Rodrigues, C., & Oliveira, D. (2011). Morphoanatomy, Histochemistry and Phytochemistry of *Psidium guineense* Sw. (Myrtaceae) Leaves. *Biologia*, 4(4), 942–944. Retrieved from <https://www.researchgate.net/publication/260597376>
- Forester, S. C., Gu, Y., & Lambert, J. D. (2012). Inhibition of starch digestion by the green tea polyphenol, (-)-epigallocatechin-3-gallate. *Molecular Nutrition and Food Research*, 56(11), 1647–1654. <https://doi.org/10.1002/mnfr.201200206>
- Fracassetti, D., Pozzoli, C., Vitalini, S., Tirelli, A., & Iriti, M. (2020). Impact of cooking on bioactive compounds and antioxidant activity of pigmented rice cultivars. *Foods*, 9(8), 1–12. <https://doi.org/10.3390/foods9080967>
- Fuentes-Zaragoza, E., Riquelme-Navarrete, M. J., Sánchez-Zapata, E., & Pérez-Álvarez, J. A. (2010). Resistant starch as functional ingredient: A review. *Food Research International*, 43(4), 931–942. <https://doi.org/10.1016/j.foodres.2010.02.004>
- Ghasemi, A., Khalifi, S., & Jedi, S. (2014). Streptozotocin-nicotinamide-induced rat model of type 2 diabetes (review). *Acta Physiologica Hungarica*, 101(4), 408–420. <https://doi.org/10.1556/APhysiol.101.2014.4.2>
- Goni, I., Garcia-Alonso, A., and Saura-Calixto, F. (1997). A starch hydrolysis procedure to estimate glycemic index. *Nutr. Res.*, 17:427–437.
- Gromova, L. V., Fetissov, S. O., & Gruzdkov, A. A. (2021). Mechanisms of glucose absorption in the small intestine in health and metabolic diseases and their role in appetite regulation. *Nutrients*, 13(7). <https://doi.org/10.3390/nu13072474>
- Guy, R. (2001). *Extrusion Cooking: Technologies and Applications*. Boca Raton, United States of America, Woodhead Publishing, Cambridge, United Kingdom. ISBN 978-185-5735-59-0.
- Hanhineva, K., Törrönen, R., Bondia-pons, I., & Pekkinen, J. (2010). *Impact of Dietary Polyphenols on Carbohydrate Metabolism*. 1365–1402. <https://doi.org/10.3390/ijms11041365>
- Haralampu SG. 2000. Resistant starch – A review of the Physical Properties and Biological Impact of RS3. *Carbohydrate Polymers Journal*, 41: 285–292.
- Helmyati, S., Yuliati, E., Pamungkas, N. P., & Hendarta, N. Y. (2016). *Fortifikasi Pangan Berbasis Sumber Daya Nusantara; Upaya mengatasi Masalah Defisiensi Zat Gizi Mikro di Indonesia* (II). Yogyakarta: UGM Press.
- Hidayati, S., Nurdin, S. Ud., & Nugroho, R. A. (2016). Aktivitas antioksidan dan sifat sensori dari nasi instan hasil hidrolisis pati yang diperkaya dengan ekstrak

- pegagan (*Centella asiatica*). *Jurnal Teknologi Industri & Hasil Pertanian*, 21(2), 77–88. [https://doi.org/poa00607\[pil\]](https://doi.org/poa00607[pil])
- Himmah, L. F., dan Handayani, W., Pengaruh Ekstrak Teh Hijau dalam Pembuatan Beras dengan IG Rendah. *Unej Jurnal*, 1(1) 1–3.
- Igoumenidis, P. E., & Karathanos, V. T. (2016). Diffusion and thermal stability of phenolic compounds during fortified rice rehydration process. *Journal of Food Engineering*, 174, 1–7. <https://doi.org/10.1016/j.jfoodeng.2015.10.044>
- Igoumenidis, P. E., Lekka, E. G., & Karathanos, V. T. (2016). Fortification of white milled rice with phytochemicals during cooking in aqueous extract of *Mentha spicata* leaves. An adsorption study. *LWT - Food Science and Technology*, 65, 589–596. <https://doi.org/10.1016/j.lwt.2015.07.012>
- Jenkins, D. J. A., & Jenkins, A. L. (1987). The glycemic index, fiber, and the dietary treatment of hypertriglyceridemia and diabetes. *Journal of the American College of Nutrition*, 6(1), 11–17. <https://doi.org/10.1080/07315724.1987.10720160>
- Jinorose, M., Prachayawarakorn, S., & Soponronnarit, S. (2014). A novel image-analysis based approach to evaluate some physicochemical and cooking properties of rice kernels. *Journal of Food Engineering*, 124, 184–190. <https://doi.org/10.1016/j.jfoodeng.2013.08.009>
- Koswara, S. (2009). *Teknologi Pengolahan Beras (Teori dan Praktek)*. ebook pangan.
- Kaneto, H., Kajimoto, Y., Miyagawa, J., Matsuoka, T., Fujitani, Y.U., Mayahara, Y., Hanafusa, T., Matsuzawa, Y., Yamasak, Y. And Hori, M. (1999). Beneficial effects of antioxidants in diabetes possible protection of pancreatic b-cells against glucose toxicity. *Diabetes* ;48:2398–406.
- Kuntorini, E. M., Nugroho, L. H., Maryani, & Nuringtyas, T. R. (2019). Anatomical structure, flavonoid content, and antioxidant activity of *Rhodomyrtus tomentosa* leaves and fruits on different age and maturity level. *Biodiversitas*, 20(12), 3619–3625. <https://doi.org/10.13057/biodiv/d201221>
- Kyritsi, A., Tzia, C., & Karathanos, V. T. (2011). Vitamin fortified rice grain using spraying and soaking methods. *LWT - Food Science and Technology*, 44(1), 312–320. <https://doi.org/10.1016/j.lwt.2010.06.001>
- Lakshmi, S., & Singh, V. (2007). *Energy consumption in microwave cooking of rice and its comparison with other domestic appliances*. 78, 715–722. <https://doi.org/10.1016/j.jfoodeng.2005.11.011>
- Le Bourvellec, C., & Renard, C. M. G. C. (2012). Interactions between polyphenols and macromolecules: Quantification methods and mechanisms. *Critical Reviews in Food Science and Nutrition*, 52(3), 213–248. <https://doi.org/10.1080/10408398.2010.499808>

- Lemlioglu-Austin, D., Turner, N. D., McDonough, C. M., & Rooney, L. W. (2012). Effects of sorghum [*Sorghum bicolor* (L.) moench] crude extracts on starch digestibility, estimated glycemic index (EGI), and resistant starch (RS) contents of porridges. *Molecules*, 17(9), 11124–11138. <https://doi.org/10.3390/molecules170911124>
- Lotito, S. B., Actis-Goretta, L., Renart, M. L., Caligiuri, M., Rein, D., Schmitz, H. H., Fraga, C. G. (2000). Influence of oligomer chain length on the antioxidant activity of procyanidins. *Biochemical and Biophysical Research Communications*, 276(3), 945–951. <https://doi.org/10.1006/bbrc.2000.3571>
- Losel D dan Claus R. 2005. Dose-dependent Effects of Resistant Potato Starch in the Diet on Intestinal Skatole Formation and Adipose Tissue Accumulation in the pig. *Journal of Veterinary Medicine, A: Physiology, Pathology, Clinical Medicine*, 52: 209–212.
- Luglio, H. F., Fitria, A. L., Kusumawardhani, D. A., Amalia, R., Hapsari, D. D., Susilowati, R., & Sunarti, S. (2016). Lesser yam (*dioscorea esculenta*) based cookies improves lipid profile in overweight/obese adults with an ad libitum diet via glucagon like peptide 1. *Nutrition & Food Science*.
- M'rabet, Y., Rokbeni, N., Cluzet, S., Boulila, A., Richard, T., Krisa, S., Hosni, K. (2017). Profiling of phenolic compounds and antioxidant activity of *Melia azedarach* L. leaves and fruits at two stages of maturity. *Industrial Crops and Products*, 107(September 2017), 232–243. <https://doi.org/10.1016/j.indcrop.2017.05.048>
- Mahmood, N. D., Nasir, N. L. M., Rofiee, M. S., Tohid, S. F. M., Ching, S. M., Teh, L. K., Zakaria, Z. A. (2014). Muntingia calabura: A review of its traditional uses, chemical properties, and pharmacological observations. *Pharmaceutical Biology*, 52(12), 1598–1623. <https://doi.org/10.3109/13880209.2014.908397>
- Marsono, Y. (1998). Resistent Starch : Pembentukan, Metabolisme dan Aspek Gizi-nya. *Agritech*, 18(4), 29–35.
- Marsono, Y. (2002). Indeks Glikemik Umbi-umbian. *AgriTECH*, Vol. 22, pp. 13–16. Retrieved from <https://jurnal.ugm.ac.id/agritech/article/view/13574/9738>
- Marsono, Y. 2004. Serat Pangan dalam Perspektif Ilmu Gizi. Pidato Pengukuhan Jabatan Guru Besar pada Fakultas Teknologi Pertanian, Universitas Gadjah Mada, Yogyakarta.
- Marsono, Yustinus. (2016). The role mechanism of resistant starch (RS) in reducing plasma glucose concentration. *Proceeding International Food Conference 2016: Innovation of Food Technology to Improved Security and Health*. Surabaya.
- Marsono, Yustinus, & Topping, D. L. (1993). Complex carbohydrates in australian

rice products-influence of microwave cooking and food processing. *LWT - Food Science and Technology*, Vol. 26, pp. 364–370.
<https://doi.org/10.1006/fstl.1993.1072>

Martinelli, E., Granato, D., Azevedo, L., Lorenzo, M., Munekata, P. E. S., Simalgandara, J., Lucini, L. (2021). *Trends in Food Science & Technology Current perspectives in cell-based approaches towards the definition of the antioxidant activity in food*. 116(April), 232–243. <https://doi.org/10.1016/j.tifs.2021.07.024>

Masola, B., Oguntibeju, O. O., & Oyenih, A. B. (2018). Biomedicine & Pharmacotherapy Centella asiatica ameliorates diabetes-induced stress in rat tissues via influences on antioxidants and inflammatory cytokines. *Biomedicine & Pharmacotherapy*, 101(February), 447–457.
<https://doi.org/10.1016/j.biopha.2018.02.115>

Mawarti, H., Ratnawati, R., & Lyrawati, D. (2012). Epigallocatechin Gallate Menghambat Resistensi Insulin pada Tikus dengan Diet Tinggi Lemak Inhibitory Effect of Epigallocatechin Gallate on Insulin Resistance in Rat with High Fat Diet. *Jurnal Kedokteran Brawijaya*, 27(1), 43–50.

Mierziak, J., Kostyn, K., & Kulma, A. (2014). Flavonoids as important molecules of plant interactions with the environment. *Molecules*, 19(10), 16240–16265.
<https://doi.org/10.3390/molecules191016240>

Misaki, M., & Yasumatsu k. (1985). *Rice Enrichment and Fortification. in Rice : Chemistry and Technology, 2nd ed. Am. Assoc. Cereal Chem. St. Paul.Mn.*

Mridula, D., Sahay, D., Gupta, R. K., & Goswami, D. (2015). Development of biopolymer coated calcium fortified rice using spraying and soaking methods. *LWT - Food Science and Technology*, 61(1), 209–215.
<https://doi.org/10.1016/j.lwt.2014.11.020>

Murray RK, Granner DK, Mayes PA, Rodwll VW. 2003. Biochemistry. 26theds. New York: Lange Medical Books/McGraw-Hill;

Ndraha, S. (2014). Diabetes Melitus Tipe 2 Dan Tatalaksana Terkini. *Medicinus*, 27(2), 9–16.

Nduagu C, Ekefan EJ, & Nwankiti AO. (2008). Effect of some crude plant extracts oinm growth of Colletotrichum capsici (Synd) Butler & Bisby, causal agent of pepper anthracnose. *Journal of Applied Biosciences*, 6(2), 184–190. Retrieved from www.biosciences.elewa.org

Nilayam, S., Nagar, V., & Pradesh, A. (2011). Sridhar et al. ., *International Journal of Pharma Scinece and Research*, 2(10), 2562–2565.

Nobossé, P., Fombang, E. N., & Mbofung, C. M. F. (2018). Effects of age and extraction solvent on phytochemical content and antioxidant activity of fresh

- Moringa oleifera L. leaves. *Food Science and Nutrition*, 6(8), 2188–2198.
<https://doi.org/10.1002/fsn3.783>
- Noviasari, S., Kusnandar, F., & Budijanto, S. (2013). Pengembangan beras analog dengan memanfaatkan jagung putih [*Development of White Corn-Based Rice Analogues*]. *J.Teknol. Dan Industri Pangan*, 24(2), 194–200.
<https://doi.org/10.6066/jtip.2013.24.2.194>
- Nurhidajah, N., Astuti, M., Sardjono, S., & Murdiati, A. (2017). Profil Antioksidan Darah Tikus Diabetes dengan Asupan Beras Merah yang Diperkaya Kappa-Karagenan dan Ekstrak Antosianin. *Agritech*, 37(1), 82.
<https://doi.org/10.22146/agritech.17013>
- Oliveira, R. N., Mancini, M. C., de Oliveira, F. C. S., Passos, T. M., Quilty, B., Thiré, R. M. da S. M., & McGuinness, G. B. (2016). Análise por FTIR e quantificação de fenóis e flavonóides de cinco produtos naturais disponíveis comercialmente utilizados no tratamento de feridas. *Revista Materia*, 21(3), 767–779.
<https://doi.org/10.1590/S1517-707620160003.0072>
- Patras, A., Brunton, N. P., Donnell, C. O., & Tiwari, B. K. (2010). Effect of thermal processing on anthocyanin stability in foods; mechanisms and kinetics of degradation. *Trends in Food Science & Technology*, 21(1), 3–11.
<https://doi.org/10.1016/j.tifs.2009.07.004>
- Peng, X., Ma, J., Cheng, K. W., Jiang, Y., Chen, F., & Wang, M. (2010). The effects of grape seed extract fortification on the antioxidant activity and quality attributes of bread. *Food Chemistry*, 119(1), 49–53.
<https://doi.org/10.1016/j.foodchem.2009.05.083>
- Pokorny, J., Yanishlieva, N., & Gordon, M. (2001). *Antioxidants in Food; practical applications*. England: CRC Press.
- Pramono, V. J., & Santoso, R. (2014). Pengaruh Ekstrak Buah Kersen (Muntingia calabura) terhadap Kadar Gula Darah Tikus Putih (Rattus novergicus) yang Diinduksi Streptozotocin (STZ). *Jurnal Sain Veteriner*, 32(2), 218–223.
- Procházková, D., Boušová, I., & Wilhelmová, N. (2011). Antioxidant and prooxidant properties of flavonoids. *Fitoterapia*, 82(4), 513–523.
<https://doi.org/10.1016/j.fitote.2011.01.018>
- Punithavathi, V. R., Prince, P. S. M., Kumar, R., & Selvakumari, J. (2011). Antihyperglycaemic, antilipid peroxidative and antioxidant effects of gallic acid on streptozotocin induced diabetic Wistar rats. *European Journal of Pharmacology*, 650(1), 465–471. <https://doi.org/10.1016/j.ejphar.2010.08.059>
- Ramadas, D., Chandrappa, S., Kashyap, H. R., (2015). In vitro anti-diabetic activity of muntingia root proteins. *World journal of Pharmacy and pharmaceutical*

science 4(10), 1526–1534.

- Rehman, G., Hamayun, M., Iqbal, A., Ul Islam, S., Arshad, S., Zaman, K., Lee, I. (2018). In vitro antidiabetic effects and antioxidant potential of cassia nemophila pods. *BioMed Research International*, 2018. <https://doi.org/10.1155/2018/1824790>
- Sahayaraja, P. A., J.Gowri, V.Dharmalingama, R.Shobana, & A.Angelin. (2015). *Phytochemical screening by FTIR spectroscopic analysis of leaf and stem Extracts of wedelia biflora*. (December).
- Sahreen, S., Khan, M. R., & Khan, R. A. (2017). Evaluation of antioxidant profile of various solvent extracts of Carissa opaca leaves: An edible plant. *Chemistry Central Journal*, 11(1), 1–7. <https://doi.org/10.1186/s13065-017-0300-6>
- Saloko, S., Widyastuti, S., & Eka, M. (2020). Inovasi Teknologi Beras Sehat Analog Fungsional Untuk Kesejahteraan Masyarakat. *Jurnal PEPADU*, 1(2), 157–165.
- Sarimanah, J., Ketut Adnyana, I., Sukandar, E. Y., & Kurniati, N. F. (2017). The antirheumatic activity of Muntingia calabura L. Leaves ethanol extract and its fraction. *Asian Journal of Pharmaceutical and Clinical Research*, 10(1), 84–86. <https://doi.org/10.22159/ajpcr.2017.v10i1.14102>
- Setyaningsih, W., Hidayah, N., Saputro, I. E., Palma, M., & Garcia Barroso, C. (2016). Profile of phenolic compounds in Indonesian rice (Oryza sativa) varieties throughout post-harvest practices. *Journal of Food Composition and Analysis*, 54, 55–62. <https://doi.org/10.1016/j.jfca.2016.10.004>
- Shahidi, F., & Zhong, Hy. J. (2020). Methods for Measuring Lipid Oxidation. *Bailey's Industrial Oil and Fat Products*, 1–27. <https://doi.org/10.1002/047167849x.bio050.pub2>
- Shori, A. B. ak. (2015). Screening of antidiabetic and antioxidant activities of medicinal plants. *Journal of Integrative Medicine*, 13(5), 297–305. [https://doi.org/10.1016/S2095-4964\(15\)60193-5](https://doi.org/10.1016/S2095-4964(15)60193-5)
- Singh, R., Iya, S., Prasad, S., Desmukh, N., Gupta, U., Zanje, A., Joshi, S. (2017). Phytochemical Analysis of Muntingia calabura Extracts Possessing Anti-Microbial and Anti-Fouling Activities. *International Journal of Pharmacognosy and Phytochemical Research*, 9(6), 826–832. <https://doi.org/10.25258/phyto.v9i6.8186>
- Siregar, H. P., Putra, S. A., Taufan, A., & Kurniawan, Y. R. (2013). Studi eksperimental prototip i mesin ekstruder mie jagung. *Mekanika*, 12(September), 39–43.
- Sitanggang, G. S., Ardiaria, M., & Rahadiyanti, A. (2018). Pengaruh Pemberian Nasi Beras Merah (Oryza nivara) dan Nasi Beras Hitam (Oryza sativa L.indica)

- Terhadap Kadar CRP Tikus Wistar (*Rattus norvegicus*) Diabetes Melitus Tipe 2. *Journal of Nutrition College*, 7(4), 169. <https://doi.org/10.14710/jnc.v7i4.22276>
- Soelistijo, S. A., Novida, H., Rudijanto, A., Soewondo, P., Suastika, K., & Manaf, A. (2015). *Konsensus Pengelolaan dan Pencegahan Diabetes Melitus Tipe 2 di Indonesia*. PB. Perkeni.
- Sreelatha, S., & Padma, P. R. (2009). *Antioxidant Activity and Total Phenolic Content of Moringa oleifera Leaves in Two Stages of Maturity*. 303–311. <https://doi.org/10.1007/s11130-009-0141-0>
- Srikaeo, K., & Arranz-martínez, P. (2015). Formulating low glycaemic index rice flour to be used as a functional ingredient. *Journal of Cereal Science*, 61, 33–40. <https://doi.org/10.1016/j.jcs.2014.10.002>
- Steiger, G., Müller-Fischer, N., Cori, H., & Conde-Petit, B. (2014). Fortification of rice: Technologies and nutrients. *Annals of the New York Academy of Sciences*, 1324(1), 29–39. <https://doi.org/10.1111/nyas.12418>
- Sunarti, S., Santoso, U., Pramana, A. A. C., Huriyati, E., & Rubi, D. S. (2020). High Fiber and Beta Carotene from Sweet Potatoes and Pumpkin Improve Insulin Resistance by Inhibition of Sterol Regulatory Binding Protein 1c in Liver of Hypertriglyceridemic Rats. *Open Access Macedonian Journal of Medical Sciences*, 8(A), 898-903.
- Syafutri, M. I. S., Ratama, F. P., Yaiful, F. S., & Aizal, A. F. (2016). Effects of Varieties and Cooking Methods on Physical and Chemical Characteristics of Cooked Rice. *Rice Science*, 23(5), 282–286. <https://doi.org/10.1016/j.rsci.2016.08.006>
- Szkudelski, T. (2012). Streptozotocin–nicotinamide-induced diabetes in the rat. Characteristics of the experimental model. *Experimental biology and medicine*, 237(5), 481-490.
- Szkudelski, T., Zywert, A., & Szkudelska, K. (2013). Metabolic disturbances and defects in insulin secretion in rats with streptozotocin-nicotinamide-induced diabetes. *Physiological research*, 62(6), 663.
- Takahama, U., & Hirota, S. (2018). Interactions of flavonoids with α -amylase and starch slowing down its digestion. *Food and Function*, 9(2), 677–687. <https://doi.org/10.1039/c7fo01539a>
- Takahama, U., & Starch, S. H. a. (2013). Interactions of Flavonoids with α -amylase and starch slowing down its digestion Umeo. *Food Funct.*, 00(1–3), 1–10. <https://doi.org/10.1039/C7FO01539A>
- Thomas, B., Mary, S., Vithiya, B., & Arul, T. A. (2019). ScienceDirect Antioxidant and Photo Catalytic Activity Of Aqueous Leaf Extract Mediated Green

- Synthesis Of Silver Nanoparticles Using Passiflora Edulis F . Flavicarpa. *Materials Today: Proceedings*, 14, 239–247. <https://doi.org/10.1016/j.matpr.2019.04.143>
- Ti, H., Zhang, R., Li, Q., Wei, Z., & Zhang, M. (2015). Effects of cooking and in vitro digestion of rice on phenolic pro fi les and antioxidant activity. *FRIN*, 76, 813–820. <https://doi.org/10.1016/j.foodres.2015.07.032>
- Tibrani, M. M. (2009). Kadar Insulin Plasma Mencit yang Dikondisikan Diabetes Mellitus Setelah Pemberian Ekstrak Air Daun Nimba. *Prosiding Seminar Nasional Penelitian, Pendidikan Dan Penerapan MIPA, Fakultas MIPA, Universitas Negeri Yogyakarta*, 112–120.
- Triswaningsih, Diana, Sri Kumalangsih, Wignyanto, P. (2017). Estimation of Chemical Compounds and Antioxidant Activity of Muntingia Calabura Extract. *International Journal of ChemTech Research*, 10(3), 17–23.
- Triswaningsih, D., & Kumalaningsih, S. (2017). Identification of chemical compounds cherry leaves (Muntingia calabura) powder as a natural antioxidant. *Int. J. Agron. Agri. R. International Journal of Agronomy and Agricultural Research*, 10(5), 84–91. Retrieved from <http://www.innspub.net>
- Valencia, E., & Goretti Marianti Purwanto, M. (2020). Artificial Rice As an Alternative Functional Food to Support Food Diversification Program. *KnE Life Sciences*, 2020, 177–186. <https://doi.org/10.18502/cls.v5i2.6449>
- Wahab, A. W., Karim, A., Asmawati, & Sutapa, I. W. (2018). Bio-synthesis of gold nanoparticles through bioreduction using the aqueous extract of Muntingia calabura L. leaves. *Oriental Journal of Chemistry*, 34(1), 401–409. <https://doi.org/10.13005/ojc/340143>
- Wang, M., Shen, Q., Hu, L., Hu, Y., Ye, X., Liu, D., & Chen, J. (2018). Physicochemical properties, structure and in vitro digestibility on complex of starch with lotus (Nelumbo nucifera Gaertn.) leaf flavonoids. *Food Hydrocolloids*, 81, 191–199. <https://doi.org/10.1016/j.foodhyd.2018.02.020>
- Weickert MO dan Mohlig M. 2005. Impact of cereal Fibre on Glucose-Regulating Factors. *Diabetologia*, 48: 2343–2353.
- Werdhasari, A. (2014). Peran Antioksidan Bagi Kesehatan. *Jurnal Biomedik Medisiana Indonesia*, 3(2), 59–68.
- [WHO]. World Health Organization. (2006). *Guidelines on food fortification with micronutrients*. France.WHO Library Cataloguing-in-Publication Data.
- Widowati, S. (2007). Pemanfaatan Ekstrak Teh Hijau (Camellia sinensis O. Kuntze) dalam Pengembangan Beras Fungsional untuk Penderita Diabetes. *Disertasi*. Fakultas Teknologi Pertanian, Institut Pertanian Bogor. Bogor.

- Widowati. (2009). *Penurunan Indeks Glikemik berbagai varietas beras melalui proses pratanak*. 6(1), 1–9.
- Wildman, R. E. C. (2007). *Nutraceuticals and Funtional Foods*. Boca, London, New York: CRC Press.
- Willet, W., Manson, J., & Liu, S. (2002). Glycemic inde, glycemic load and risk of type 2 diabetes. *American Journal Clinical Nutrition*, 76, 274S-280S.
- Witasari. 2009. Hubungan Tingkat Pengetahuan, Asupan Karbohidrat dan Serat dengan Pengendalian Kadar Glukosa Darah pada Penderita Diabetes Melitus Tipe 2. *Jurnal Penelitian Sains dan Teknologi*;10(2)
- Wu, Y., Chen, Z., Li, X., & Li, M. (2009). Effect of tea polyphenols on the retrogradation of rice starch. *Food Research International*, 42(2), 221–225. <https://doi.org/10.1016/j.foodres.2008.11.001>
- Wu, Y., Lin, Q., Chen, Z., & Xiao, H. (2011). The interaction between tea polyphenols and rice starch during gelatinization. *Food Science and Technology International*, 17(6), 569–577. <https://doi.org/10.1177/1082013211430294>
- Ying, D. Y., Hlaing, M. M., Lerisson, J., Pitts, K., Cheng, L., Sanguansri, L., & Augustin, M. A. (2017). Physical properties and FTIR analysis of rice-oat flour and maize-oat flour based extruded food products containing olive pomace. *Food Research International*, 100(April), 665–673. <https://doi.org/10.1016/j.foodres.2017.07.062>
- Yuan, H., Wang, W., Chen, D., Zhu, X., & Cao, S. (2016). Characterization of resistant starch from Se-rich rice flour and its anti-diabetic effect in diabetic ICR mice. *Starch*, 68, 106–111. <https://doi.org/10.1002/star.201500168>
- Yuan, M., Jia, X., Ding, C., Yuan, S., Zhang, Z., & Chen, Y. (2014). *Comparative Studies on Bioactive Constituents in Hawk Tea Infusions with Different Maturity Degree and Their Antioxidant Activities*. 2014.
- Zahrani, S. A. (2021). Peran Short Chain Fatty Acid (SCFA) Dan Free Fatty Acid Receptor 2 (FFAR2) Terhadap Diabetes Melitus Tipe-2. *Jurnal Dunia Farmasi*, 5(3), 120-129.
- Zakaria, Z. A. (2007). *Free Radical Scavenging Activity of Some Plants Available in Malaysia*. 6(1), 87–91.
- Zakaria, Z. A., Mustapha, S., Sulaiman, M. R., Mat Jais, A. M., Somchit, M. N., & Abdullah, F. C. (2007). The antinociceptive action of aqueous extract from Muntingia calabura leaves: The role of opioid receptors. *Medical Principles and Practice*, 16(2), 130–136. <https://doi.org/10.1159/000098366>

- Zaupa, M., Calani, L., Del Rio, D., Brighenti, F., & Pellegrini, N. (2015). Characterization of total antioxidant capacity and (poly)phenolic compounds of differently pigmented rice varieties and their changes during domestic cooking. *Food Chemistry*, 187, 338–347. <https://doi.org/10.1016/j.foodchem.2015.04.055>
- Zhang, G., & Hamaker, B. R. (2009). Slowly digestible starch: Concept, mechanism, and proposed extended glycemic index. *Critical Reviews in Food Science and Nutrition*, 49(10), 852–867. <https://doi.org/10.1080/10408390903372466>
- Zheng, W., & Wang, S. Y. (2001). Antioxidant activity and phenolic compounds in selected herbs. *Food Chemistry*, 105(3), 940–949. <https://doi.org/10.1016/j.foodchem.2007.04.038>
- Zhu, F. (2015). Interactions between starch and phenolic compound. *Trends in Food Science and Technology*, 43(2), 129–143. <https://doi.org/10.1016/j.tifs.2015.02.003>