

## DAFTAR PUSTAKA

- Abdel-Aal, E. S. M., Young, J. C., & Rabalski, I. (2006). Anthocyanin composition in black, blue, pink, purple, and red cereal grains. *Journal of Agricultural and Food Chemistry*, 54(13). <https://doi.org/10.1021/jf06066609>
- Aini, N., Dwiyanti, H., & Salamah, M. P. (2023). Antioxidants and in vitro starch digestibility of coloured rice, and its effect on blood sugar and malonaldehyde in streptozotocin-nicotinamide-induced diabetic rats. *International Food Research Journal*, 30(3). <https://doi.org/10.47836/ifrj.30.3.15>
- Albuquerque, D., Nóbrega, C., Manco, L., & Padez, C. (2017). The contribution of genetics and environment to obesity. In *British Medical Bulletin* (Vol. 123, Issue 1). <https://doi.org/10.1093/bmb/ldx022>
- Ali, M. G., Naylor, R. E. L., & Matthews, S. (2006). Distinguishing the effects of genotype and seed physiological age on low temperature tolerance of rice (*Oryza sativa* L.). *Experimental Agriculture*, 42(3). <https://doi.org/10.1017/S0014479706003619>
- Anderson, J. W., & Tietyen-Clark, J. (1986). Dietary Fiber: Hyperlipidemia, Hypertension, and Coronary Heart Disease. *The American Journal of Gastroenterology*, 81(10). <https://doi.org/10.1111/j.1572-0241.1986.tb01358.x>
- Arifa, A. H., Syamsir, E., & Budijanto, S. (2021). Physicochemical Properties of Black Rice (*Oryza sativa* L.) from West Jawa, Indonesia Amalia. *AgriTECH*, 41(1), 15–24.
- Avram, M. M., Avram, A. S., & James, W. D. (2005). Subcutaneous fat in normal and diseased states: 1. Introduction. *Journal of the American Academy of Dermatology*, 53(4). <https://doi.org/10.1016/j.jaad.2005.05.014>
- Ayala, A., Muñoz, M. F., & Argüelles, S. (2014). Lipid peroxidation: Production, metabolism, and signaling mechanisms of malondialdehyde and 4-hydroxy-2-nonenal. In *Oxidative Medicine and Cellular Longevity* (Vol. 2014). <https://doi.org/10.1155/2014/360438>
- Basith, A., Noer, S., & Faizah, M. (2023). Variation in anthocyanin content level in four local varieties of black rice (*Oryza sativa* L.) from Indonesia. *Jurnal Pertanian*, 14(1), 1–6. <https://doi.org/10.30997/jp.v14i1.7152>
- Beltaifa, L., Bouguerra, R., Ben Slama, C., Jabrane, H., El-Khadhi, A., Ben Rayana, M. C., & Doghri, T. (2002). [Food intake, and anthropometrical and biological parameters in adult Tunisians during fasting at Ramadan]. *Eastern Mediterranean Health Journal = La Revue de Sante de La Mediterranee Orientale = Al-Majallah al-Sihhiyah Li-Sharq al-Mutawassit*, 8(4–5).

- Benincasa, P., Falcinelli, B., Lutts, S., Stagnari, F., & Galieni, A. (2019). Sprouted grains: A comprehensive review. *Nutrients*, *11*(2). <https://doi.org/10.3390/nu11020421>
- Benítez, V., Cantera, S., Aguilera, Y., Mollá, E., Esteban, R. M., Díaz, M. F., & Martín-Cabrejas, M. A. (2013). Impact of germination on starch, dietary fiber and physicochemical properties in non-conventional legumes. *Food Research International*, *50*(1). <https://doi.org/10.1016/j.foodres.2012.09.044>
- Bernardis, L. L., & Patterson, B. D. (1968). Correlation between “Lee index” and carcass fat content in weanling and adult female rats with hypothalamic lesions. *The Journal of Endocrinology*, *40*(4), 527–528. <https://doi.org/10.1677/joe.0.0400527>
- Blaut, M. (2015). Gut microbiota and energy balance: Role in obesity. *Proceedings of the Nutrition Society*, *74*(3), 227–234. <https://doi.org/10.1017/S0029665114001700>
- Bui, T. N., Le Hop, T., Nguyen, D. H., Tran, Q. B., Nguyen, T. L., Le, D. T., Nguyen, D. V. A., Vu, A. L., Aoto, H., Okuhara, Y., Ito, Y., Yamamoto, S., & Kise, M. (2014). Pre-germinated brown rice reduced both blood glucose concentration and body weight in vietnamese women with impaired glucose tolerance. *Journal of Nutritional Science and Vitaminology*, *60*(3). <https://doi.org/10.3177/jnsv.60.183>
- Burton-Freeman, B. (2000). Dietary fiber and energy regulation. *Journal of Nutrition*, *130*(2 SUPPL.). <https://doi.org/10.1093/jn/130.2.272s>
- Cáceres, P. J., Martínez-Villaluenga, C., Amigo, L., & Frias, J. (2014a). Assessment on proximate composition, dietary fiber, phytic acid and protein hydrolysis of germinated Ecuatorian brown rice. *Plant Foods for Human Nutrition (Dordrecht, Netherlands)*, *69*(3). <https://doi.org/10.1007/s11130-014-0433-x>
- Cáceres, P. J., Martínez-Villaluenga, C., Amigo, L., & Frias, J. (2014b). Assessment on proximate composition, dietary fiber, phytic acid and protein hydrolysis of germinated Ecuatorian brown rice. *Plant Foods for Human Nutrition (Dordrecht, Netherlands)*, *69*(3). <https://doi.org/10.1007/s11130-014-0433-x>
- Cawthorn, W. P., & Sethi, J. K. (2008). TNF- $\alpha$  and adipocyte biology. In *FEBS Letters* (Vol. 582, Issue 1). <https://doi.org/10.1016/j.febslet.2007.11.051>
- Ceccaroni, D., Alfeo, V., Bravi, E., Sileoni, V., Perretti, G., & Marconi, O. (2020). Effect of the time and temperature of germination on the phenolic compounds of *Triticum aestivum*, L. and *Panicum miliaceum*, L. *LWT*, *127*. <https://doi.org/10.1016/j.lwt.2020.109396>
- Chambers, E. S., Viardot, A., Psichas, A., Morrison, D. J., Murphy, K. G., Zaccarelli, S. E. K., MacDougall, K., Preston, T., Tedford, C., Finlayson, G. S., Blundell, J. E., Bell, J. D., Thomas, E. L., Mt-Isa, S., Ashby, D., Gibson, G. R., Kolida, S., Dhillon, W. S., Bloom, S. R., ... Frost, G. (2015). Effects of

- targeted delivery of propionate to the human colon on appetite regulation, body weight maintenance and adiposity in overweight adults. *Gut*, *64*(11), 1744–1754. <https://doi.org/10.1136/gutjnl-2014-307913>
- Chan, M. Y., & Heng, C. K. (2008). Sequential effects of a high-fiber diet with psyllium husks on the expression levels of hepatic genes and plasma lipids. *Nutrition*, *24*(1). <https://doi.org/10.1016/j.nut.2007.08.009>
- Chassaing, B., Raja, S. M., Lewis, J. D., Srinivasan, S., & Gewirtz, A. T. (2017). Colonic Microbiota Encroachment Correlates With Dysglycemia in Humans. *CMGH*, *4*(2). <https://doi.org/10.1016/j.jcmgh.2017.04.001>
- Cho, D. H., & Lim, S. T. (2016a). Germinated brown rice and its bio-functional compounds. In *Food Chemistry* (Vol. 196). <https://doi.org/10.1016/j.foodchem.2015.09.025>
- Cho, D. H., & Lim, S. T. (2016b). Germinated brown rice and its bio-functional compounds. In *Food Chemistry* (Vol. 196). <https://doi.org/10.1016/j.foodchem.2015.09.025>
- Ciapaite, J., Van Den Broek, N. M., Te Brinke, H., Nicolay, K., Jeneson, J. A., Houten, S. M., & Prompers, J. J. (2011). Differential effects of short- and long-term high-fat diet feeding on hepatic fatty acid metabolism in rats. *Biochimica et Biophysica Acta - Molecular and Cell Biology of Lipids*, *1811*(7–8), 441–451. <https://doi.org/10.1016/j.bbalip.2011.05.005>
- Clarke, P. R., & Hardie, D. G. (1990). Regulation of HMG-CoA reductase: identification of the site phosphorylated by the AMP-activated protein kinase in vitro and in intact rat liver. *The EMBO Journal*, *9*(8). <https://doi.org/10.1002/j.1460-2075.1990.tb07420.x>
- Czajkowski, P., Adamska-Patrano, E., Bauer, W., Fiedorczuk, J., Krasowska, U., Moroz, M., Gorska, M., & Kretowski, A. (2020). The impact of FTO genetic variants on obesity and its metabolic consequences is dependent on daily macronutrient intake. *Nutrients*, *12*(11). <https://doi.org/10.3390/nu12113255>
- Daeli, E., Ardaria, M., & Candra, A. (2018). Pengaruh Pemberian Nasi Beras Merah (*Oryza nivara*) dan Nasi Beras Hitam (*Oryza sativa* L.indica) terhadap Perubahan Kadar Gula Darah dan Trigliserida Tikus Wistar (*Rattus norvegicus*) Diabetes Melitus Tipe 2. In *JNH(Journal of Nutrition and Health* (Vol. 6, Issue 2).
- Das, M., Dash, U., Mahanand, S. S., Nayak, P. K., & Kesavan, R. K. (2023). Black rice: A comprehensive review on its bioactive compounds, potential health benefits and food applications. In *Food Chemistry Advances* (Vol. 3). <https://doi.org/10.1016/j.focha.2023.100462>
- De Ferranti, S., & Mozaffarian, D. (2008). The perfect storm: Obesity, adipocyte dysfunction, and metabolic consequences. In *Clinical Chemistry* (Vol. 54, Issue 6). <https://doi.org/10.1373/clinchem.2007.100156>

- de Mira, N. V. M., Massaretto, I. L., Pascual, C. de S. C. I., & Lanfer Marquez, U. M. (2009). Comparative study of phenolic compounds in different Brazilian rice (*Oryza sativa* L.) genotypes. *Journal of Food Composition and Analysis*, 22(5). <https://doi.org/10.1016/j.jfca.2008.06.012>
- Del Bas, J. M., Ricketts, M. L., Baiges, I., Quesada, H., Ardevol, A., Salvadó, M. J., Pujadas, G., Blay, M., Arola, L., Bladé, C., Moore, D. D., & Fernandez-Larrea, J. (2008). Dietary procyanidins lower triglyceride levels signaling through the nuclear receptor small heterodimer partner. *Molecular Nutrition and Food Research*, 52(10). <https://doi.org/10.1002/mnfr.200800054>
- Del Rio, D., Stewart, A. J., & Pellegrini, N. (2005). A review of recent studies on malondialdehyde as toxic molecule and biological marker of oxidative stress. In *Nutrition, Metabolism and Cardiovascular Diseases* (Vol. 15, Issue 4). <https://doi.org/10.1016/j.numecd.2005.05.003>
- Deng, C., Pan, J., Zhu, H., & Chen, Z. Y. (2023). Effect of Gut Microbiota on Blood Cholesterol: A Review on Mechanisms. In *Foods* (Vol. 12, Issue 23). <https://doi.org/10.3390/foods12234308>
- Dewi, M. (2007). Resistensi insulin terkait obesitas: mekanisme endokrin dan intrinsik sel. *Jurnal Gizi Dan Pangan*, 2(2). <https://doi.org/10.25182/jgp.2007.2.2.49-54>
- Dhillon, B., Choudhary, G., & Sodhi, N. S. (2020). A study on physicochemical, antioxidant and microbial properties of germinated wheat flour and its utilization in breads. *Journal of Food Science and Technology*, 57(8). <https://doi.org/10.1007/s13197-020-04311-x>
- Dourmashkin, J. T., Chang, G. Q., Gayles, E. C., Hill, J. O., Fried, S. K., Julien, C., & Leibowitz, S. F. (2005). Different forms of obesity as a function of diet composition. *International Journal of Obesity*, 29(11). <https://doi.org/10.1038/sj.ijo.0803017>
- Drewnowski, A. (1989). Obesity and related diseases: J. S. Garrow. Churchill Livingstone, Edinburgh, U.K. 1988, £36.50. ISBN 0-443-03798-1. Pp. 340. *Appetite*, 13(3).
- Du, X. M., Kim, M. J., Hou, L., Le Goff, W., Chapman, M. J., Van Eck, M., Curtiss, L. K., Burnett, J. R., Cartland, S. P., Quinn, C. M., Kockx, M., Kontush, A., Rye, K. A., Kritharides, L., & Jessup, W. (2015). HDL particle size is a critical determinant of ABCA1-mediated macrophage cellular cholesterol export. *Circulation Research*, 116(7). <https://doi.org/10.1161/CIRCRESAHA.116.305485>
- Durović, V., Radovanović, M., Mandić, L., Knežević, D., Zornić, V., & Đukić, D. (2021). Chemical and microbial evaluation of biscuits made from wheat flour substituted with wheat sprouts. *Food Science and Technology International*, 27(2). <https://doi.org/10.1177/1082013220942441>

- El-Adawy, T. A., Rahma, E. H., El-Bedawey, A. A., & El-Beltagy, A. E. (2003). Nutritional potential and functional properties of germinated mung bean, pea and lentil seeds. *Plant Foods for Human Nutrition*, 58(3). <https://doi.org/10.1023/B:QUAL.0000040339.48521.75>
- Escobar, G. M. V., li, L., Cheng, W., Li, Z., Gao, Q., Sun, J., & Hao, L. (2025). Anthocyanins: a comprehensive review of their chemical properties and health impacts on glucose metabolism in Gestational Diabetes Mellitus. *Food, Nutrition and Health*, 2(1), 28. <https://doi.org/10.1007/s44403-025-00041-0>
- Eun, H. J., Sung, R. K., In, K. H., & Tae, Y. H. (2007). Hypoglycemic effects of a phenolic acid fraction of rice bran and ferulic acid in C57BL/KsJ-db/db mice. *Journal of Agricultural and Food Chemistry*, 55(24). <https://doi.org/10.1021/jf0714463>
- Fernandez-Orozco, R., Frias, J., Zielinski, H., Piskula, M. K., Kozłowska, H., & Vidal-Valverde, C. (2008). Kinetic study of the antioxidant compounds and antioxidant capacity during germination of *Vigna radiata* cv. emerald, *Glycine max* cv. jutro and *Glycine max* cv. merit. *Food Chemistry*, 111(3). <https://doi.org/10.1016/j.foodchem.2008.04.028>
- French, S., & Robinson, T. (n.d.). *Fats and food intake*. <https://doi.org/10.1097/01.mco.0000098086.40916.8d>
- Fu, Y., Moscoso, D. I., Porter, J., Krishnareddy, S., Abrams, J. A., Seres, D., Chong, D. H., & Freedberg, D. E. (2020). Relationship Between Dietary Fiber Intake and Short-Chain Fatty Acid–Producing Bacteria During Critical Illness: A Prospective Cohort Study. *Journal of Parenteral and Enteral Nutrition*, 44(3). <https://doi.org/10.1002/jpen.1682>
- Furnes, M. W., Zhao, C. M., & Chen, D. (2009). Development of obesity is associated with increased calories per meal rather than per day. A study of high-fat diet-induced obesity in young rats. *Obesity Surgery*, 19(10). <https://doi.org/10.1007/s11695-009-9863-1>
- Geiger, B. M., & Pothos, E. N. (2019). Translating Animal Models of Obesity and Diabetes to the Clinic. In *Handbook of Behavioral Neuroscience* (Vol. 29). <https://doi.org/10.1016/B978-0-12-803161-2.00001-1>
- Ghavami, A., Ziaei, R., Talebi, S., Barghchi, H., Nattagh-Eshtivani, E., Moradi, S., Rahbarinejad, P., Mohammadi, H., Ghasemi-Tehrani, H., Marx, W., & Askari, G. (2023). Soluble Fiber Supplementation and Serum Lipid Profile: A Systematic Review and Dose-Response Meta-Analysis of Randomized Controlled Trials. In *Advances in Nutrition* (Vol. 14, Issue 3). <https://doi.org/10.1016/j.advnut.2023.01.005>
- Ghavidel, R. A., & Prakash, J. (2007). The impact of germination and dehulling on nutrients, antinutrients, in vitro iron and calcium bioavailability and in vitro

- starch and protein digestibility of some legume seeds. *LWT*, 40(7).  
<https://doi.org/10.1016/j.lwt.2006.08.002>
- Golzarand, M., Toolabi, K., Eskandari Delfan, S., & Mirmiran, P. (2022). The effect of brown rice compared to white rice on adiposity indices, lipid profile, and glycemic markers: a systematic review and meta-analysis of randomized controlled trials. In *Critical Reviews in Food Science and Nutrition* (Vol. 62, Issue 27). <https://doi.org/10.1080/10408398.2021.1914541>
- Guardianelli, L. M., Salinas, M. V., & Puppo, M. C. (2019). Chemical and thermal properties of flours from germinated amaranth seeds. *Journal of Food Measurement and Characterization*, 13(2). <https://doi.org/10.1007/s11694-018-00023-1>
- Guo, H., Ling, W., Wang, Q., Liu, C., Hu, Y., Xia, M., Feng, X., & Xia, X. (2007). Effect of anthocyanin-rich extract from black rice (*Oryza sativa* L. indica) on hyperlipidemia and insulin resistance in fructose-fed rats. *Plant Foods for Human Nutrition*, 62(1). <https://doi.org/10.1007/s11130-006-0031-7>
- Guzmán-Ortiz, F. A., Castro-Rosas, J., Gómez-Aldapa, C. A., Mora-Escobedo, R., Rojas-León, A., Rodríguez-Marín, M. L., Falfán-Cortés, R. N., & Román-Gutiérrez, A. D. (2019a). Enzyme activity during germination of different cereals: A review. In *Food Reviews International* (Vol. 35, Issue 3). <https://doi.org/10.1080/87559129.2018.1514623>
- Guzmán-Ortiz, F. A., Castro-Rosas, J., Gómez-Aldapa, C. A., Mora-Escobedo, R., Rojas-León, A., Rodríguez-Marín, M. L., Falfán-Cortés, R. N., & Román-Gutiérrez, A. D. (2019b). Enzyme activity during germination of different cereals: A review. In *Food Reviews International* (Vol. 35, Issue 3). <https://doi.org/10.1080/87559129.2018.1514623>
- Hall, J. E., & Guyton, A. C. (2011). Guyton and Hall Textbook of Medical Physiology 12th Edition. In *ELSEVIER* (Vol. 12).
- Hamdy, O. (2006). Metabolic obesity: the paradox between visceral and subcutaneous fat. *Current Diabetes Reviews*, 2(3).
- Han, S., Jiao, J., Zhang, W., Xu, J., Wan, Z., Zhang, W., Gao, X., & Qin, L. (2015). Dietary fiber prevents obesity-related liver lipotoxicity by modulating sterol-regulatory element binding protein pathway in C57BL/6J mice fed a high-fat/cholesterol diet. *Scientific Reports*, 5. <https://doi.org/10.1038/srep15256>
- Harishankar, N., Kumar, P. U., Sesikeran, B., & Giridharan, N. (2011). Obesity associated pathophysiological & histological changes in WNIN obese mutant rats. *Indian Journal of Medical Research*, 134(9).
- Hernández-Granados, M. J., Ramírez-Emiliano, J., & Franco-Robles, E. (2018). Rodent Models of Obesity and Diabetes. In *Experimental Animal Models of Human Diseases - An Effective Therapeutic Strategy*. <https://doi.org/10.5772/intechopen.74595>

- Hill, J. O., Melanson, E. L., & Wyatt, H. T. (2000). Dietary fat intake and regulation of energy balance: Implications for obesity. *Journal of Nutrition*, 130(2 SUPPL.). <https://doi.org/10.1093/jn/130.2.284s>
- Ho, J. N., Son, M. E., Lim, W. C., Lim, S. T., & Cho, H. Y. (2012). Anti-obesity effects of germinated brown rice extract through down-regulation of lipogenic genes in high fat diet-induced obese mice. *Bioscience, Biotechnology and Biochemistry*, 76(6). <https://doi.org/10.1271/bbb.110666>
- Ho, J. N., Son, M. E., Lim, W. C., Lim, S. T., & Cho, H. Y. (2013). Germinated Brown Rice Extract Inhibits Adipogenesis Through the Down-regulation of Adipogenic Genes in 3T3-L1 Adipocytes. *Plant Foods for Human Nutrition*, 68(3). <https://doi.org/10.1007/s11130-013-0366-9>
- Homan, R., & Krause, B. R. (2022). Established and Emerging Strategies for Inhibition of Cholesterol Absorption. *Current Pharmaceutical Design*, 3(1). <https://doi.org/10.2174/138161280301221005124721>
- Hosoda, K., Sasahara, H., Matsushita, K., Tamura, Y., Miyaji, M., & Matsuyama, H. (2018). Anthocyanin and proanthocyanidin contents, antioxidant activity, and in situ degradability of black and red rice grains. *Asian-Australasian Journal of Animal Sciences*, 31(8). <https://doi.org/10.5713/ajas.17.0655>
- Hübscher, S. G. (2006). Histological assessment of non-alcoholic fatty liver disease. In *Histopathology* (Vol. 49, Issue 5). <https://doi.org/10.1111/j.1365-2559.2006.02416.x>
- Huvenne, H., Dubern, B., Clément, K., & Poitou, C. (2016). Rare Genetic Forms of Obesity: Clinical Approach and Current Treatments in 2016. In *Obesity Facts* (Vol. 9, Issue 3). <https://doi.org/10.1159/000445061>
- Hwang, S., Hartman, I. Z., Calhoun, L. N., Garland, K., Young, G. A., Mitsche, M. A., McDonald, J., Xu, F., Engelking, L., & DeBose-Boyd, R. A. (2016). Contribution of accelerated degradation to feedback regulation of 3-hydroxy-3-methylglutaryl coenzyme A reductase and cholesterol metabolism in the liver. *Journal of Biological Chemistry*, 291(26). <https://doi.org/10.1074/jbc.M116.728469>
- Imam, M. U., Azmi, N. H., Bhangar, M. I., Ismail, N., & Ismail, M. (2012). Antidiabetic properties of germinated brown rice: A systematic review. In *Evidence-based Complementary and Alternative Medicine* (Vol. 2012). <https://doi.org/10.1155/2012/816501>
- Immawati, D. R., Purwanti, S., & Prajitno, D. (2013). Daya Simpan Benih Kedelai Hitam (*Glycine Max* (L) Merrill) Hasil Tumpangsari dengan Sorgum Manis (*Shorgum Bicolor* (L) Moench). *Jurnal Vegetalika*, 2(4), 25–34.
- Iswanti, W., Budijanto, S., & Abdullah, M. (2024). Flavonoid and antioxidant activity analysis of anthocyanin black rice bran extract (abribre) cv cempo ireng

- origin from indonesia. *Journal of Microbiology, Biotechnology and Food Sciences*, 14(2). <https://doi.org/10.55251/jmbfs.10203>
- Ito, V. C., & Lacerda, L. G. (2019). Black rice (*Oryza sativa* L.): A review of its historical aspects, chemical composition, nutritional and functional properties, and applications and processing technologies. In *Food Chemistry* (Vol. 301). <https://doi.org/10.1016/j.foodchem.2019.125304>
- Jandhyala, S. M., Talukdar, R., Subramanyam, C., Vuyyuru, H., Sasikala, M., & Reddy, D. N. (2015). Role of the normal gut microbiota. *World Journal of Gastroenterology*, 21(29). <https://doi.org/10.3748/wjg.v21.i29.8787>
- Jang, H. H., Park, M. Y., Kim, H. W., Lee, Y. M., Hwang, K. A., Park, J. H., Park, D. S., & Kwon, O. (2012). Black rice (*Oryza sativa* L.) extract attenuates hepatic steatosis in C57BL/6 J mice fed a high-fat diet via fatty acid oxidation. *Nutrition and Metabolism*, 9. <https://doi.org/10.1186/1743-7075-9-27>
- Jennings, C. D., Boleyn, K., Bridges, S. R., Anderson, J. W., & Wood, P. J. (1988). A Comparison of the Lipid-Lowering and Intestinal Morphological Effects of Cholestyramine, Chitosan, and Oat Gum in Rats. *Proceedings of the Society for Experimental Biology and Medicine*, 189(1). <https://doi.org/10.3181/00379727-189-42773>
- Jéquier, E. (2002). Pathways to obesity. *International Journal of Obesity*, 26. <https://doi.org/10.1038/sj.ijo.0802123>
- Jin, H., Han, H., Song, G., Oh, H. J., & Lee, B. Y. (2024). Anti-Obesity Effects of GABA in C57BL/6J Mice with High-Fat Diet-Induced Obesity and 3T3-L1 Adipocytes. *International Journal of Molecular Sciences*, 25(2). <https://doi.org/10.3390/ijms25020995>
- Jin, X., Qiu, T., Li, L., Yu, R., Chen, X., Li, C., Proud, C. G., & Jiang, T. (2023). Pathophysiology of obesity and its associated diseases. In *Acta Pharmaceutica Sinica B* (Vol. 13, Issue 6). <https://doi.org/10.1016/j.apsb.2023.01.012>
- Kahlon, T. S., & Chow, F. I. (2000). In vitro binding of bile acids by rice bran, oat bran, wheat bran, and corn bran. *Cereal Chemistry*, 77(4). <https://doi.org/10.1094/CCHEM.2000.77.4.518>
- Kang, M. Y., Kim, J. H., Rico, C. W., & Nam, S. H. (2011). A comparative study on the physicochemical characteristics of black rice varieties. *International Journal of Food Properties*, 14(6). <https://doi.org/10.1080/10942911003637350>
- Khattak, A. B., Zeb, A., Bibi, N., Khalil, S. A., & Khattak, M. S. (2007). Influence of germination techniques on phytic acid and polyphenols content of chickpea (*Cicer arietinum* L.) sprouts. *Food Chemistry*, 104(3). <https://doi.org/10.1016/j.foodchem.2007.01.022>

- Kim, M. J., Kwak, H. S., & Kim, S. S. (2018). Effects of germination on protein,  $\gamma$ -aminobutyric acid, phenolic acids, and antioxidant capacity in wheat. *Molecules*, 23(9). <https://doi.org/10.3390/molecules23092244>
- Kishimoto, Y., Wakabayashi, S., & Takeda, H. (1995a). Hypocholesterolemic Effect of Dietary Fiber: Relation to Intestinal Fermentation and Bile Acid Excretion. *Journal of Nutritional Science and Vitaminology*, 41(1). <https://doi.org/10.3177/jnsv.41.151>
- Kishimoto, Y., Wakabayashi, S., & Takeda, H. (1995b). Hypocholesterolemic Effect of Dietary Fiber: Relation to Intestinal Fermentation and Bile Acid Excretion. *Journal of Nutritional Science and Vitaminology*, 41(1). <https://doi.org/10.3177/jnsv.41.151>
- Kleinert, M., Clemmensen, C., Hofmann, S. M., Moore, M. C., Renner, S., Woods, S. C., Huypens, P., Beckers, J., De Angelis, M. H., Schürmann, A., Bakhti, M., Klingenspor, M., Heiman, M., Cherrington, A. D., Ristow, M., Lickert, H., Wolf, E., Havel, P. J., Müller, T. D., & Tschöp, M. H. (2018). Animal models of obesity and diabetes mellitus. In *Nature Reviews Endocrinology* (Vol. 14, Issue 3). <https://doi.org/10.1038/nrendo.2017.161>
- Kong, S., Kim, D. J., Oh, S. K., Choi, I. S., Jeong, H. S., & Lee, J. (2012). Black Rice Bran as an Ingredient in Noodles: Chemical and Functional Evaluation. *Journal of Food Science*, 77(3). <https://doi.org/10.1111/j.1750-3841.2011.02590.x>
- Kozłowska, A., & Nitsch-Osuch, A. (2024). Anthocyanins and Type 2 Diabetes: An Update of Human Study and Clinical Trial. In *Nutrients* (Vol. 16, Issue 11). <https://doi.org/10.3390/nu16111674>
- Kushwaha, U. K. S. (2016). Black rice: Research, history and development. In *Black Rice: Research, History and Development*. <https://doi.org/10.1007/978-3-319-30153-2>
- Lange, O., Proczko-Stepaniak, M., & Mika, A. (2023). Short-Chain Fatty Acids—A Product of the Microbiome and Its Participation in Two-Way Communication on the Microbiome-Host Mammal Line. In *Current Obesity Reports* (Vol. 12, Issue 2). <https://doi.org/10.1007/s13679-023-00503-6>
- Latifah, S. Y., Armania, N., Tze, T. H., Azhar, Y., Nordiana, A. H., Norazalina, S., Hairuszah, I., Saidi, M., & Maznah, I. (2010). Germinated brown rice (GBR) reduces the incidence of aberrant crypt foci with the involvement of beta-catenin and COX-2 in azoxymethane-induced colon cancer in rats. *Nutrition Journal*, 9. <https://doi.org/10.1186/1475-2891-9-16>
- Lauterio, T. J., Bond, J. P., & Ulman, E. A. (1994). Development and characterization of a purified diet to identify obesity- susceptible and resistant rat populations. *Journal of Nutrition*, 124(11). <https://doi.org/10.1093/jn/124.11.2172>

- Lee, M. O. (1929). Determination of the surface area of the white rat with its application to the expression of metabolic results. *American Journal of Physiology-Legacy*, *Content*, 89(1).  
<https://doi.org/10.1152/ajplegacy.1929.89.1.24>
- Lewis, K., Lutgendorff, F., Phan, V., Söderholm, J. D., Sherman, P. M., & McKay, D. M. (2010). Enhanced translocation of bacteria across metabolically stressed epithelia is reduced by butyrate. *Inflammatory Bowel Diseases*, 16(7).  
<https://doi.org/10.1002/ibd.21177>
- Li, R., Wang, Q., Zhao, G., Peng, H., Zhang, D., & Li, Z. (2022). Effects of germination time on phenolics, antioxidant capacity, in vitro phenolic bioaccessibility and starch digestibility in sorghum. *International Journal of Food Science and Technology*, 57(8). <https://doi.org/10.1111/ijfs.15827>
- Lim, S. M., Goh, Y. M., Kuan, W. Bin, & Loh, S. P. (2014a). Effect of germinated brown rice extracts on pancreatic lipase, adipogenesis and lipolysis in 3T3-L1 adipocytes. *Lipids in Health and Disease*, 13(1). <https://doi.org/10.1186/1476-511X-13-169>
- Lim, S. M., Goh, Y. M., Kuan, W. Bin, & Loh, S. P. (2014b). Effect of germinated brown rice extracts on pancreatic lipase, adipogenesis and lipolysis in 3T3-L1 adipocytes. *Lipids in Health and Disease*, 13(1). <https://doi.org/10.1186/1476-511X-13-169>
- Lim, S. M., Goh, Y. M., Mohtarrudin, N., & Loh, S. P. (2016). Germinated brown rice ameliorates obesity in high-fat diet induced obese rats. *BMC Complementary and Alternative Medicine*, 16(1).  
<https://doi.org/10.1186/s12906-016-1116-y>
- Lim, W. C., Ho, J. N., Lee, H. S., & Cho, H. Y. (2016). Germinated Waxy Black Rice Suppresses Weight Gain in High-Fat Diet-Induced Obese Mice. *Journal of Medicinal Food*, 19(4). <https://doi.org/10.1089/jmf.2015.3590>
- Linkon, K. M. M. R., Islam, M. F., Alam, M. J., Mustafa, R., Hosen, F., Nishi, S. H. H., & Alim, M. A. (2024). Effects of plant-based high-fiber diet on blood cholesterol profile and cardiovascular health in growing Long Evans rats. *Clinical Nutrition Open Science*, 55.  
<https://doi.org/10.1016/j.nutos.2024.03.015>
- López-Amorós, M. L., Hernández, T., & Estrella, I. (2006). Effect of germination on legume phenolic compounds and their antioxidant activity. *Journal of Food Composition and Analysis*, 19(4). <https://doi.org/10.1016/j.jfca.2004.06.012>
- Lopomo, A., Burgio, E., & Migliore, L. (2016). Epigenetics of Obesity. In *Progress in Molecular Biology and Translational Science* (Vol. 140).  
<https://doi.org/10.1016/bs.pmbts.2016.02.002>
- Ma, Q., Chen, Y., Zhang, R., Huang, F., Jia, X., Liang, S., Dong, L., Liu, D., Ma, D., & Zhang, M. (2025). Processing modulates in vitro colonic fermentation

- characteristics of dietary fiber from black rice bran. *Food Bioscience*, 74. <https://doi.org/10.1016/j.fbio.2025.107948>
- Mantiri, S. A., Mayangsari, Y., Ardiansyah, Shirakawa, H., & Saputra, W. D. (2024). In vivo evaluation of germinated IR-64 brown rice dietary administration on the lipid blood profiles of rats with hypercholesterolemia. *Nutrire*, 49(2). <https://doi.org/10.1186/s41110-024-00287-2>
- Martín-Cabrejas, M. A., Ariza, N., Esteban, R., Mollá, E., Waldron, K., & López-Andréu, F. J. (2003). Effect of germination on the carbohydrate composition of the dietary fiber of peas (*Pisum sativum* L.). *Journal of Agricultural and Food Chemistry*, 51(5). <https://doi.org/10.1021/jf0207631>
- Martin-Gallausiaux, C., Marinelli, L., Blottière, H. M., Larraufie, P., & Lapaque, N. (2021). SCFA: mechanisms and functional importance in the gut. *Proceedings of the Nutrition Society*, 80(1). <https://doi.org/10.1017/s0029665120006916>
- Martins, T., Ferreira, T., Nascimento-Gonçalves, E., Castro-Ribeiro, C., Lemos, S., Rosa, E., Antunes, L. M., & Oliveira, P. A. (2022). Obesity Rodent Models Applied to Research with Food Products and Natural Compounds. *Obesities*, 2(2). <https://doi.org/10.3390/obesities2020015>
- Martyn, J. A. J., Kaneki, M., Yasuhara, S., Warner, D. S., & Warner, M. A. (2008). Obesity-induced Insulin Resistance and Hyperglycemia. *Anesthesiology*, 109(1). <https://doi.org/10.1097/aln.0b013e3181799d45>
- Mattei, L., Francisqueti-Ferron, F. V., Garcia, J. L., Ferron, A. J. T., Silva, C. C. V. de A., Gregolin, C. S., Nakandakare-Maia, E. T., Silva, J. das C. P., Moreto, F., Minatel, I. O., & Corrêa, C. R. (2021). Antioxidant and anti-inflammatory properties of gamma-oryzanol attenuates insulin resistance by increasing GLUT-4 expression in skeletal muscle of obese animals. *Molecular and Cellular Endocrinology*, 537. <https://doi.org/10.1016/j.mce.2021.111423>
- Maulani, R. R., Sumardi, D., & Pancoro, A. (2019). Total flavonoids and anthocyanins content of pigmented rice. In *Drug Invention Today* | (Vol. 12).
- McRorie, J. W. (2015). Evidence-based approach to fiber supplements and clinically meaningful health benefits, part 1. *Nutrition Today*, 50(2), 82–89. <https://doi.org/10.1097/NT.0000000000000082>
- Mokdad, A. H., Bowman, B. A., Ford, E. S., Vinicor, F., Marks, J. S., & Koplan, J. P. (2001). The continuing epidemics of obesity and diabetes in the United States. *Journal of the American Medical Association*, 286(10). <https://doi.org/10.1001/jama.286.10.1195>
- Morrison, D. J., & Preston, T. (2016). Formation of short chain fatty acids by the gut microbiota and their impact on human metabolism. *Gut Microbes*, 7(3), 189–200. <https://doi.org/10.1080/19490976.2015.1134082>

- Mudgil, D., & Barak, S. (2013). Composition, properties and health benefits of indigestible carbohydrate polymers as dietary fiber: A review. In *International Journal of Biological Macromolecules* (Vol. 61). <https://doi.org/10.1016/j.ijbiomac.2013.06.044>
- Munarko, H., Sitanggang, A. B., Kusnandar, F., & Budijanto, S. (2021). Effect of different soaking and germination methods on bioactive compounds of germinated brown rice. *International Journal of Food Science and Technology*, 56(9). <https://doi.org/10.1111/ijfs.15194>
- Munarko, H., Sitanggang, A. B., Kusnandar, F., & Budijanto, S. (2022). Germination of five Indonesian brown rice: evaluation of antioxidant, bioactive compounds, fatty acids and pasting properties. *Food Science and Technology (Brazil)*, 42(June). <https://doi.org/10.1590/fst.19721>
- Nakanishi, M., Goldstein, J. L., & Brown, M. S. (1988). Multivalent control of 3-hydroxy-3-methylglutaryl coenzyme A reductase. Mevalonate-derived product inhibits translation of mRNA and accelerates degradation of enzyme. *Journal of Biological Chemistry*, 263(18), 8929–8937. [https://doi.org/10.1016/s0021-9258\(18\)68397-8](https://doi.org/10.1016/s0021-9258(18)68397-8)
- Nandi, S., Das, G., & Sen-Mandi, S. (1995).  $\beta$ -amylase activity as an index for germination potential in rice. *Annals of Botany*, 75(5). <https://doi.org/10.1006/anbo.1995.1046>
- Nelson, K., Stojanovska, L., Vasiljevic, T., & Mathai, M. (2013). Germinated grains: A superior whole grain functional food? *Canadian Journal of Physiology and Pharmacology*, 91(6). <https://doi.org/10.1139/cjpp-2012-0351>
- Nie, Y., & Luo, F. (2021). Dietary Fiber: An Opportunity for a Global Control of Hyperlipidemia. In *Oxidative Medicine and Cellular Longevity* (Vol. 2021). <https://doi.org/10.1155/2021/5542342>
- Nonogaki, H., Bassel, G. W., & Bewley, J. D. (2010). Germination-still a mystery. *Plant Science*, 179(6). <https://doi.org/10.1016/j.plantsci.2010.02.010>
- Ohtsubo, K., Suzuki, K., Yasui, Y., & Kasumi, T. (2005). Bio-functional components in the processed pre-germinated brown rice by a twin-screw extruder. *Journal of Food Composition and Analysis*, 18(4). <https://doi.org/10.1016/j.jfca.2004.10.003>
- Owolabi, I. O., Chakree, K., & Takahashi Yupanqui, C. (2019). Bioactive components, antioxidative and anti-inflammatory properties (on RAW 264.7 macrophage cells) of soaked and germinated purple rice extracts. *International Journal of Food Science and Technology*, 54(7). <https://doi.org/10.1111/ijfs.14148>
- Pang, Y., Ahmed, S., Xu, Y., Beta, T., Zhu, Z., Shao, Y., & Bao, J. (2018). Bound phenolic compounds and antioxidant properties of whole grain and bran of

- white, red and black rice. *Food Chemistry*, 240. <https://doi.org/10.1016/j.foodchem.2017.07.095>
- Panlasigui, L. N., & Thompson, L. U. (2006). Blood glucose lowering effects of brown rice in normal and diabetic subjects. *International Journal of Food Sciences and Nutrition*, 57(3–4). <https://doi.org/10.1080/09637480500410879>
- Patil, S. B., & Khan, M. K. (2011). Germinated brown rice as a value added rice product: A review. In *Journal of Food Science and Technology* (Vol. 48, Issue 6). <https://doi.org/10.1007/s13197-011-0232-4>
- Pengkumsri, N., Chaiyasut, C., Saenjum, C., Sirilun, S., Peerajan, S., Suwannalert, P., Sirisattha, S., & Sivamaruthi, B. S. (2015). Physicochemical and antioxidative properties of black, brown and red rice varieties of northern Thailand. *Food Science and Technology (Brazil)*, 35(2). <https://doi.org/10.1590/1678-457X.6573>
- Pereira, M. A., & Ludwig, D. S. (2001). Dietary fiber and body-weight regulation: Observations and mechanisms. *Pediatric Clinics of North America*, 48(4), 969–980. [https://doi.org/10.1016/S0031-3955\(05\)70351-5](https://doi.org/10.1016/S0031-3955(05)70351-5)
- Pfeil, A., Gajda, M., Kaiser, W. A., & Hansch, A. (2008). Miliare tuberkulose unter therapie mit tumor-nekrose-faktor-blocker - Moderne therapie, altes problem. *RoFo Fortschritte Auf Dem Gebiet Der Rontgenstrahlen Und Der Bildgebenden Verfahren*, 180(11). <https://doi.org/10.1055/s-2008-1027751>
- Pincu, Y., Yoel, U., Haim, Y., Makarenkov, N., Maixner, N., Shaco-Levy, R., Bashan, N., Dicker, D., & Rudich, A. (2022). Assessing Obesity-Related Adipose Tissue Disease (OrAD) to Improve Precision Medicine for Patients Living With Obesity. In *Frontiers in Endocrinology* (Vol. 13). <https://doi.org/10.3389/fendo.2022.860799>
- Pourabedin, M., Guan, L., & Zhao, X. (2015). Xylo-oligosaccharides and virginiamycin differentially modulate gut microbial composition in chickens. *Microbiome*, 3(1). <https://doi.org/10.1186/s40168-015-0079-4>
- Preguiça, I., Alves, A., Nunes, S., Fernandes, R., Gomes, P., Viana, S. D., & Reis, F. (2020). Diet-induced rodent models of obesity-related metabolic disorders—A guide to a translational perspective. In *Obesity Reviews* (Vol. 21, Issue 12). <https://doi.org/10.1111/obr.13081>
- Pulungan, D. M. S., Haryati, & Lahay, R. R. (2014). Pengaruh Periode Panen terhadap Viabilitas Benih Rosela. *Jurnal Online Agroekoteknologi*, 2(2337).
- Reddy, C. K., Kimi, L., Haripriya, S., & Kang, N. (2017). Effects of Polishing on Proximate Composition, Physico- Chemical Characteristics, Mineral Composition and Antioxidant Properties of Pigmented Rice. *Rice Science*, 24(5). <https://doi.org/10.1016/j.rsci.2017.05.002>
- Reeves, P. G., Nielsen, F. H., & Fahey, G. C. (1993). AIN-93 purified diets for laboratory rodents: Final report of the American Institute of Nutrition ad hoc

- writing committee on the reformulation of the AIN-76A rodent diet. *Journal of Nutrition*, 123(11), 1939–1951. <https://doi.org/10.1093/jn/123.11.1939>
- Remesy, C., & Demigne, C. (1974). Determination of volatile fatty acids in plasma after ethanolic extraction. *Biochemical Journal*, 141(1), 85–91. <https://doi.org/10.1042/bj1410085>
- Ren, C., Lu, S., Shan, S., Zhang, S., Hong, B., Yuan, D., Zhang, J., Gao, S., Liu, Q., & Fan, X. (2025). Nutrient-Enriched Germinated Brown Rice Alters the Intestinal Ecological Network by Regulating Lipid Metabolism in Rats. *International Journal of Molecular Sciences*, 26(16). <https://doi.org/10.3390/ijms26167693>
- Ritzel, R., Ørskov, C., Holst, J. J., & Nauck, M. A. (1995). Pharmacokinetic, insulinotropic, and glucagonostatic properties of GLP-1 [7-36 amide] after subcutaneous injection in healthy volunteers. Dose-response-relationships. *Diabetologia*, 38(6). <https://doi.org/10.1007/BF00401846>
- Rohde, K., Keller, M., la Cour Poulsen, L., Blüher, M., Kovacs, P., & Böttcher, Y. (2019). Genetics and epigenetics in obesity. In *Metabolism: Clinical and Experimental* (Vol. 92). <https://doi.org/10.1016/j.metabol.2018.10.007>
- Sadie-Van Gijzen, H., & Kotzé-Hörstmann, L. (2023). Rat models of diet-induced obesity and metabolic dysregulation: Current trends, shortcomings and considerations for future research. In *Obesity Research and Clinical Practice* (Vol. 17, Issue 6). <https://doi.org/10.1016/j.orcp.2023.09.010>
- Saleh, A. S. M., Wang, P., Wang, N., Yang, L., & Xiao, Z. (2019). Brown Rice Versus White Rice: Nutritional Quality, Potential Health Benefits, Development of Food Products, and Preservation Technologies. *Comprehensive Reviews in Food Science and Food Safety*, 18(4). <https://doi.org/10.1111/1541-4337.12449>
- Samuoliene, G., Urbonavičiute, A., Brazaityte, A., Šabajeviene, G., Sakalauskaite, J., & Duchovskis, P. (2011). The impact of LED illumination on antioxidant properties of sprouted seeds. *Central European Journal of Biology*, 6(1). <https://doi.org/10.2478/s11535-010-0094-1>
- Sanaie, S., Dolati, S., Montazer, M., Ranjbari, S., Fathalizadeh, A., Shadvar, K., Faramarzi, E., & Mahmoodpoor, A. (2023). Lipid Profile as a Predictive Marker for Organ Dysfunction after Thoracoabdominal Surgery: A Cross-sectional Study. *Iranian Journal of Medical Sciences*, 48(5). <https://doi.org/10.30476/ijms.2022.95364.2672>
- Sari, A., Dwipa, I., Anwar, A., Suliansyah, I., & Herawati, N. (2022). Seed Quality Selection of Several Genotypes of Brown Rice (*Oryza sativa* L.) under High-Temperature Stress. *JERAMI: Indonesian Journal of Crop Science*, 4(2). <https://doi.org/10.25077/jijcs.4.2.34-40.2022>

- Schirra, J., Katschinski, M., Weidmann, C., Schäfer, T., Wank, U., Arnold, R., & Göke, B. (1996). Gastric emptying and release of incretin hormones after glucose ingestion in humans. *Journal of Clinical Investigation*, 97(1). <https://doi.org/10.1172/JCI118411>
- Schrauwen, P., & Westerterp, K. R. (2000). The role of high-fat diets and physical activity in the regulation of body weight. In *British Journal of Nutrition* (Vol. 84, Issue 4). <https://doi.org/10.1017/s0007114500001720>
- Setiawan, D. I., Tjahyono, K., Nur, D., Fah, A., Politeknik, J. G., Kementerian, K., & Gorontalo, K. (2016). Pemberian kecambah kacang kedelai terhadap kadar malondialdehid (MDA) dan superoxide dismutase (SOD) tikus Sprague Dawley hiperkolesterolemia The effect of soybean sprout (Glycine Max) to levels of malondialdehyde (MDA) and superoxide dismutase (SOD) of male Sprague Dawley rats hypercholesterolemic. In *Jurnal Gizi Klinik Indonesia* (Vol. 13, Issue 1).
- Shao, Y., Hu, Z., Yu, Y., Mou, R., Zhu, Z., & Beta, T. (2018). Phenolic acids, anthocyanins, proanthocyanidins, antioxidant activity, minerals and their correlations in non-pigmented, red, and black rice. *Food Chemistry*, 239. <https://doi.org/10.1016/j.foodchem.2017.07.009>
- Shao, Y., Xu, F., Sun, X., Bao, J., & Beta, T. (2014). Identification and quantification of phenolic acids and anthocyanins as antioxidants in bran, embryo and endosperm of white, red and black rice kernels (*Oryza sativa* L.). *Journal of Cereal Science*, 59(2). <https://doi.org/10.1016/j.jcs.2014.01.004>
- Sharma, S., Saxena, D. C., & Riar, C. S. (2018). Changes in the GABA and polyphenols contents of foxtail millet on germination and their relationship with in vitro antioxidant activity. *Food Chemistry*, 245. <https://doi.org/10.1016/j.foodchem.2017.11.093>
- Sharpe, L. J., Coates, H. W., & Brown, A. J. (2020). Post-translational control of the long and winding road to cholesterol. *Journal of Biological Chemistry*, 295(51). <https://doi.org/10.1074/jbc.REV120.010723>
- Shen, K. P., Hao, C. L., Yen, H. W., Chen, C. Y., Chen, J. H., Chen, F. C., & Lin, H. L. (2016). Pre-germinated brown rice prevented high fat diet induced hyperlipidemia through ameliorating lipid synthesis and metabolism in C57BL/6J mice. *Journal of Clinical Biochemistry and Nutrition*, 59(1). <https://doi.org/10.3164/jcbtn.15-117>
- Si, X., Shang, W., Zhou, Z., Shui, G., Lam, S. M., Blanchard, C., & Strappe, P. (2018). Gamma-aminobutyric Acid Enriched Rice Bran Diet Attenuates Insulin Resistance and Balances Energy Expenditure via Modification of Gut Microbiota and Short-Chain Fatty Acids. *Journal of Agricultural and Food Chemistry*, 66(4). <https://doi.org/10.1021/acs.jafc.7b04994>

- Singh, A. K., Singh, S. K., Singh, N., Agrawal, N., & Gopal, K. (2011). Obesity and dyslipidemia. In *International Journal of Biological & Medical Research Int J Biol Med Res* (Vol. 2, Issue 3).
- Sompong, R., Siebenhandl-Ehn, S., Linsberger-Martin, G., & Berghofer, E. (2011). Physicochemical and antioxidative properties of red and black rice varieties from Thailand, China and Sri Lanka. *Food Chemistry*, *124*(1). <https://doi.org/10.1016/j.foodchem.2010.05.115>
- Speakman, J., Hambly, C., Mitchell, S., & Król, E. (2008). The contribution of animal models to the study of obesity. In *Laboratory Animals* (Vol. 42, Issue 4). <https://doi.org/10.1258/la.2007.006067>
- Stapleton, P. A., James, M. E., Goodwill, A. G., & Frisbee, J. C. (2008). Obesity and vascular dysfunction. *Pathophysiology*, *15*(2), 79–89. <https://doi.org/10.1016/j.pathophys.2008.04.007>
- Stoffers, D. A., Kieffer, T. J., Hussain, M. A., Drucker, D. J., Bonner-Weir, S., Habener, J. F., & Egan, J. M. (2000). Insulinotropic glucagon-like peptide 1 agonists stimulate expression of homeodomain protein IDX-1 and increase islet size in mouse pancreas. *Diabetes*, *49*(5). <https://doi.org/10.2337/diabetes.49.5.741>
- Suarti, B., Sukarno, S., Ardiansyah, A., & Budijanto, S. (2021). Karakterisasi Sifat Fisikokimia dan Fungsional Beras Pecah Kulit Berpigmen dan Tanpa Pigmen. *JURNAL PANGAN*, *30*(1). <https://doi.org/10.33964/jp.v30i1.515>
- Suganami, T., Nishida, J., & Ogawa, Y. (2005). A paracrine loop between adipocytes and macrophages aggravates inflammatory changes: Role of free fatty acids and tumor necrosis factor  $\alpha$ . *Arteriosclerosis, Thrombosis, and Vascular Biology*, *25*(10). <https://doi.org/10.1161/01.ATV.0000183883.72263.13>
- Sun, N. X., Tong, L. T., Liang, T. T., Wang, L. L., Liu, L. Y., Zhou, X. R., & Zhou, S. M. (2019). Effect of oat and tartary buckwheat – based food on cholesterol – lowering and gut microbiota in hypercholesterolemic hamsters. *Journal of Oleo Science*, *68*(3). <https://doi.org/10.5650/jos.ess18221>
- Tati Suharti, Bramasto, Y., & Yuniarti, N. (2013). Pengaruh teknik pengendalian penyakit benih terhadap viabilitas benih tembesu (*Fagraea fragrans* Roxb). *Journal of Chemical Information and Modeling*, *53*(9), 1689–1699.
- Thaker, V. V. (2021). Genetic and Epigenetic Causes of Obesity. In *AM:STARs: Obesity and Diabetes in the Adolescent*, Vol. 28, No. 2. <https://doi.org/10.1542/9781581109405-genetic>
- Thanuja, B., & Parimalavalli, R. (2018). Role of Black Rice in Health and Diseases. *International Journal of Health Sciences & Research*, *8*(2), 241–248.
- Ti, H., Zhang, R., Zhang, M., Li, Q., Wei, Z., Zhang, Y., Tang, X., Deng, Y., Liu, L., & Ma, Y. (2014). Dynamic changes in the free and bound phenolic

- compounds and antioxidant activity of brown rice at different germination stages. *Food Chemistry*, 161. <https://doi.org/10.1016/j.foodchem.2014.04.024>
- Tilebeni, H. G., Yousefpour, H., Farhadi, R., & Golpayegani, A. (2012). Germination behavior of rice (*oriza sativa* L.) cultivars seeds to difference temperatures. *Advances in Environmental Biology*, 6(2).
- Tonukari, N. J. (2010). The influence of dietary intake on the serum lipid profile, body mass index and risk of cardiovascular diseases in adults on the Niger Delta region. In *International Journal of Nutrition and Metabolism* (Vol. 2, Issue 3).
- Venegas, D. P., De La Fuente, M. K., Landskron, G., González, M. J., Quera, R., Dijkstra, G., Harmsen, H. J. M., Faber, K. N., & Hermoso, M. A. (2019). Short chain fatty acids (SCFAs) mediated gut epithelial and immune regulation and its relevance for inflammatory bowel diseases. In *Frontiers in Immunology* (Vol. 10, Issue MAR). <https://doi.org/10.3389/fimmu.2019.00277>
- Vidal-Valverde, C., Frias, J., Sierra, I., Blazquez, I., Lambein, F., & Kuo, Y. H. (2002a). New functional legume foods by germination: Effect on the nutritive value of beans, lentils and peas. *European Food Research and Technology*, 215(6). <https://doi.org/10.1007/s00217-002-0602-2>
- Vidal-Valverde, C., Frias, J., Sierra, I., Blazquez, I., Lambein, F., & Kuo, Y. H. (2002b). New functional legume foods by germination: Effect on the nutritive value of beans, lentils and peas. *European Food Research and Technology*, 215(6). <https://doi.org/10.1007/s00217-002-0602-2>
- Vipperla, K., & O'Keefe, S. J. (2012). The microbiota and its metabolites in colonic mucosal health and cancer risk. In *Nutrition in Clinical Practice* (Vol. 27, Issue 5). <https://doi.org/10.1177/0884533612452012>
- Wang, H., Xiao, N., Ding, J., Zhang, Y., Liu, X., & Zhang, H. (2020). Effect of germination temperature on hierarchical structures of starch from brown rice and their relation to pasting properties. *International Journal of Biological Macromolecules*, 147. <https://doi.org/10.1016/j.ijbiomac.2019.10.063>
- Wang, Y., Fei, Y., Liu, L., Xiao, Y., Pang, Y., Kang, J., & Wang, Z. (2018). Polygonatum odoratum polysaccharides modulate gut microbiota and mitigate experimentally induced obesity in rats. *International Journal of Molecular Sciences*, 19(11). <https://doi.org/10.3390/ijms19113587>
- Wei, X., Wang, D., Yang, Y., Xia, M., Li, D., Li, G., Zhu, Y., Xiao, Y., & Ling, W. (2011). Cyanidin-3-O- $\beta$ -glucoside improves obesity and triglyceride metabolism in KK-Ay mice by regulating lipoprotein lipase activity. *Journal of the Science of Food and Agriculture*, 91(6). <https://doi.org/10.1002/jsfa.4275>

- Weir, G. C., Mojsov, S., Hendrick, G. K., & Habener, J. F. (1989). Glucagonlike peptide I (7-37) actions on endocrine pancreas. *Diabetes*, 38(3). <https://doi.org/10.2337/diab.38.3.338>
- Wen, D., Xu, H., Xie, L., He, M., Hou, H., & Zhang, C. (2017). A loose endosperm structure of wheat seed produced under low nitrogen level promotes early germination by accelerating water uptake. *Scientific Reports*, 7(1). <https://doi.org/10.1038/s41598-017-03333-4>
- Wijayanti, M. I., Purwijantiningsih, LM. E., & Pranata, F. S. (2016). Kualitas Yoghurt Sinbiotik Sari Beras Hitam ( *Oryza sativa* L.) Dengan Variasi Susu Skim. *Skripsi*, 1–16.
- Wright, R. S., Anderson, J. W., & Bridges, S. R. (1990). Propionate Inhibits Hepatocyte Lipid Synthesis. *Proceedings of the Society for Experimental Biology and Medicine*, 195(1). <https://doi.org/10.3181/00379727-195-43113>
- Wu, F., Yang, N., Touré, A., Jin, Z., & Xu, X. (2013). Germinated Brown Rice and Its Role in Human Health. *Critical Reviews in Food Science and Nutrition*, 53(5). <https://doi.org/10.1080/10408398.2010.542259>
- Wu, N., Sarna, L. K., Hwang, S. Y., Zhu, Q., Wang, P., Siow, Y. L., & Karmin, O. (2013). Activation of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase during high fat diet feeding. *Biochimica et Biophysica Acta - Molecular Basis of Disease*, 1832(10). <https://doi.org/10.1016/j.bbadis.2013.04.024>
- Wu, T., Li, H., Li, J., & Hao, J. (2023). Nutrient Composition of Germinated Foxtail Millet Flour Treated with Mixed Salt Solution and Slightly Acidic Electrolyzed Water. *Foods*, 12(1). <https://doi.org/10.3390/foods12010075>
- Wu, X., Guo, T., Luo, F., & Lin, Q. (2023). Brown rice: a missing nutrient-rich health food. In *Food Science and Human Wellness* (Vol. 12, Issue 5). <https://doi.org/10.1016/j.fshw.2023.02.010>
- Xu, J., Zhou, X., Gao, H., Chen, C., Deng, Q., Huang, Q., Ma, J., Wan, Z., Yang, J., & Huang, F. (2013). Micronutrients-fortified rapeseed oil improves hepatic lipid accumulation and oxidative stress in rats fed a high-fat diet. *Lipids in Health and Disease*, 12(1). <https://doi.org/10.1186/1476-511X-12-28>
- Yang, Q., Luo, Y., Wang, H., Li, J., Gao, X., Gao, J., & Feng, B. (2021). Effects of germination on the physicochemical, nutritional and in vitro digestion characteristics of flours from waxy and nonwaxy proso millet, common buckwheat and pea. *Innovative Food Science and Emerging Technologies*, 67(August 2020), 102586. <https://doi.org/10.1016/j.ifset.2020.102586>
- Yu, Y., Li, M., Li, C., Niu, M., Dong, H., Zhao, S., Jia, C., & Xu, Y. (2023). Accelerated Accumulation of  $\gamma$ -Aminobutyric Acid and Modifications on Its Metabolic Pathways in Black Rice Grains by Germination under Cold Stress. *Foods*, 12(6). <https://doi.org/10.3390/foods12061290>

- Yue, P., Chen, Z., Nassir, F., Bernal-Mizrachi, C., Finck, B., Azhar, S., & Abumrad, N. A. (2010). Enhanced hepatic apoA-I secretion and peripheral efflux of cholesterol and phospholipid in CD36 null mice. *PLoS ONE*, 5(3). <https://doi.org/10.1371/journal.pone.0009906>
- Yuliantini, E., Sari, A. P., & Nur, E. (2016). Hubungan asupan energi, lemak dan serat dengan rasio kadar kolesterol total-hdl. *Penelitian Gizi Dan Makanan (The Journal of Nutrition and Food Research)*, 38(2). <https://doi.org/10.22435/pgm.v38i2.5543.139-147>
- Yvan-Charvet, L., Wang, N., & Tall, A. R. (2010). Role of HDL, ABCA1, and ABCG1 transporters in cholesterol efflux and immune responses. In *Arteriosclerosis, Thrombosis, and Vascular Biology* (Vol. 30, Issue 2). <https://doi.org/10.1161/ATVBAHA.108.179283>
- Zhang, Q., Xiang, J., Zhang, L., Zhu, X., Evers, J., van der Werf, W., & Duan, L. (2014). Optimizing soaking and germination conditions to improve gamma-aminobutyric acid content in japonica and indica germinated brown rice. *Journal of Functional Foods*, 10. <https://doi.org/10.1016/j.jff.2014.06.009>
- Zhao, R., Fajardo, J., & Shen, G. X. (2023). Influence of Brown or Germinated Brown Rice Supplementation on Fecal Short-Chain Fatty Acids and Microbiome in Diet-Induced Insulin-Resistant Mice. *Microorganisms*, 11(11). <https://doi.org/10.3390/microorganisms11112629>
- Zhao, R., Huang, F., Liu, C., Asija, V., Cao, L., Zhou, M., Gao, H., Sun, M., Weng, X., Huang, J., Liao, X., Liu, Z., Sen, L., & Shen, G. X. (2022). Impact of Germinated Brown Rice and Brown Rice on Metabolism, Inflammation, and Gut Microbiome in High Fat Diet-Induced Insulin Resistant Mice. *Journal of Agricultural and Food Chemistry*, 70(44). <https://doi.org/10.1021/acs.jafc.2c06662>