

REFERENCES

- Abdul Rahim, A., Norhayati, M., & Zainudin, A. (2021). The effect of a brown-rice diet on glycemic control and metabolic parameters in prediabetes and type 2 diabetes mellitus: a meta-analysis of randomized controlled trials and controlled clinical trials. *Peerj*, 9, e11291
- ABDUL RAHMAN, H., SALLEH, M., & MD SALIM, N. (2019). EFFECT OF MOISTURE CONTENT AND MICROWAVE POWER ON PUFFED YIELD AND EXPANSION VOLUME OF MALAYSIAN PADDY VARIETY MR297. *Malaysian Applied Biology*, 48(1), 139–143.
- Aune, D., Norat, T., Romundstad, P., & Vatten, L. (2013). Whole grain and refined grain consumption and the risk of type 2 diabetes: a systematic review and dose-response meta-analysis of cohort studies. *European Journal of Epidemiology*, 28(11), 845-858.
- Agrawal, R. & A, Chopra & Lavekar, Gandhidas & Padhi, Madan & Srikanth, Narayanam & Sarada, Ota & S, Jain. (2010). Effect of oyster mushroom on glycemia, lipid profile and quality of life in type 2 diabetic patients. *Australian Journal of Medical Herbalism*. Volume 22. 50-54.
- Awuchi CG, Echeta CK, Igwe VS. (2020). Diabetes and the Nutrition and Diets for its Prevention and Treatment: A Systematic Review and Dietetic Perspective. *Health Sciences Research*, 6(1): 5-19.
- Beluhan, S., & Ranogajec, A., 2011. Chemical composition and non-volatile components of Croatian wild edible mushrooms. *Food Chemistry*, 124, 1076-1082.
- Bi, Y., Wang, T., Xu, M., Xu, Y., Li, M., & Lu, J. et al. (2012). Advanced research on risk factors of type 2 diabetes. *Diabetes/Metabolism Research and Reviews*, 28, 32-39.
- Carcea, M. (2021). Value of Wholegrain Rice in a Healthy Human Nutrition. *Agriculture*, 11(8), 720.
- Chattopadhyay, S., Raychaudhuri, U., & Chakraborty, R. (2011). Artificial sweeteners – a review. *Journal of Food Science and Technology*, 51(4), 611-621.
- Chen, L., & Opara, U. (2013). Approaches to analysis and modeling texture in fresh and processed foods – A review. *Journal of Food Engineering*, 119(3), 497-507.
- Elliot, A. (2015). Color and psychological functioning: a review of theoretical and empirical work. *Frontiers in Psychology*, 6.
- FAO, 2003. Food and Nutrition Paper 77, Report of a Technical Workshop, Rome, Dec. 3-6. 2002 Rome.

- Galicia-Garcia, U., Benito-Vicente, A., Jebari, S., Larrea-Sebal, A., Siddiqi, H., & Uribe, K. et al. (2020). Pathophysiology of Type 2 Diabetes Mellitus. *International Journal of Molecular Sciences*, 21(17), 6275.
- Ghasemzadeh, A., Baghdadi, A., Z. E. Jaafar, H., Swamy, M., & Megat Wahab, P. (2018). Optimization of flavonoid extraction from red and brown rice bran and evaluation of the antioxidant properties. *Molecules*, 23(8), 1863.
- Ghosh, Somsubhra & Prasanna, V.L. & Sowjanya, B. & Srivani, P. & Alagaraja, M. & Banji, David. (2013). Inductively coupled plasma - optical emission spectroscopy: A review. *Asian J. Pharm. Ana.* 3. 24-33.
- Gogavekar, S., Rokade, S., Ranveer, R., Ghosh, J., Kalyani, D., & Sahoo, A. (2012). Important nutritional constituents, flavour components, antioxidant and antibacterial properties of *Pleurotus sajor-caju*. *Journal of Food Science and Technology*, 51(8), 1483-1491.
- Gupta, R., & Dudeja, P. (2017). Ready to eat meals. *Food Safety in the 21st Century*, 541-545.
- Hilal, A., Dundar, A., Yildiz, A., 2012. Effect of using different lignocellulosic wastes for the cultivation of *Pleurotus ostreatus* (Jacq.) P. Kumm. On mushroom yield, chemical composition, and nutritional value. *Afr. J. Biotechnol.* 8 (4), 662–666.18.
- Ho, L., Asyikeen Zulkifli, N., & Tan, T. (2020). Edible Mushroom: Nutritional Properties, Potential Nutraceutical Values, and Its Utilisation in Food Product Development. *An Introduction to Mushroom*.
- Jiamjariyatam, Rossaporn & Atiwittaporn, Suriya. (2016). Interaction of moisture content and fat content on puffing properties of expanded-product from native rice starch. 116-125.
- Jongman, M, Khare, K. B. & Loeto, D. (2018) Oyster mushroom cultivation at different production systems: A Review. *European Journal of Pharmaceutical Sciences* 5 (5), 72 – 79. ISSN 2349-8870
- Joshi, N., Mohapatra, D., & Joshi, D. (2013). Varietal Selection of Some Indica Rice for Production of Puffed Rice. *Food and Bioprocess Technology*, 7(1), 299-305.
- Kamilah, F., Habibie, F., Rahma, G., Sofyan, M., Isnaini, N., Nadhilah, N., & Sihaloho, E. (2021). Analysis of the Determinants of Diabetes Mellitus in Indonesia: A Case Study of the 2014 Indonesian Family Life Survey. *Disease Prevention and Public Health Journal*, 15(2), 88.
- Khatun, K., Mahtab, H., Khanam, P., Sayeed, M., & Khan, K. (2007). Oyster mushrooms reduced blood glucose and cholesterol in diabetic subjects. *Mymensingh Medical Journal*, 16(1).

- Kim, J., & Koh, B. (2019). Rice varieties in relation to saltine rice cracker quality. *International Journal of Food Properties*, 22(1), 1899-1909.
- Kim, M. and Jeong, Y., (2002). Extraction and Electrophoretic Characterization of Rice Proteins. *Nutraceuticals and Food*, 7, 437–441.
- Kim, E., Corrigan, V., Wilson, A., Waters, I., Hedderly, D., & Morgenstern, M. (2011). Fundamental Fracture Properties Associated With Sensory Hardness of Brittle Solid Foods. *Journal of Texture Studies*, 43(1), 49-62.
- Kotwaliwale, N., Bakane, P., & Verma, A. (2007). Changes in textural and optical properties of oyster mushroom during hot air drying. *Journal of Food Engineering*, 78(4), 1207-1211.
- Lu, X., Brennan, M., Serventi, L., & Brennan, C. (2018). Incorporation of mushroom powder into bread dough-effects on dough rheology and bread properties. *Cereal Chemistry*, 95(3), 418-427.
- MacDougall, D. B. 2002. Colour Measurement of Food: Principles and Practice. In: "Colour in Food: Improving Quality", (Ed.): MacDougall, D. B. Woodhead Publishing Limited, Cambridge, England, 3: 33-63.
- Maehre, H., Dalheim, L., Edvinsen, G., Elvevoll, E., & Jensen, I. (2018). Protein Determination—Method Matters. *Foods*, 7(1), 5.
- Maisont, S. & Narkrugsa, W. 2010. Effects of salt, moisture content, and microwave power and puffing qualities for puffed rice. *Kasetsart Journal of Natural Science*, 44(2): 251-261.
- Majeed, M., Khan, M., Owaid, M., Khan, M., Shariati, M., Igor, P., & Ntsefong, G. (2017). DEVELOPMENT OF OYSTER MUSHROOM POWDER AND ITS EFFECTS ON PHYSICOCHEMICAL AND RHEOLOGICAL PROPERTIES OF BAKERY PRODUCTS. *Journal of Microbiology, Biotechnology, and Food Sciences*, 6(5), 1221-1227.
- Mediano Stoltze, F., Busey, E., Taillie, L., & Dillman Carpentier, F. (2021). Impact of warning labels on reducing health halo effects of nutrient content claims on breakfast cereal packages: A mixed-measures experiment. *Appetite*, 163, 105229.
- Mir, S., Bosco, S., Shah, M., Santhalakshmy, S., & Mir, M. (2017). Effect of Apple Pomace on Quality Characteristics of Brown Rice Based Cracker. *Journal of the Saudi Society of Agricultural Sciences*, 16(1), 25-32
- Mohamad Mazlan, M., Talib, R., Chin, N., Shukri, R., Taip, F., Mohd Nor, M., & Abdullah, N. (2020). Physical and Microstructure Properties of Oyster Mushroom-Soy Protein Meat Analog via Single-Screw Extrusion. *Foods*, 9(8), 1023.

- Mondal, M., Yeasmin, M., & Rahman, M. (2015). Preparation of food-grade carboxymethyl cellulose from corn husk agro waste. *International Journal of Biological Macromolecules*, 79, 144-150.
- NAKAMURA, S., SUZUKI, D., KITADUME, R., & OHTSUBO, K. (2012). Quality Evaluation of Rice Crackers Based on Physicochemical Measurements. *Bioscience, Biotechnology, And Biochemistry*, 76(4), 794-804.
- Nath, A., & Chattopadhyay, P. (2007). Quality Attributes of High Temperature Short Time Air Puffed Ready-to-eat Potato Snacks. *International Journal of Food Properties*, 10(1), 113-125.
- Nielsen, S. (2017). *Food Analysis Laboratory Manual* (3rd edition). Springer.
- Njike, V., Smith, T., Shuval, O., Shuval, K., Edshteyn, I., Kalantari, V., & Yaroch, A. (2016). Snack Food, Satiety, and Weight. *Advances in Nutrition*, 7(5), 866-878.
- Ooi, D., Iqbal, S., & Ismail, M. (2012). Proximate Composition, Nutritional Attributes and Mineral Composition of Peperomia pellucida L. (Ketumpangan Air) Grown in Malaysia. *Molecules*, 17(9), 11139-11145.
- Ozbayoglu, G. (2018). 3.19 Energy Production from Coal. *Comprehensive Energy Systems*, 788-821.
- Palma et al., (2015). Evaluation of acid digestion procedures to estimate mineral contents in materials from animal trials. *Asian-Australasian Journal of Animal Sciences*, 28(11), 1624-1628.
- Pandey, S., Lijini, K., & Jayadeep, A. (2017). Medicinal and Health Benefits of Brown Rice. *Brown Rice*, 111-122.
- Deshpande, S., Raviteja, G., & Patil, B. (2015). Physical properties of rice for puffing. *International Journal of Latest Trends in Engineering and Technology*, 5(3), 376-380.
- Pathare, P., Opara, U., & Al-Said, F. (2012). Colour Measurement and Analysis in Fresh and Processed Foods: A Review. *Food and Bioprocess Technology*, 6(1), 36-60.
- Pomeranz, Y., & Meloan, C. (2004). *Food analysis*. New Delhi: CBS Publishers & Distributors Pvt. Ltd.
- Randive, S.D., 2012. Cultivation and study of the growth of oyster mushrooms on the different agricultural waste substrates and its nutrient analysis. *Adv. App. Sci. Res.*3: 1938-1949.
- Redfern, J., Kinninmonth, M., Burdass, D., & Verran, J. (2014). Using Soxhlet Ethanol Extraction to Produce and Test Plant Material (Essential Oils) for Their Antimicrobial Properties. *Journal of Microbiology & Biology Education*, 15(1), 45-46.

- Rodriguez Sandoval, E., Otero-Guzmán, N., & Tabares-Londoño, J. (2020). Influence of different types of baking powder on quality properties of muffins. *DYNA*, 87(214), 9-16.
- Saha, S., & Roy, A. (2022). Selecting high amylose rice variety for puffing: A correlation between physicochemical parameters and sensory preferences. *Measurement: Food*, 5, 100021.
- Salami, A., Bankole, F., & Salako, Y. (2017). Nutrient and Mineral Content of Oyster Mushroom (*Pleurotus Florida*) Grown on Selected Lignocellulosic Substrates. *Journal of Advances in Biology & Biotechnology*, 15(1), 1-7.
- Sami, W., Ansari, T., Butt, N. S., & Hamid, M. (2017). Effect of diet on type 2 diabetes mellitus: A review. *International journal of health sciences*, 11(2), 65–71.
- Selvam, S., Masilamani, P., Umashankar, P., & Alex Albert, V. (2017). Opportunities and Challenges in Marketing of Brown Rice. *Brown Rice*, 271-282.
- Shimoni, E., Dirks, E., & Labuza, T. (2002). The Relation between Final Popped Volume of Popcorn and Thermal–Physical Parameters. *LWT - Food Science and Technology*, 35(1), 93-98.
- SHOBHAN, NAIK & Veerapaga, Nagendram & SOMESHWARA, RAO. (2016). PHYSICAL PROPERTIES AND MILLING CHARACTERISTICS OF RICE (*Oryza sativa* L.). *International Journal of Agriculture Sciences*. 8. 3301-3305.
- Simsrisakul, M. (1991). Important Factors Affecting Puffing Quality of Paddy and Properties of Puffed Rice Flour. M.Sc. Thesis. Chulalongkorn University. Bangkok.
- Sulistyowati et al., (2019). The identification of characteristic macro-and micronutrients and the bioactive components of Indonesian local brown rice as a functional feed-in obesity nutrition therapy. *Current Nutrition & Food Science*, 16(4), pp.494-500.
- Subramani, D., Tamilselvan, S., Murugesan, M., & M S, S. (2020). Optimization of Sand Puffing Characteristics of Quinoa using Response Surface Methodology. *Current Research in Nutrition and Food Science Journal*, 504-515.
- Swarnakar, A., Srivastav, P., & Das, S. (2020). Optimization of pressure parboiling conditions and pre-conditioned moisture content of brown rice (unpolished rice) for microwave puffing and its comparison with hot sand bed puffing. *International Journal of Food Studies*, 9.
- Tolera, K., & Abera, S. (2017). Nutritional quality of Oyster Mushroom (*Pleurotus Ostreatus*) as affected by osmotic pretreatments and drying methods. *Food Science & Nutrition*, 5(5), 989-996.

- Upadhyay, A., & Karn, S. (2018). Brown Rice: Nutritional composition and Health Benefits. *Journal of Food Science and Technology Nepal*, 10, 47-52.
- Watchararparpaiboon, W., Laohakunjit, N., & Kerdchoechuen, O. (2010). An Improved Process for High Quality and Nutrition of Brown Rice Production. *Food Science and Technology International*, 16(2), 147-158.
- Wu, Y., Ding, Y., Tanaka, Y., & Zhang, W. (2014). Risk Factors Contributing to Type 2 Diabetes and Recent Advances in the Treatment and Prevention. *International Journal of Medical Sciences*, 11(11), 1185-1200.
- Xia, Q., Green, B., Zhu, Z., Li, Y., Gharibzahedi, S., Roohinejad, S., & Barba, F. (2018). Innovative processing techniques for altering the physicochemical properties of whole-grain brown rice (*Oryza sativa* L.) – opportunities for enhancing food quality and health attributes. *Critical Reviews in Food Science and Nutrition*, 59(20), 3349-3370.
- Xu, D., Fu, L., Pan, D., Lu, Y., Yang, C., & Wang, Y. et al. (2021). Role of Whole Grain Consumption in Glycaemic Control of Diabetic Patients: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Nutrients*, 14(1), 109.
- Yu, Y., Pan, F., Ramaswamy, H., Zhu, S., Yu, L., & Zhang, Q. (2017). Effect of soaking and single/two cycle high pressure treatment on water absorption, color, morphology and cooked texture of brown rice. *Journal of Food Science and Technology*, 54(6), 1655-1664.
- Zahra, N., & Jabeen, S. (2020). Brown Rice as Useful Nutritional Source. *Pakistan Journal of Agricultural Research*, 33(3).
- Zygler, A., Słomińska, M., & Namieśnik, J. (2012). Soxhlet Extraction and New Developments Such as Soxtec. *Comprehensive Sampling and Sample Preparation*, 65-82.

APPENDICES

Appendix 1. *The puffing attributes raw data*

Treatment	Puffed Yield	Expansion Volume	Expansion Ratio (mL)	Bulk Density (gr/mL)
Control	0.91%	2.25	1.5	0.5
Control	0.91%	2	1.3	0.5
Control	0.91%	2	1.3	0.5
2% salt with 30 gr oyster mushroom	0.96%	2.25	1.5	0.5
2% salt with 30 gr oyster mushroom	0.95%	2.25	1.5	0.5
2% salt with 30 gr oyster mushroom	0.93%	2.25	1.5	0.5
4% salt with 50 gr oyster mushroom	0.96%	2.25	1.5	0.5
4% salt with 50 gr	0.965%	2.25	1.5	0.5

oyster mushroom				
4% salt with 50 gr oyster mushroom	0.95%	2.25	1.5	0.5
2% salt with 50 gr oyster mushroom	0.96%	2	1.3	0.5
2% salt with 50 gr oyster mushroom	0.96%	2	1.3	0.5
2% salt with 50 gr oyster mushroom	0.95%	2	1.3	0.5
4% salt with 30 gr oyster mushroom	0.975%	2.25	1.5	0.5
4% salt with 30 gr oyster mushroom	0.96%	2.25	1.5	0.5
4% salt with 30 gr oyster mushroom	0.96%	2.25	1.5	0.5

Appendix 2. The proximate analysis raw data

Treatment	Ash (%)	Fat (%)	Carbohydrate	Protein	K	Mg	Mn
Control	1.28	2.985	82.35	10.13	99.585	74.685	8.055
Control	1.16	2.26	79.43	10.715	137.865	79.51	9.855
Control	1.29	3.47	80.59	10.565	112.905	82.025	10.285
2% salt with 30 gr oyster mushroom	3.245	2.8	79.385	11.8	813.92	120.05	13.68
2% salt with 30 gr oyster	3.07	2.265	78.605	12.77	698.62	91.625	8.495

mushroom							
2% salt with 30 gr oyster mushroom	3.195	2.585	77.9	11.755	685.985	96.935	10.475
4% salt with 50 gr oyster mushroom	5.885	2.54	77.64	9.885	864.175	110.63	8.44
4% salt with 50 gr oyster mushroom	4.725	2.465	75.05	13.95	1000.19	97.49	7.94
4% salt with 50 gr oyster mushroom	4.5	3.14	75.29	12.785	864.175	97.575	8.385
2% salt with 50 gr oyster mushroom	4.205	2.62	76.915	12.44	832.255	143.13	14.28
2% salt with 50 gr oyster mushroom	4.49	2.155	76.35	13.275	688.98	75.835	6.285
2% salt with 50 gr oyster mushroom	4.15	2.93	76.31	12.275	858.045	112.3	12.27
4% salt with 30 gr oyster mushroom	3.925	2.605	78.505	11.735	626.235	99.405	10.005
4% salt with 30 gr oyster mushroom	3.715	3.09	77.995	12.26	824.995	117.985	13.92
4% salt with 30 gr oyster	3.05	2.325	78.315	12.775	673.93	93.22	8.695

mushroo m							
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