

REFERENCES

CHAPTER VI

REFERENCES

- Aadil, R.M., Zeng, X.A., Han, Z., and Sun, D.W. 2013. Effect of ultrasound treatments on quality of grapefruit juice. *Food Chem.* 141: 3201-3206.
- Abano, E. E., Ma, H., and Qu, W. 2011. Influence of air temperature on the drying kinetics and quality of tomato slices. *J. of Food Process. & Technol.* 2(5): 2-9.
- Abbas, K. A., Saleh, A. M., Mohamed, A., and Lasekan, O. 2009. The relationship between water activity and fish spoilage during cold storage: A review. *J. Food Agric. Environ.* 7(3,4): 86-90.
- Abbaspour-Gilandeh, Y., Kaveh, M., Fatemi, H., and Aziz, M. 2021. Combined hot air, microwave, and infrared drying of hawthorn fruit: Effects of ultrasonic pretreatment on drying time, energy, qualitative, and bioactive compounds properties. *Foods*, 10(5):1006.
- Abid, M., Jabbar, S., Wu, T., Hashim, M. M., Hu, B., Lei, S., and Zeng, X. 2014. Sonication enhances polyphenolic compounds, sugars, carotenoids and mineral elements of apple juice. *Ultrasonics sonochem.*, 21(1): 93-97.
- Aboud, S.A., Altemimi, A.B., Al-Hilphy, R.S., Yi-Chen, L., and Cacciola, F. 2019. A comprehensive review on infrared heating applications in food processing. *Mol.* 24(22): 4125.
- Adekuntee, A. O., Tiwari, B. K., Cullen, P. J., Scannell, A. G. M., and O'donnell, C. P. (2010). Effect of sonication on colour, ascorbic acid and yeast inactivation in tomato juice. *Food chem.* 122(3):500-507.
- Aghbashlo, M. and Samimi-Akhijahani, H. 2008. Influence of drying conditions on the effective moisture diffusivity, energy of activation and energy consumption during the thin-layer drying of berberis fruit (Berberidaceae). *Energy Conver.Manag.* 49(10): 2865-2871.

- Akonor, P. T., Ofori, H., Dziedzoave, N.T., and Kortei, N. K. 2016. Drying Characteristics and Physical and Nutritional Properties of Shrimp Meat as Affected by Different Traditional Drying Techniques. *Int J Food Sci.* 7879097:1–5.
- Akpinar, E. K. and Toraman, S. 2016. Determination of drying kinetics and convective heat transfer coefficients of ginger slices. *Heat and Mass Transfer.* 52:2271-2281.
- Aktaş, M., Şevik, S., and Aktekeli, B. 2016. Development of heat pump and infrared-convective dryer and performance analysis for stale bread drying. *Energy Conver. Manag.* 113: 82-94.
- Alakali, J. S., Kucha, C. T., and Rabiou, I. A. 2015. Effect of drying temperature on the nutritional quality of Moringa oleifera leaves. *African J. food sci.* 9(7): 395-399.
- Al-Dabbas, M., Saleh, M., Hamad, H., and Hamadeh, W. (2017). Chlorophyll color retention in green pepper preserved in natural lemon juice. *J. of Food Process. Preserv.* 41(4):13055.
- Alfiya, P. V., Murali, S., Anisrani Delfiya, D. S., and Samuel, M. P. 2018. Empirical modelling of drying characteristics of Elongate Glassy Perchlet Chandanama Hamilton1822 in solar hybrid dryer. *Fish. Technol.* 55(18): 138 – 142
- Alfiya, P. V., Rajesh, G. K., Murali, S., Aniesrani Delfiya, D. S., Samuel, M. P., and Prince, M. V. 2022. Development and evaluation of hot air-assisted microwave dryer for shrimp (*Metapenaeus dobsoni*). *J. Food Proc. Preserv.* 46(11):17112.
- Ali, M. A., Yusof, Y. A., Chin, N. L., and Ibrahim, M. N. 2017. Processing of Moringa leaves as natural source of nutrients by optimization of drying and grinding mechanism. *J. of Food Proc. Eng.* 40(6):12583.

- Alizehi, M. H., Niakousari, M., Fazaeli, M., and Iraj, M. 2020. Modeling of vacuum-and ultrasound-assisted osmodehydration of carrot cubes followed by combined infrared and spouted bed drying using artificial neural network and regression models. *J. of Food Proc. Eng.* 43(12):13563.
- Amami, E., Khezami, W., Mezrigui, S., Badwaik, L. S., Bejar, A. K., Perez, C. T., and Kechaou, N. 2017. Effect of ultrasound-assisted osmotic dehydration pretreatment on the convective drying of strawberry. *Ultrasonics sonochem.* 36:286-300.
- Andrieu, J. and Stamatopoulos, A. A. 1984. Diffusion model applied to pasta drying kinetics. In *The 4th Int. Dry. Symp., Kyoto, Jpn.* 290-294 p.
- Aniesrani Delfiya, D. S., Sneha, R., Prashob, K., Murali, S., Alfiya, P. V., and Samuel, M. P. (2022a). Hot air-assisted continuous infrared dryer for anchovy fish drying. *J. of Food Proc. Eng.* 45(6):13824.
- Anita Rana., Meena., and Shweta. 2017. Ultrasonic processing and its use in food industry: A review. *Int. J. Chem. Stud.* 5(6): 1961-1968.
- Anonymous, 1970. Amino acid content of foods and biological data on proteins. FAO Nutr. Stud. 24. FAO, Rome.
- Anwar, F., Latif, S., Ashraf, M., and Gilani, A. H. 2007. Moringa oleifera: a food plant with multiple medicinal uses. *Phytotherapy Research: An Int. J. Devoted to Pharmacol. Toxicol. Eval. Nat. Prod. Derivatives.* 21(1):17-25.
- Arivalagan, M., Karunakaran, G., Roy, T. K., Dinsha, M., Sindhu, B. C., Shilpashree, V. M., and Shivashankara, K. S. 2021. Biochemical and nutritional characterization of dragon fruit (*Hylocereus species*). *Food Chem.* 353:129426.
- Arslan, D., Özcan, M. M., and Mengeş, H. O. 2010. Evaluation of drying methods with respect to drying parameters, some nutritional and colour characteristics of peppermint (*Mentha X piperita L.*). *Energy Conv. Manag.* 51(12):2769-2775.

- Ashtiani, S. H. M., Salarikia, A., and Golzarian, M. R. 2017. Analyzing drying characteristics and modeling of thin layers of peppermint leaves under hot-air and infrared treatments. *Inf. Proc. in Agric.* 4(2):128-139.
- Awad, T., Hamada, Y., and Sato, K. 2001. Effects of addition of diacylglycerols on fat crystallization in oil-in-water emulsion. *Eur. J. of Lipid Sci. Technol.* 103(11): 735–741.
- Awad, T. S. 2004. Ultrasonic studies of the crystallization behavior of two palm fats oil and water emulsions and its modification. *Food Res. Int.* 37(6): 579–586.
- Azam, M., Khandelwal, B. M., Garg, S. K., and Pandey, S. 2014. Physical characteristics and mathematical modeling of drying of beetroot (*Beta vulgaris L.*). *JNKVV Res. J.* 48: 232-244.
- Azizpour, M., Mohebbi, M., Haddad Khodaparast, M. H., and Abbasi, E. 2016. Effects of foam mat drying temperature on physico-chemical and microstructural properties of shrimp powder. *Innov. Food Sci. Emerg. Technol.* 34:122-126
- Azoubel, P. M., Baima, M. D. A. M., da Rocha Amorim, M., and Oliveira, S. S. B. 2010. Effect of ultrasound on banana cv Pacovan drying kinetics. *J. of Food Eng.* 97(2):194-198.
- Azzouz, S., Guizani, A., Jomaa, W., and Belghith, A. 2002. Moisture diffusivity and drying kinetic equation of convective drying of grapes. *J. of Food eng.* 55(4):323-330.
- Bao, S., Chen, B., Zhang, Y., Ren, L., Xin, C., Ding, W., and Zhang, W. 2023. A comprehensive review on the ultrasound-enhanced leaching recovery of valuable metals: Applications, mechanisms and prospects. *Ultrasonics Sonochem.* 106525.
- Bassey, E. J., Cheng, J. H., and Sun, D. W. 2024. Comparative elucidation of bioactive and antioxidant properties of red dragon fruit peel as affected by

electromagnetic and conventional drying approaches. *Food Chem.* 439:138118.

- Bavec, M., Turinek, M., Grobelnik-Mlakar, S., Slatnar, A., and Bavec, F. 2010. Influence of industrial and alternative farming systems on contents of sugars, organic acids, total phenolic content, and the antioxidant activity of red beet (*Beta vulgaris* L. ssp. *vulgaris* Rote Kugel). *J. Agric. Food Chem.* 58(22): 11825-11831.
- Benedito, J., Carcel, J. A., Rossello, C., and Mulet, A. 2001. Composition assessment of raw meat mixtures using ultrasonics. *Meat Sci.* 57(4): 365– 370.
- Benseddik, A., Azzi, A., and Allaf, K. 2018. Mathematical empirical models of thin-layer airflow drying kinetics of pumpkin slices. *Eng. in Agric. Environ. Food* 11(4): 220-231.
- Berkovich, L., Earon, G., Ron, I., Rimmon, A., Vexler, A., and Lev-Ari, S. 2013. *Moringa oleifera* aqueous leaf extract down regulates nuclear factor-kappa B and increases cytotoxic effect of chemotherapy in pancreatic cancer cells. *BMC Complement. Altern. Med.* 13:212219.
- Bermúdez-Aguirre, D., Mobbs, T., and Barbosa-Cánovas, G. V. 2011. Ultrasound applications in food processing. *Ultrasound technol. for food bioprocess.* 65-105.
- Bevilacqua, A., Spornza, B., Campaniello, D., Sinigaglia, M., and Corbo, M.R. 2014. Inactivation of spoiling yeasts of fruit juices by pulsed Ultrasound. *Food Bioprocess Technol.* 7: 2189-2197.
- Bezerra, M. A., Santelli, R. E., Oliveira, E. P., Villar, L. S., and Escaleira, L. A. 2008. Response surface methodology (RSM) as a tool for optimization in analytical chemistry. *Talanta.* 76(5): 965-977.
- Bhat, R., Kamaruddin, N. S. B. C., Min-Tze, L., and Karim, A. A. 2011. Sonication improves kasturi lime (*Citrus microcarpa*) juice quality. *Ultrasonics sonochem.* 18(6): 1295-1300.

- Bisbis, M. B., Gruda, N., and Blanke, M. 2018. Potential impacts of climate change on vegetable production and product quality—A review. *J. of Cleaner Prod.* 170:1602-1620.
- Bishnoi, S., Chhikara, N., Singhanian, N., and Ray, A. B. 2020. Effect of cabinet drying on nutritional quality and drying kinetics of fenugreek leaves (*Trigonella foenum-graecum L.*). *J. of Agric. Food Res.* 2:100072.
- Blitz, J. 1963. Fundamentals of ultrasonics. *Lon.: Butterworths & Co.* 214p..
- Bourdoux, S., Li, D., Rajkovic, A., Devlieghere, F., and Uyttendaele, M. 2016. Performance of drying technologies to ensure microbial safety of dried fruits and vegetables. *Compre. Rev. Food Sci. Food Saf.* 15(6):1056-1066.
- Borges, S. V., Mancini, M. C., Corrêa, J. L. G., and Leite, J. B. 2011. Drying kinetics of bananas by natural convection: Influence of temperature, shape, blanching and cultivar. *Ciência e Agrotecnologia.* 35: 368-376.
- Boumendjel, A. (2003). [General Articles] Aurones: a subclass of flavones with promising biological potential. *Curr. med. chem.* 10(23): 2621-2630.
- Brown, T., James, S.J., and Purnell, G.L. 2005. Cutting forces in foods: experimental measurements. *J. Food Engng.* 70:165-170.
- Buchailot, A., Caffin, N., and Bhandari, B. 2009. Drying of lemon myrtle (*Backhousia citriodora*) leaves: Retention of volatiles and color. *Dry. Technol.* 27(3): 445-450.
- Buckin, W., Kudryushov, E., and ODriscoll, B. 2002. High-resolution ultrasonic spectroscopy for material analysis. *Am. Lab.* 28–31.
- Bund, R.K. and Pandit, A.B. 2007. Sonocrystallization: effect on lactose recovery and crystal habit. *Ultrasonics Sonochem.* 14(2): 143-152.
- Cabezae, M.G., Garcia, M.L., De La Hoz, L., Cambero, I., and Ordenzo, J.A. 2005. Thermo ultrasonication Eliminates Salmonellae from Intact Eggshells without Changing the Functional Properties of their Components. *J. Food Sci.* 70: 292-295.

- Cameron, M., McMaster, L.D., and Britz, T.J. 2009. Impact of ultrasound on dairy spoilage microbes and milk components. *Dairy Sci. Technol.* 89: 83-98.
- Cappuccio, F. P., Cooper, D., D'Elia, L., Strazzullo, P., and Miller, M. A. 2011. Sleep duration predicts cardiovascular outcomes: a systematic review and meta-analysis of prospective studies. *Eur. heart J.* 32(12): 1484-1492.
- Cárcel, J. A., Garcia-Perez, J. V., Riera, E., and Mulet, A. 2011. Improvement of convective drying of carrot by applying power ultrasound—Influence of mass load density. *Dry. Technol.* 29(2): 174-182.
- Chakraverty, A. 1988. Post harvest technology of cereals, pulses and oilseeds.
- Chaudhary, A. and Shaikh, Z. 2020. Beetroot and its nutritional value. *Octa J. Environ. Res.* 8(2): 32-35.
- Chavan, B. R., Yakupitiyage, A., and Kumar, S. 2008. Mathematical modeling of drying characteristics of Indian mackerel (*Rastrilliger kangurta*) in solar-biomass hybrid cabinet dryer. *Dry. Technol.* 26(12): 1552-1562.
- Chawla, H., Parle, M., Sharma, K., and Yadav, M. 2016. Beetroot: A health promoting functional food. *Inventi Rapid: Nutra.* 1(1): 0976-3872.
- Chemat, F., Huma, Z. and Khan, M.K. 2011. Applications of ultrasound in food technology: processing, preservation and extraction. *Ultrasonics sonochem.* 18(4): 813-835..
- Chen, Z. G., Guo, X. Y., and Wu, T. 2016. A novel dehydration technique for carrot slices implementing ultrasound and vacuum drying methods. *Ultrasonics sonochem.* 30, 28-34.
- Cheng, L. H., Soh, C. Y., Liew, S. C., and Teh, F. F. 2007. Effects of sonication and carbonation on guava juice quality. *Food chem.* 104(4): 1396-1401.
- Cho, B.K. and Irudayaraj, J.M.K. 2003. Foreign object and internal disorder detection in food materials using non- contact ultrasound imaging. *J. Food Sci.* 68: 967-974.

- Chokphoemphun, S., Hongkong, S., and Chokphoemphun, S. 2024. Evaluation of drying behavior and characteristics of potato slices in multi-stage convective cabinet dryer: Application of artificial neural network. *Inf. Process. Agric.*, 11(4) : 457-475.
- Chumark, P., Khunawat, P., Sanvarinda, Y., Phornchirasilp, S., Morales, N. P., Phivthong-Ngam, L., and Klai-upsorn, S. P. 2008. The in vitro and ex vivo antioxidant properties, hypolipidaemic and antiatherosclerotic activities of water extract of *Moringa oleifera* Lam. leaves. *J. ethnopharmacol.* 116(3):439-446.
- Clifford, T., Howatson, G., West, D. J., and Stevenson, E. J. 2015. The potential benefits of red beetroot supplementation in health and disease. *Nutr.* 7(4): 2801-2822.
- Coles, L. T. and Clifton, P. M. 2012. Effect of beetroot juice on lowering blood pressure in free-living, disease-free adults: a randomized, placebo-controlled trial. *Nutr. J.* 11: 1-6.
- Costa, M. G. M., Fonteles, T. V., de Jesus, A. L. T., Almeida, F. D. L., de Miranda, M. R. A., Fernandes, F. A. N., and Rodrigues, S. 2013. High-intensity ultrasound processing of pineapple juice. *Food. Bioprocess Technol.* 6: 997-1006.
- Coupland, J. N. 2004. Low intensity ultrasound. *Food Res. Int.* 37 (6): 537–543.
- Crank, J. 1975. Diffusion in a plane sheet. *The math. of diffus.* 47-48p.
- Cruz, R.M.S., Khmelinskii, I., and Vieira, M.C. 2014. Ultrasound Applications in Food Technology: Equipment, Combined Processes and Effects on Safety and Quality Parameters. *Adv. Food Sci. Nutr.* 13: 413-444.
- D. J. Charles. 2012. Antioxidant properties of spices, herbs and other sources: *Springer Sci. Business Media.*

- Dadali, G. and Özbek, B. 2009. Kinetic thermal degradation of vitamin C during microwave drying of okra and spinach. *Int. J. Food Sci. Nutr.* 60(1):21-31.
- Dajbych, O., Kabutey, A., Mizera, Č., and Herák, D. 2023. Investigation of the effects of infrared and hot air oven drying methods on drying behaviour and colour parameters of red delicious apple slices. *Process.* 11(10):3027.
- Dambalkar, V. S., Rudrawar, B. D., and Poojari, V. R. 2015. Study of physico-chemical properties and sensory attributes of beetroot-orange RTS drink. *Int. J. Sci. Res.* 4: 549-589.
- Darvishi, H., Najafi, G., Hosainpour, A., Khodaei, J., and Aazdbakht, M. 2013. Far-infrared drying characteristics of mushroom slices. *Chem. Prod. Process Modeling*, 8(2): 107–117
- Das, I. and Das, S. K. 2010. Emitters and Infrared heating system design. *Boca Raton, FL: CRC Press.* 57-88 p
- da Silva, G. D., Barros, Z. M. P., de Medeiros, R. A. B., de Carvalho, C. B. O., Brandão, S. C. R., and Azoubel, P. M. 2016. Pretreatments for melon drying implementing ultrasound and vacuum. *Lwt.* 74:114-119.
- Delfiya, D. A., Prashob, K., Murali, S., Alfiya, P. V., Kumar, L. R., and Samuel, M. P. 2022. Design and development of hot air-assisted continuous infrared drying system for shrimps. *J. Aquat. Food Prod. Technol.* 31(4): 361-373.
- Delfiya, D. A., Prashob, K., Murali, S., Alfiya, P. V., Samuel, M. P., and Pandiselvam, R. 2021. Drying kinetics of food materials in infrared radiation drying: A review. *J. Food Process Eng.* 45(6):13810.
- Delisle, H., and Bakari, S. (1997). ProvitaminA content of traditional green leaves from Niger. *Cahiers Agriculture* 6 (6): 553 – 560.
- Dette, S.S. and Jansen, H. 2010. Freeze concentration of black currant juice. *Chemical Engg. And Technol.* 33(5): 762-766.

- Diamante, L. M. and Munro, P. A. 1991. Mathematical modelling of hot air drying of sweet potato slices. *Int. J. food sci. technol.* 26(1): 99-109.
- Dickens, J.A., Lyon, C.E., and Wilson R.L. 1991. Effect of ultrasonic radiation on some physical characteristics of broiler breast muscle and cooked meat. *Poultry Sci.* 70(2): 389-396.
- Dolatowski, Z.J., Stadnik, J., and Stasiak D. 2007. Applications of ultrasound in food technology. *Acta Sci. Pol. Technol. Aliment.* 6(3): 89-99.
- Dolatowski, Z.J. 1999. The influence of low-frequency ultrasound processing on the structure and qualitative traits of meat. *Rozpr. Nauk, AR Lubl*, 221p.
- Dolatowski, Z.J. and Twarda J. 2004. Einfluss von Ultraschall auf das Wasserbindungsvermögen von Rindfleisch. *Fleischwirtschaft* .12: 95-99.
- Domínguez, R., Munekata, P. E., Pateiro, M., Maggiolino, A., Bohrer, B., and Lorenzo, J. M. 2020. Red beetroot. A potential source of natural additives for the meat industry. *Appl. Sci.* 10(23), 8340.
- Dongbang, W. and Matthujak, A. 2013. Anchovy drying using infrared radiation.
- Doymaz, I., Karasu, S., and Baslar, M. 2016. Effects of infrared heating on drying kinetics, antioxidant activity, phenolic content, and colour of jujube fruit. *J. Food Measur. and Character*, 10: 283–291.
- Doymaz, İ. 2012. Infrared drying of sweet potato (*Ipomoea batatas* L.) slices. *J. food sci. technol.* 49:760-766.
- Doymaz, I. and İsmail, O. 2011. Drying characteristics of sweet cherry. *Food and bioprod. Process.* 89(1): 31-38.
- Doymaz, I. and Kipcak, A. S. 2019. Drying characteristics investigation of black mulberry dried via infrared method. *J. Thermal Eng.* 5(2): 13–21.
- Drakopoulou, S., Terzakis, S., Fountoulakis, M.S., Mantzavinos, D. and Manios, T. 2009. Ultrasound-induced inactivation of gram-negative and

gram-positive bacteria in secondary treated municipal wastewater. *Ultrasonics Sonochem.* 16: 629–634.

- Dukhin, A. S. and Goetz, P. J. 2009. Bulk viscosity and compressibility measurement using acoustic spectroscopy. *J. Chem. Phys.* 130 (12).
- El-Mesery, H. S. and Mwithiga, G. 2015. Performance of a convective, infrared and combined infrared-convective heated conveyor-belt dryer. *J. food sci. technol.* 52: 2721-2730.
- El Sohaimy, S. A., Hamad, G. M., Mohamed, S. E., Amar, M. H., and Al-Hindi, R. R. (2015). Biochemical and functional properties of Moringa oleifera leaves and their potential as a functional food. *Global Adv. Res. J. Agric. Sci.* 4(4):188-199.
- Ensminger, D. 1988. Acoustic and electroacoustic methods of dewatering and drying. *Dry. Technol.* 6(3): 473 - 499.
- Erbay, Z. and Icier, F. 2009. Optimization of hot air drying of olive leaves using response surface methodology. *J. Food Eng.* 91(4): 533-541.
- Ercan, S.S. and Soyal, C. 2013. Use of ultrasound in food preservation. *Nat. sci.* 5(08): 5-13.
- Exell RHB. 1980. Basic Design Theory for Simple Solar Rice Dryer. *Int Energy J.* 1:101–10.
- Faboya, O. O. 1985. Chlorophyll changes in some green leafy vegetables during cooking. *J. Sci. Food. Agric.* 36(8):740-744.
- Fatouh, M., Metwally, M. N., Helali, A. B., & Shedid, M. H. (2006). Herbs drying using a heat pump dryer. *Energy Conv. Manag.* 47(15-16): 2629-2643.
- Faulkner, D.B., Parrett, D.F., Mckeith, F.K., and Berger, L.L. 1990. Prediction of fat cover and carcass composition from live and carcass measurements. *J. Animal Sci.* 68(3): 604–610.
- Fekete, K., Berti, C., Trovato, M., Lohner, S., Dullemeijer, C., Souverein, O. W., and Decsi, T. 2012. Effect of folate intake on health outcomes in

pregnancy: a systematic review and meta-analysis on birth weight, placental weight and length of gestation. *Nutr. J.* 11:1-8.

- Fellows, P.J. 2000. Food processing technology: Principles and practice. *Woodhead Publishing, Boca Raton.*
- Feng, H., Barbosa-Cánovas, G. V., AND Weiss, J. (Eds.). 2011. Ultrasound technologies for food and bioprocessing. *New York: Springer.* 599 p
- Fernandes, F. A., Gallão, M. I., and Rodrigues, S. 2008. Effect of osmotic dehydration and ultrasound pre-treatment on cell structure: Melon dehydration. *LWT-Food Sci. Technol.* 41(4):604-610.
- Fernandes, F. A., Oliveira, F. I., and Rodrigues, S. 2008. Use of ultrasound for dehydration of papayas. *Food. Bioproc. Technol.* 1: 339-345.
- Fernandes, F. A. N., Gallao, M. I., and Rodrigues, S. 2008. Effect of osmotic dehydration and ultrasound pre-treatment on cell structure: Melon dehydration. *LWT – Food Sci. Technl.* 41:604–610
- Fernandes, F.A.N., Linhares, F.E., and Rodrigues, S. 2008. Ultrasound as a pretreatment for drying of pineapples. *Ultrasonics Sonochem.* 15(6): 1049-1054.
- Fernandes, F.A.N. and Rodrigues, S. 2007. Ultrasound as a pretreatment for drying of fruits.: dehydration of banana. *J. Food Engg.* 82: 261-267.
- Ferrante, S., Guerrero, S., and Alzamora, S. M. 2007. Combined use of ultrasound and natural antimicrobials to inactivate *Listeria monocytogenes* in orange juice. *J. Food Prot.* 70: 1850–1856.
- Fijalkowska, A., Nowacka, M., & Witrowa-Rajchert, D. 2015. Wpływ fal ultradźwiękowych na przebieg suszenia i wybrane właściwości tkanki buraka cukrowego. *Żywność Nauka Technologia Jakość.* 22(2)
- Fitriyanti, M. and Narasimhan, G. 2018. Synergistic effect of low power ultrasonication on antimicrobial activity of cecropin p1 against e.coli in food systems. *Food Sci. and Technol.* 96:175–181.

- Fuglie, L.J. 2005. The Moringa Tree: A local solution to malnutrition ChurchWorld Service in Senegal.
- Galindo, F. G., Toledo, R. T., and Sjöholm, I. 2005. Tissue damage in heated carrot slices. Comparing mild hot water blanching and infrared heating. *J. Food Eng.* 67(4):381-385.
- Gaman, D. and Shennngton, R. 1996. The vegetable garden in the tropics. *J. Trop. Agric. Food Sci.* 24-27
- Gandía-Herrero, F., Escribano, J., and García-Carmona, F. 2010. Structural implications on color, fluorescence, and antiradical activity in betalains. *Planta.* 232: 449-460.
- Gani, G., Quadri., and Ayaz,T. 2018. Infrared heating of food. *Int. J. Adv. Res. in Sci. and Engg.* 7: 845-864.
- Garcia-Noguera, J., Oliveira, F. I., Weller, C. L., Rodrigues, S., and Fernandes, F. A. 2014. Effect of ultrasonic and osmotic dehydration pre-treatments on the colour of freeze dried strawberries. *J. Food Sci. Technol.* 51:2222-2227.
- Garcia-Noguera, J., Oliveira, F. I. P., Gallão, M. I., Weller, C. L., Rodrigues, S., and Fernandes, F. A. N. 2010. Ultrasound-Assisted Osmotic Dehydration of Strawberries: Effect of Pretreatment Time and Ultrasonic Frequency. *Dry. Technol.* 28(2): 294–303
- Garcia-Perez, J.V., Carcel, J.A., Riera, E., and Mulet, A. 2009. Influence of the applied acoustic energy on the drying of carrots and lemon peel. *Drying Technol.* 27: 281-287.
- Gardener, H. and Ellen, E. 2002. Moringa tree has many uses, from food to firewood. *Yuma sun. Portal market, Moringa Tree Powder.*
- Georgiev, V. G., Weber, J., Kneschke, E. M., Denev, P. N., Bley, T., and Pavlov, A. I. 2010. Antioxidant activity and phenolic content of betalain

extracts from intact plants and hairy root cultures of the red beetroot *Beta vulgaris* cv. Detroit dark red. *Plant foods for hum. nutr.* 65 :105-111.

- Gokhale, S. V. and Lele, S. S. 2011. Dehydration of red beet root (*Beta vulgaris*) by hot air drying: Process optimization and mathematical modeling. *Food Sci. Biotechnol.* 20(4):955.
- Golpour, I., Kaveh, M., Amiri Chayjan, R., and Guiné, R. P. 2020. Optimization of infrared-convective drying of white mulberry fruit using response surface methodology and development of a predictive model through artificial neural network. *Int. J. Fruit Sci.* 20:1015-S1035.
- Goula, A. M. and Adamopoulos, K. G. 2010. A new technique for spray drying orange juice concentrate. *Innov. Food Sci. Emerging Technol.* 11(2):342-351.
- Gracin, L., Krizanovic, S., Jambrak, A.R., Tomasevic, M., Kelsin, K., Lukic, K., and Ganic, K.K. 2017. Monitoring the influence of high power ultrasound treatment and thermosonication on inactivation of *Brettanomyces bruxellensis* in red wine. *Croatian J. of Food Technol. Biotech. and Nutr.* 12: 107-112.
- Guiamba, I. R., Svanberg, U., and Ahrné, L. 2015. Effect of infrared blanching on enzyme activity and retention of β -carotene and vitamin C in dried mango. *J. Food Sci.* 80(6):1235-1242.
- Guo, T., Cibir, R., Chaubey, I., Gitau, M., Arnold, J. G., Srinivasan, R., and Engel, B. A. 2018. Evaluation of bioenergy crop growth and the impacts of bioenergy crops on streamflow, tile drain flow and nutrient losses in an extensively tile-drained watershed using SWAT. *Sci. of the total environ.* 613:724-735.
- Haeggstrom, E. and Luukkala, M. 2001. Ultrasound detection and identification of foreign bodies in food products. *Food Control.* 12(1): 37–45.
- Halzhou, L., Pordesimo, L., and Weiss, J. 2004. High intensity ultrasound assisted extraction of oil from soyabean. *Food Res. Int.* 37: 731- 738.

- Hannan, M. A., Kang, J. Y., Mohibullah, M. D., Hong, Y. K., Lee, H., Choi, J. S., and Moon, I. S. 2014. Moringa oleifera with promising neuronal survival and neurite outgrowth promoting potentials. *J. ethnopharmacol.* 152(1): 142-150.
- Hebbar, H. U., Vishwanathan, K. H., and Ramesh, M. N. 2004. Development of combined infrared and hot air dryers for vegetables. *J. Food Eng.* 65: 557–563
- Hebbar, H. U. and Rastogi, N. K. 2001. Mass transfer during infrared drying of cashew kernel. *J. Food Eng.* 47(1), 1–5.
- Herbach, K. M., Stintzing, F. C., and Carle, R. 2004. Impact of thermal treatment on color and pigment pattern of red beet (*Beta vulgaris L.*) preparations. *J. Food Sci.* 69(6): 491-498.
- Hromadkova, Z. and Ebringerova, A. 2003. Ultrasonic extraction of plant materials : investigation of hemicelluloses release from buckwheat hulls. *Ultrasonic Sonochem.* 10: 127-133.
- Huang, D., Men, K., Li, D., Wen, T., Gong, Z., Sunden, B., and Wu, Z. 2020. Application of ultrasound technology in the drying of food products. *Ultrasonics sonochem.* 63:104950.
- Huang, H., Zheng, Y., Chang, M., Song, J., Xia, L., Wu, C., and Chen, Y. 2024. Ultrasound-based micro-/nanosystems for biomedical applications. *Chem. Rev.*, 124(13):8307-8472.
- Ismail, O. and Kocabay, O. 2018. Infrared and microwave drying of rainbow trout: drying kinetics and modelling. *Turk. J. Fish. Aquat. Sci.* 18(2).
- J. Kapadia, G., A. Azuine, M., Subba Rao, G., Arai, T., Iida, A., and Tokuda, H. 2011. Cytotoxic effect of the red beetroot (*Beta vulgaris L.*) extract compared to doxorubicin (Adriamycin) in the human prostate (PC-3) and breast (MCF-7) cancer cell lines. *Anti-Cancer Agents in Medicinal Chemistry-Anti-Cancer Agents*, 11(3), 280-284.

- Jabeen, R., Aijaz, T., and Gul, K. (2015). Drying kinetics of potato using a self-designed cabinet dryer. *Cogent Food. Agric.* 1(1), 1036485.
- Jain, D. and Pathare, P. B. 2007. Study the drying kinetics of open sun drying of fish. *J. Food Eng.* 78(4):1315-1319.
- James, O. and Emmanuel, U. C. 2011. Comparative studies on the protein and mineral composition of some selected Nigerian vegetables. *Afr. J. Food Sci.* 5(1): 22-5.
- Jayaraman, K. S. and Gupta, D. D. 2020. Drying of fruits and vegetables. In *Handbook of ind. dry.* CRC Press.643-690 p
- Jayasooriya, S.D., Bhandari, B.R., Torley, P., and Arcy, B.R. 2004. Effect of high power ultrasound waves on properties of meat: a review. *Int. J. Food Prop.* 7(2): 301-319.
- Jeevarathinam, G., Pandiselvam, R., Pandiarajan, T., Preetha, P., Krishnakumar, T., Balakrishnan, M., and Amirtham, D. 2022. Design, development, and drying kinetics of infrared-assisted hot air dryer for turmeric slices. *J. Food Process Eng.* 45(6):13876.
- Johnston, C. S., Barkyoub, G. M., and Schumacher, S. S. 2014. Vitamin C supplementation slightly improves physical activity levels and reduces cold incidence in men with marginal vitamin C status: A randomized controlled trial. *Nutri.* 6(7): 2572-2583.
- Jongrungruangchok, S., Bunrathep, S., and Songsak, T. 2010. Nutrients and minerals content of eleven different samples of *Moringa oleifera* cultivated in Thailand. *J. Health Res.* 24: 123-127
- Juan, A. and Juarez, G. 2010. High-power ultrasonic processing: recent developments and prospective advances. *Phys. Procedia.* 3: 35–47.
- Kadam, S.U., Tiwari, B.K. and O'Donnell, C.P. 2015. Effect of ultrasound pre-treatment on the drying kinetics of brown seaweed *Ascophyllum nodosum*. *Ultrasonics sonochem.* 23: 302-307.

- Kale, R. G., Sawate, A. R., Kshirsagar, R. B., Patil, B. M., and Mane, R. 2018. Studies on evaluation of physical and chemical composition of beetroot (*Beta vulgaris L.*). *Int. J. Chem. Stud.* 6(2): 2977-2979.
- Kapil, V., Khambata, R. S., Robertson, A., Caulfield, M. J., and Ahluwalia, A. 2015. Dietary nitrate provides sustained blood pressure lowering in hypertensive patients: a randomized, phase 2, double-blind, placebo-controlled study. *Hypertension.* 65(2): 320-327.
- Karacabey, E. and Buzrul, S. 2017. Modeling and predicting the drying kinetics of apple and pear: Application of the Weibull model. *Chem. Eng. Commun.* 204(5):573-579.
- Kasolo, J. N., Bimenya, G. S., Ojok, L., Ochieng, J., and Ogwal-Okeng, J. W. 2010. Phytochemicals and uses of *Moringa oleifera* leaves in Ugandan rural communities.
- Kassem, M., Harris, S. A., Spelsberg, T. C., and Riggs, B. L. 1996. Estrogen inhibits interleukin-6 production and gene expression in a human osteoblastic cell line with high levels of estrogen receptors. *J. Bone. Mineral Res.* 11(2):193-199.
- Kaveh, M., Abbaspour-Gilandeh, Y., and Nowacka, M. 2021. Comparison of different drying techniques and their carbon emissions in green peas. *Chem. Eng. Process. Process Intensif.* 160:108274.
- Kaveh, M., Abbaspour-Gilandeh, Y., Chayjan, R. A., Taghinezhad, E., and Mohammadigol, R. 2018. Mass transfer, physical, and mechanical characteristics of terebinth fruit (*Pistacia atlantica L.*) under convective infrared microwave drying. *Heat. Mass Trans.* 54:1879-1899.
- Kaveh, M. and Chayjan, R. A. 2014. Modeling drying characteristics of terebinth fruit under infrared fluidized bed condition. *Agron. Res. Moldavia,* 4(160)

- Kilic, A. (2009). Low temperature and high velocity (LTHV) application in drying: Characteristics and effects on the fish quality. *J. Food Eng.* 91(1):173-182.
- Kipcak, A. S. 2017. Microwave drying kinetics of mussels (*Mytilus edulis*). *Res. Chem. Intermediates.* 43: 1429-1445.
- Kipcak, A. S. and Doymaz, İ. 2020. Microwave and infrared drying kinetics and energy consumption of cherry tomatoes. *Chem. Ind. Chem. Eng. Q.* 26(2): 203-212.
- Kiranoudis, C. T., Maroulis, Z. B., Marinos-Kouris, D., and Tsamparlis, M. 1997. Design of tray dryers for food dehydration. *J. Food Eng.* 32(3): 269-291
- Knorr, D., Zenker, M., Heinz, V., and Lee, D.U. 2004. Applications and potential of ultrasonics in food processing. *Trends Food Sci. Technol.* 15: 261-266.
- Koh, L. L. A., Ashokkumar, M., and Kentish, S. 2012. The Effect of Feed Pre-treatment by Ultrasound on Dairy Ultrafiltration Membranes. *Procedia Eng.* 44:1910-1912.
- Koss-Mikołajczyk, I., Kusznierevicz, B., Wiczkowski, W., Sawicki, T., and Bartoszek, A. 2019. The comparison of betalain composition and chosen biological activities for differently pigmented prickly pear (*Opuntia ficus-indica*) and beetroot (*Beta vulgaris*) varieties. *Int. J. Food Sci. Nutri.* 70(4):442-452.
- Kouzeh-Kanani, M., Van Zuilichem, D. J., Roozen, J. P., and Pilnik, W. 1982. A modified procedure for low temperature infrared radiation of soybeans. II. Inactivation of lipoxygenase and keeping the quality of full-fat-flour. *Lebensmittel-Wissenschaft und-Technologie.*
- Kowalski, S. J., Pawłowski, A., Szadzińska, J., Łechtańska, J., and Stasiak, M. 2016. High power airborne ultrasound assist in combined drying of raspberries. *Innov. Food Sci. Emerg. Technol.* 34:225-233.

- Krasulya, O., Bogush, V., Trishina, V., Potoroko, I., Khmelev, S., Sivashanmugam, P., and Anandan, S. 2016. Impact of acoustic cavitation on food emulsions. *Ultrasonics Sonochem.* 30: 98-102.
- Krishnamurthy, K., Khurana, H. K., Soojin, J., Irudayaraj, J., and Demirci, A. 2008. Infrared heating in food processing: an overview. *Compre. Rev. Food Sci. Food Saf.* 7(1): 2-13..
- Krokida, M. K., Karathanos, V. T., Maroulis, Z. B., and Marinou-Kouris, D. 2003. Drying kinetics of some vegetables. *J. Food Eng.* 59(4):391-403.
- Kugler, F., Stintzing, F., and Carle, R. 2007. Evaluation of the antioxidant capacity of betalainic fruits and vegetables. *J. Appl. Bot. Food Qual.* 81:69-76.
- Kumar, C., M. A., Karim, and Mohammad U. H. 2014. Intermittent drying of food products: A critical review. *J. Food Eng.* 121(0):48-57.
- Kumar, C. and Karim, M. A. 2019. Microwave-convective drying of food materials: a critical review. *Crit. Rev. Food Sci. Nutr.* 59(3): 379–394
- Kumar, D., Prasad, S., and Murthy, G. S. 2014. Optimization of microwave-assisted hot airdrying conditions of okra using response surface methodology. *J. Food Sci. Technol.* 51: 221-232.
- Kumar, S. and Brooks, M. S. L. 2018. Use of red beet (*Beta vulgaris L.*) for antimicrobial applications—a critical review. *Food. bioprocess technol.* 11: 17-42.
- Kusuma, H. S., Izzah, D. N., and Linggajati, I. W. L. 2023. Microwave-assisted drying of *Ocimum sanctum* leaves: analysis of moisture content, drying kinetic model, and techno-economics. *Appl. Food Res.* 3(2), 100337.
- La Fuente, C. I. A., Zabalaga, R. F., and Tadini, C. C. 2017. Combined effects of ultrasound and pulsed-vacuum on air-drying to obtain unripe banana flour. *Innov. Food Sci. Emerg. Technol.* 44:123-130.

- Lakshmipriya Gopalakrishnan., Kruthi Doriyaa., and Devarai Santhosh Kumara. 2016. Moringa oleifera: A review on nutritive importance and its medicinal application. *Food Sci. Hum. Wellness*. 5: 49-56.
- Lebrun, P., Krier, F., Mantanus, J., Grohganz, H., Yang, M., Rozet, E., and Hubert, P. 2012. Design space approach in the optimization of the spray-drying process. *European J. Pharma. Biopharma*. 80(1):226-234.
- Lee, S.C., Jeong, S.M., Kim, S.Y., Park, H.R., Nam, K.C., and Ahn, D.U. 2006. Effect of far-infrared radiation and heat treatment on the antioxidant activity of water extracts from peanut hulls. *Food chem*. 94(4): 489-493.
- Leemans, V. and Destain, M.F. 2009. Ultrasonic internal defect detection in cheese. *J. Food Engg*. 90(3): 333–340.
- Lewicki, P. P. and Pawlak, G. 2003. Effect of drying on microstructure of plant tissue. *Drying Technol*. 21(4):657-683.
- Li, X., Zhang, A., Atungulu, G. G., Delwiche, M., Milczarek, R., Wood, D., and Pan, Z. 2014. Effects of infrared radiation heating on peeling performance and quality attributes of clingstone peaches. *LWT-Food Sci. Technol*. 55(1): 34-42.
- Lillard, H.S. 1993. Bactericidal effect of chlorine on attached *Sallmonellae* with and without sonification. *J. Food Protect*. 56: 716-717.
- Liu, Y., Duan, Z., and Sabadash, S. 2020. Effect of hot air drying temperatures on drying characteristics and physicochemical properties of beetroot (*Beta vulgaris*) slices. In *IOP Conf. Series: Earth. Environ. Sci.IOP Publishing*.615(1): 012099
- Lopez, P., Vercet, A., and Burgos, J. 1998. Inactivation of tomato pectic enzymes by manothermosonication. *Zeitschrift für Lebensmittel Untersuchung und Forschung*, 207:249-252
- Lopez, P. and Burgos, J. 1995. Peroxidase stability and reactivation after heat treatment and manothermosonication. *J. Food Sci*. 60(3): 451-455.

- Lopez-Rodriguez, N. A., Sanchez-Ortiz, L. K., Reynoso-Camacho, R., Riesgo-Escovar, J. R., and Loarca-Piña, G. 2023. Chronic consumption of moringa leaf powder (*moringa oleifera*) concentration-dependent effects in a *Drosophila melanogaster* type 2 diabetes model. *J. Ameri. Nutri. Assoc.* 42(3): 285-294.
- Lu, H., Guo, X., Gong, X., Huang, W., Ma, S., and Wang, C. 2009. Study of the flowability of pulverized coals. *Energy & fuels.* 23(11): 5529-5535.
- MacConnell, J. D. 1972. Low temperature catalytic heaters: the cataheat range of flameless combustion systems. *Plat. Metals Rev.* 16(1):16-21.
- Mahiuddin, M., Khan, M. I. H., Kumar, C., Rahman, M. M., and Karim, M. A. 2018. Shrinkage of food materials during drying: Current status and challenges. *Comp. Rev. in Food Sci. Food Saf.* 17(5):1113-1126.
- Majdi, H., Esfahani, J. A., and Mohebbi, M. 2019. Optimization of convective drying by response surface methodology. *Comput. Electr. Agric.*, 156: 574-584.
- Manas, P., Munoz, B., Sanz, D., and Condon, S. 2006. Inactivation of lysozyme by ultrasonic waves under pressure at different temperatures. *Enzyme and Microbial Technol.* 39: 1177-1182.
- Manson, T.J., Paniwnyk, L., and Lorimer, J.P. 1996. The use of ultrasound in food technology. *Ultrasonics sonochem.* 3(5): 253 -260.
- Mason, T.J. 1999. Power ultrasound in food processing- The way forward. *In: Povey, M.J.W. and Mason, T.J. (ed.). Blackie Academic and Professional, LonD.*, 105-126p
- Mason, T. J. 2002. Uses of power ultrasound in chemistry and processing. *Appl. sonochem.*
- Maynard, A. J. 1970. *Methods in Food Analysis.* Academic Press, New York.176p.

- Mbah B.O, Eme P.E and Paul A.E 2012. Effect of drying techniques on the proximate and other nutrient composition of *Moringa oleifera* leaves from two areas in Eastern Nigeria. *Pakistan J. Nutr.* 11(11):1044-1048.
- Mbikay, M. 2012. Therapeutic potential of *Moringa oleifera* leaves in chronic hyperglycemia and dyslipidemia: a review. *Frontiers in pharmacol.* 3:24.
- McClements, D.J. 1995. Advances in the application of ultrasound in food analysis and processing. *Trends Food Sci. Technol.* 6: 293-299.
- McClements, D. J. 2005. Theoretical analysis of factors affecting the formation and stability of multilayered colloidal dispersions. *Langmuir.* 21(21):9777-9785.
- McClements, D.J. and Povey, M.J.W. 1987. Solid fat content determination using ultrasonic velocity measurements. *Int. J. of Food Sci. and Technol.* 22(5): 491–499.
- Mishra, S. P., Singh, P., and Singh, S. 2012. Processing of *Moringa oleifera* leaves for human consumption. *Bulletin of Environ. Pharmacol. life sci.* 2(1), 28-31.
- Mizrach, A., Galili, N., Rosenhouse, G., and Teitel, D.C. 1991. Acoustical, mechanical and quality parameters of winter grown melon tissue. *Trans. of the ASABE.* 34(5): 2135–2138.
- Mohsenin, N. N. 1970. Physical Properties of Plant and Animal Materials.1st ed.*Gordon and Breach Sci. Publishers, New York.*
- Mohsenin, N. N. 1986. Physical properties of Plant and Animal Materials.2nd ed. *Gordon and Breach Science Publishers, New York.*
- Mongpraneet, S., Abe, T., and Tsurusaki, T. 2002. Accelerated drying of welsh onion by far infrared radiation under vacuum conditions. *J. Food Eng.* 55(2):147-156.
- Mongpraneet, S., Abe, T., and Tsurusaki, T. 2004. Kinematic model for a far infrared vacuum dryer. *Drying Technol.* 22(7):1675-1693.

- Moradi, H., Fattorini, S., and Oldeland, J. 2020. Influence of elevation on the species–area relationship. *J. Biogeogr.* 47(9):2029-2041.
- Mothibe, K. J., Zhang, M., Mujumdar, A. S., Wang, Y. C., and Cheng, X. 2014. Effects of ultrasound and microwave pretreatments of apple before spouted bed drying on rate of dehydration and physical properties. *Drying Technol.* 32(15): 1848-1856.
- Mothibe, K. J., Zhang, M., Nsor-atindana, J., and Wang, Y. C. 2011. Use of ultrasound pretreatment in drying of fruits: Drying rates, quality attributes, and shelf life extension. *Drying Technol.* 29(14):1611-1621.
- Moyo, B., Masika, P., Hugo, A., and Muchenje, V. 2011. Nutritional characterization of Moringa (*Moringa oleifera* Lam.) leaves. *Afr J. Biotechnol* 10: 12925-12933.
- Mudgal, D., Singh, S., and Singh, B. R. 2022. Nutritional composition and value added products of beetroot: A review. *J. Curr. Res. Food Sci.* 3(1):01-09.
- Murali, S., Delfiya, D. A., Kumar, K. S., Kumar, L. R., Nilavan, S. E., Amulya, P. R., Soumya, V., Alfiya, P. V., and Samuel, M. P. 2021. Mathematical modeling of drying kinetics and quality characteristics of shrimps dried under a solar–LPG hybrid dryer. *J. Aquat. Food Prod. Technol.* 30(5):561-578.
- Nadeem, M., Javid, A., Abdullah, M., Arif, A. M., and Mahmood, T. 2012. Improving nutritional value of butter milk by blending with dry leaves of *Moringa oleifera*. *Pakistan J. Nutr.* 11(9): 714.
- Namsanguan, Y., Tia, W., Devahastin, S., and Soponronnarit, S. 2004. Drying kinetics and quality of shrimp undergoing different two-stage drying processes. *Drying Technol.* 22(4): 759-778.
- Negi, P. S. and Roy, S. K. 2000. Effect of blanching and drying methods on β -carotene, ascorbic acid and chlorophyll retention of leafy vegetables. *LWT-Food Sci. Technol.* 33(4): 295-298.

- Ngamwonglumlert, L., Devahastin, S., and Chiewchan, N. 2017. Molecular structure, stability and cytotoxicity of natural green colorants produced from *Centella asiatica* L. leaves treated by steaming and metal complexations. *Food Chem*, 232: 387-394.
- Nistor, O. V., Seremet, L., Andronoiu, D. G., Rudi, L., and Botez, E. 2017. Influence of different drying methods on the physicochemical properties of red beetroot (*Beta vulgaris* L. var. *Cylindra*). *Food Chem*. 236:59-67.
- Nowacka, M., Rybak, K., Trusinska, M., Karwacka, M., Matys, A., Pobiega, K., and Witrowa-Rajchert, D. 2024. Chosen Biochemical and Physical Properties of Beetroot Treated with Ultrasound and Dried with Infrared–Hot Air Method. *Appl. Sci.* 14(8): 3507.
- Nowak, D., and Lewicki, P. P. 2005. Quality of infrared dried apple slices. *Drying Technol.* 23(4): 831-846.
- Nowak, D. and Lewicki, P. P. 2004. Infrared drying of apple slices. *Innov. Food Sci. Emerg. Technol.* 5(3):353-360.
- Odoh, U. E., Ezugwu, C. O., and Okoro, E. C. 2012. Quantitative phytochemical, proximate/nutritive composition analysis of Beta Vulgaris Linnaeus (*Chenopodiaceae*). *Planta Medica*, 78(11):1116.
- Odonnell, C.P., Tiwari, B.K., Bourke, P., and Cullen, P. J. 2010. Effect of ultrasonic processing on food enzymes of industrial importance. *Trends in Food Sci. and Technol.* 21: 358-367.
- Oduro, I., Ellis, W.O., and Owusu, D. 2008. Nutritional potential of two leafy vegetables: *Moringa oleifera* and *Ipomoea batatas* leaves, *Sci. Res. Essays* 3: 57- 60.
- Oliveira, F. I., Gallão, M. I., Rodrigues, S., and Fernandes, F. A. N. 2011. Dehydration of Malay apple (*Syzygium malaccense* L.) using ultrasound as pre-treatment. *Food. Bioproc. Technol.* 4:610-615.

- Oluwatoyin Orhuamen, E., Kehinde Stephen, O., and Christiana Oreoluwa, A. 2012. Proximate analysis of fresh and dry leaves of *Telfairia occidentalis* (Hook. f.) and *Talinum triangulare* (Jacq.) Willd. *Hrvatski časopis za prehrambenu tehnol. biotehnol. nutri.* 7(3-4): 188-191.
- Onwude, D. I., Hashim, N., Abdan, K., Janius, R., and Chen, G. 2018a. Investigating the influence of novel drying methods on sweet potato (*Ipomoea batatas* L.): Kinetics, energy consumption, color, and microstructure. *J. Food Process Eng.* 41(4):12686.
- Onwude, D. I., Hashim, N., Abdan, K., Janius, R., and Chen, G. 2018b. Modelling the mid-infrared drying of sweet potato: Kinetics, mass and heat transfer parameters, and energy consumption. *Heat and Mass Trans.* 54, 2917–2933.
- Ozbek, B. and Ulgen, K.O. 2000. The stability of enzymes after sonication. *Process Biochem.* 35:1037- 1043.
- Özdemir, M. B., Aktaş, M., Şevik, S., and Khanlari, A. 2017. Modeling of a convective-infrared kiwifruit drying process. *Int. J. Hydrogen Energy.* 42(28): 18005-18013.
- Ozuna, C., Cárcel, J. A., García-Pérez, J. V., and Mulet, A. 2011. Improvement of water transport mechanisms during potato drying by applying ultrasound. *J. Sci. Food and Agric.* 91(14): 2511-2517.
- Paciulli, M., Palermo, M., Chiavaro, E., and Pellegrini, N. 2017. Chlorophylls and colour changes in cooked vegetables. *Fruit and Veg. Phytochem.: Chem. and Hum. Health, 2nd Ed.* 703-719.
- Padayachee, B. and Baijnath, H. 2012. An overview of the medicinal importance of Moringaceae. *J. Med. Plant. Res.* 6(48): 5831-5839.
- Pagan, R., Manas, P., Alvarez, I., and Condon, S. 1999. Resistance of *Listeria monocytogenes* to ultrasonic waves under pressure at sublethal

(manosonication) and lethal (manother-mosonication) temperatures. *Food Microbiol.* 16: 139-148.

- Pal, U. S., Khan, M. K., and Mohanty, S. N. 2008. Heat pump drying of green sweet pepper. *Drying technol.* 26(12): 1584-1590.
- Pan, Z. and Atungulu, G.G. 2010. Infrared heating for food and agricultural processing. *CRC Press.*
- Pei, Y., Li, Z., Xu, W., Song, C., Li, J., and Song, F. 2021. Effects of ultrasound pretreatment followed by far-infrared drying on physicochemical properties, antioxidant activity and aroma compounds of saffron (*Crocus sativus L.*). *Food Biosci.* 42:101186.
- Perveen, S., Akhtar, S., Qamar, M., Saeed, W., Suleman, R., Younis, M., and Esatbeyoglu, T. 2024. The effect of *Lactiplantibacillus plantarum* fermentation and blanching on microbial population, nutrients, anti-nutrients and antioxidant properties of fresh and dried mature *Moringa oleifera* leaves. *J. Agric. Food Res.* 18:101366.
- Phan, L. H. N. Nguyen, T. N. T and Le, V. V. M. 2012. Ultrasonic treatment of mulberry (*Morus alba*) mash in the production of juice with high antioxidant level. *J. Sci. Technol.* 50: 204-209
- Piepho, H.P. and J. Möhring. 2011. On estimation of genotypic correlations and their standard errors by multivariate REML using the MIXED procedure of the SAS system. *Crop Sci.* 51(6):2449–2454
- Potapovich, M.V., Eremin, A.N., and Metelitzka, D.I. 2003. Kinetics of catalase inactivation induced by ultrasonic cavitation. *Appl. Biochem. and Microbiol.* 39:140-146.
- Povey, M.J.W. and Mason, T.J. 1998. Ultrasound in Food Processing. *Springer Blackie A & P, Lon.*

- Pradhan, S. K., Holopainen, J.K., Weisell, J., and Heinonen-Tanski, H. 2010. Human urine and wood ash as plant nutrient for red beet (*Beta vulgaris*) cultivation: impacts on yield quality. *J. Agric. Food Chem.* 58:2034-2039.
- Prasertsan, S. and Saen-Saby, P. 1998. Heat pump drying of agricultural materials. *Drying Technol.* 16(1-2):235-250.
- Prashob, K., Aniesrani Delfiya, D. S., Murali, S., Alfiya, P. V., and Samuel, M. P. 2022. Drying of shrimp using hot air-assisted continuous infrared drying system. *J. Food Proc. Preserv.* 46(9):16364.
- Qu, H., Masud, M. H., Islam, M., Khan, M. I. H., Ananno, A. A., and Karim, A. 2022. Sustainable food drying technologies based on renewable energy sources. *Crit. Rev. Food Sci. Nutr.* 62(25):6872-6886.
- Raichel, D. R. 2000. *The Science and Applications of Acoustics.* Springer, New York. 178p.
- Rajangam, N., Mayorga, L., and Vasquez, W. 2001. Utilization of marango (*Moringa oleifera*) as fresh forage for cattle. *J. Agric. Food Chem.* 28:1313-1315.
- Ranganna, S. 1986. *Handbook of analysis and quality control for fruit and vegetable products. 2 nd ed. McGraw Hill Publ.*
- Rashid, M. T., Liu, K., Jatoi, M. A., Safdar, B., Lv, D., and Wei, D. 2022. Developing ultrasound-assisted hot-air and infrared drying technology for sweet potatoes. *Ultrasonics Sonochem.* 86: 106047.
- Raso, J., Palop, A., and Condon, S. 1998. Inactivation of *Bacillus subtilis* spores by combining ultrasound waves under pressure and mild heat treatment. *J. Appl. Microbiol.* 85: 849-854.
- Rastogi, N. K. 2023. Developments in osmotic dehydration of foods. In *Dry. Technol. Food Proc.* 241-304 pp. Woodhead Publishing.
- Ratti, C. and Mujumdar, A. S. 1995. Simulation of packed bed drying of foodstuffs with airflow reversal. *J. Food Eng.* 26(3):259-271.

- Rawson, A. Tiwari, B.K. Patras, A. Brunton, N. Brennan, C. Cullen, P.J., and O'Donnell, C. Effect of thermosonication on bioactive compounds in watermelon juice. *Food Res. Int.* 44 (2011):1168–1173.
- Rawson, F. F. 1998. An introduction to ultrasonic food cutting. *Ultrasound in food process.* 254.
- Riener, J., Noci, F., Cronin, D.A., Morgan, D.J., and Lyng, J.G. 2009. Characterisation of volatile compounds generated in milk by high intensity ultrasound. *Int. Dairy J.* 19: 269-272.
- Roobab, U., Aadil, R.M., Madni, G.M., and Bekhit, A.E. 2018. The impact of nonthermal technologies on microbiological quality of juices: a review. *Compre. Rev. Food Sci. Technol.* 17: 437-457.
- Rosenthal. 1992. Prologue: Electromagnetic Radiation. *Electromagnetic Radiat. in Food Sci.* 1-8.
- Roy, D., Moughan, P. J., Ye, A., Hodgkinson, S. M., Stroebinger, N., Li, S., and Singh, H. 2022. Structural changes in milk from different species during gastric digestion in piglets. *J. Dairy Sci.* 105(5): 3810-3831.
- Roy, S., Thomson, S., Chen, T., Shin, R., Pauls, A., Eisner, J., and Van Durme, B. 2024. Benchclap: A benchmark for evaluating language models on syntactic and semantic parsing. *Adv. Neural Inf. Process. Syst.* 36.
- Rudra, S. G., Sarkar, B. C., and Shivhare, U. S. 2008. Thermal degradation kinetics of chlorophyll in pureed coriander leaves. *Food. Bioprocess Technol.* 1: 91-99.
- Sacilik, K. A. M. İ. L., Tarimci, C., and Colak, A. H. M. E. T. 2006. Dielectric properties of flaxseeds as affected by moisture content and bulk density in the radio frequency range. *Biosyst. Eng.* 93(2):153-160.
- Sadasivam, S. 1996. Biochemical methods. *New age int.*
- Sadasivam, S. and Manickam, A. 1996. Biochemical Methods (2nd Edn.), *New Age Int. Publ., New Delhi, India.*

- Sadeghi, E., Movagharnejad, K., and Haghghi Asl, A. 2019. Mathematical modeling of infrared-dried kiwifruit slices under natural and forced convection. *Food Sci. Nutr.* 7(11):3589–3606.
- Sadeghi, E., Movagharnejad, K., and Haghghi Asl, A. 2020. Parameters optimization and quality evaluation of mechanical properties of infrared radiation thin layer drying of pumpkin samples. *J. Food Process Eng.* 43(2):13309.
- Sadin, R., Chegini, G. R., and Khodadadi, M. 2014. Development and performance evaluation of a combined infrared and hot air dryer. *J. Biol. Environ. Sci.* 8(22).
- Sadin, R., Chegini, G. R., and Khodadadi, M. 2017. Drying characteristics and modeling of tomato thin layer drying in combined infrared-hot air dryer. *Agric. Eng. Int. CIGR J.* 19(1):150– 157.
- Sahay, K. M. and Singh, K. K. 1996. Unit operations of agricultural processing. *Vikas Publishing House Pvt. Ltd.*
- Saini, R. K., Harish Prashanth, K. V., Shetty, N. P., and Giridhar, P. 2014. Elicitors, SA and MJ enhance carotenoids and tocopherol biosynthesis and expression of antioxidant related genes in *Moringa oleifera* Lam. leaves. *Acta physiologiae plantarum*, 36:2695-2704.
- Sakai, N. and Hanzawa, T. 1994. Applications and advances in far-infrared heating in Japan. *Trends. Food Sci. Technol.* 5(11): 357-362.
- Sakare, P., Prasad, N., Thombare, N., Singh, R., and Sharma, S. C. 2020. Infrared drying of food materials: Recent advances. *Food Eng.Rev.* 12(3): 381-398.
- Sala, F.J., Burgos, J., Condon, S., Lopez, P. and Raso, J. 1995. Effect of heat and ultrasound on microorganisms and enzymes. In: Gould, G.W. (ed), *New Methods. Food Preserv.* Blackie Academic and Professional, London. 176-204 p

- Salazar, J., Turo, A., Chavez, J.A., and Garcia, M.J. 2004. Ultrasonic inspection of batters for on-line process monitoring. *Ultrasonics*. 42(1): 155–159.
- Salehi, F. and Kashaninejad, M. 2018. Mass transfer and color changes kinetics of infrared-vacuum drying of grapefruit slices. *Int. J. Fruit Sci.* 18(4):394-409.
- Sandu, C. 1986. Infrared radiative drying in food engineering: a process analysis. *Biotechnol. prog.* 2(3): 109-119.
- Satwase, A. N., Pandhre, G. R., Sirsat, P. G., and Wade, Y. R. 2013. Studies on Drying Characteristic and Nutritional Composition of Drumstick Leaves by Using Sun, Shadow, Cabinet and Oven Drying Methods. 2: 584
- Schneider, Y., Zahn, S., Schindler, C., and Rohm, H. 2009. Ultrasonic excitation affects friction interactions between food materials and cutting tools. *Ultrasonics*. 49: 588–593.
- Scouten, A.J. and Beuchat, L.R. 2002. Combined effects of chemical, heat and ultrasound treatments to kill salmonella and e. colio157:H7 on alfalfa seeds. *J. Appl. Microbiol.* 92: 668- 674.
- Si, X., Chen, Q., Bi, J., Yi, J., Zhou, L., and Wu, X. (2016). Infrared radiation and microwave vacuum combined drying kinetics and quality of raspberry. *J. Food Process Eng.* 39(4): 377-390.
- Singh, L., Singh, B., Kewlani, P., Belwal, T., Bhatt, I. D., Nandi, S. K., and Bisht, A. K. (2022). Process optimization and bioactive compounds quantification from *Dactylorhiza hatagirea* tuber for alleviating glycemic and oxidative stress. *Journal of Applied Research on Med. Aromat. Plants*, 26: 100352.
- Singh, S., Gill, R. S., Hans, V. S., and Singh, M. 2021. A novel active-mode indirect solar dryer for agricultural products: Experimental evaluation and economic feasibility. *Energy*. 222: 119956.

- Sodha, M. S. and Kumar, A. 1987. A mathematical model for A deep-bed grain drying system. *Int. J. energy res.* 11(1):95-111.
- Soysal, Y., Öztekin, S., and Eren, Ö. 2007. Microwave drying of parsley: modelling, kinetics, and energy aspects. *Biosyst. Eng.* 93(4):403-413.
- Soysal, Y. 2004. Microwave drying characteristics of parsley. *Biosyst. Eng.* 89(2):167-173.
- Srivastava, A., Anand, A., Shukla, A., Kumar, A., Buddhi, D., and Sharma, A. 2021. A comprehensive overview on solar grapes drying: Modeling, energy, environmental and economic analysis. *Sustain. Energy Technol. Assess.* 47:101513.
- Subadra, S., Monica, J., and Dhabhai, D. 1997. Retention and storage stability of beta-carotene in dehydrated drumstick leaves (*Moringa oleifera*). *Int. J. Food Sci. Nutr.* 48(6):373-379.
- Šumić, Z., Vakula, A., Tepić, A., Čakarević, J., Vitas, J., and Pavlić, B. 2016. Modeling and optimization of red currants vacuum drying process by response surface methodology (RSM). *Food chem.* 203: 465-475.
- Sun, D.W. and Li, B. 2003. Microstructure change of potato tissues frozen by ultrasound – assisted immersion freezing. *J. Food Engg.* 57 (4): 337-345.
- Sun, J., Hu, X., Zhao, G., Wu, J., Wang, Z., Chen, F., and Liao, X. 2007. Characteristics of thin-layer infrared drying of apple pomace with and without hot air pre-drying. *Food sci. Technol. Int.* 13(2): 91-97.
- Szadzińska, J., Kowalski, S. J., and Stasiak, M. (2016). Microwave and ultrasound enhancement of convective drying of strawberries: Experimental and modeling efficiency. *Int. J. Heat. Mass Transfer.* 103:1065-1074.
- Szadzińska, J., Mierzwa, D., Pawłowski, A., Musielak, G., Pashminehazar, R., and Kharaghani, A. 2020. Ultrasound-and microwave-assisted intermittent drying of red beetroot. *Dry. Technol.*

- Szadzińska, J., Mierzwa, D., Pawłowski, A., Musielak, G., Pashminehazar, R., and Kharaghani, A. 2020. Ultrasound-and microwave-assisted intermittent drying of red beetroot. *Drying Technol.*
- Szadzińska, J., Łechtańska, J., Kowalski, S. J., and Stasiak, M. 2017. The effect of high power airborne ultrasound and microwaves on convective drying effectiveness and quality of green pepper. *Ultrasonics sonochem.* 34: 531-539.
- Tahiliani, P. and Kar. A. 2000. Role of Moringa oleifera leaf extract in the regulation of thyroid hormone status in adult male and female rats. *Pharmacol Res.* 4: 319-323.
- Tapaneyasin, R., Devahastin, S., and Tansakul, A. 2005. Drying methods and quality of shrimp dried in a jet-spouted bed dryer. *J. Food Process Eng.* 28(1): 35-52.
- Tekin Cakmak, Z. H., Kayacan Cakmakoglu, S., Avcı, E., Sagdic, O., and Karasu, S. (2021). Ultrasound-assisted vacuum drying as an alternative drying method to increase drying rate and bioactive compounds retention of raspberry. *J. Food Process. Preserv.* 45(12): e16044.
- Therdthai, N. and Zhou, W. 2009. Characterization of microwave vacuum drying and hot air drying of mint leaves (*Mentha cordifolia* Opiz ex Fresen). *J. Food Eng.* 91(3), 482-489.
- Tian, Y., Zhao, Y., Huang, J., Zeng, H., and Zheng, B. 2016. Effects of different drying methods on the product quality and volatile compounds of whole shiitake mushrooms. *Food chem.* 197:714-722.
- Tirawanichakul, S., Phatthalung, W. N., and Tirawanichakul, Y. 2008. Drying strategy of shrimp using hot air convection and hybrid infrared radiation/hot air convection. *Walailak J. Sci. Technol. (WJST).* 5(1): 77-100.
- Tiwari, B. K., O'donnell, C. P., and Cullen, P. J. 2009. Effect of sonication on retention of anthocyanins in blackberry juice. *J. of Food Eng.* 93(2): 166-171.

- Tiwari, B. K., O'donnell, C. P., Patras, A., Brunton, N., and Cullen, P. J. 2009. Anthocyanins and color degradation in ozonated grape juice. *Food. chem. toxicol.* 47(11): 2824-2829.
- Toğrul, İ. T. and Pehlivan, D. 2004. Modelling of thin layer drying kinetics of some fruits under open-air sun drying process. *J. Food Eng.* 65(3): 413-425.
- Toshniwal, U. and Karale, S. R. 2013. A review paper on solar dryer. *Int. J. Eng.* 3:896–902.
- Trusinska, M., Drudi, F., Rybak, K., Tylewicz, U., and Nowacka, M. 2023. Effect of the pulsed electric field treatment on physical, chemical and structural changes of vacuum impregnated apple tissue in Aloe Vera juices. *Foods.* 12(21): 3957.
- Tyagi, L., Sharma, G. P., Verma, R. C., Jain, S. K., Murdia, L. K., and Mathur, S. M. 2020. Infrared heating in food processing: An overview. *IJCS*, 8(3):327-336.
- Tzempelikos, D. A., Vouros, A. P., Bardakas, A. V., Filios, A. E., and Margaris, D. P. 2014. Case studies on the effect of the air drying conditions on the convective drying of quinces. *Case Stud. Therm. Eng.* 3, 79-85.
- Ueno, S., Ristic, R.I., Higaki, K., and Sato, K. 2003. In situ studies of ultrasound – stimulated fat crystallization using synchrotron radiation. *The J. Phys. Chem.* 107 (21): 4927-4935.
- Umaña, M., Calahorro, M., Eim, V., Rosselló, C., and Simal, S. 2022. Measurement of microstructural changes promoted by ultrasound application on plant materials with different porosity. *Ultrasonics Sonochem.* 88:106087.
- Valero, M., Recrosio, N., Saura, D., Munoz, N., Marti, N. and Lizama, V. 2007. Effects of ultrasonic treatments in orange juice processing. *J. Food Engg.* 80: 509-516.

- Váli, L., Stefanovits-Bányai, É., Szentmihályi, K., Fébel, H., Sárdi, É., Lugasi, A., and Blázovics, A. 2007. Liver-protecting effects of table beet (*Beta vulgaris* var. *rubra*) during ischemia-reperfusion. *Nutr.* 23(2):172-178.
- Vega-Gálvez, A., Di Scala, K., Rodríguez, K., Lemus-Mondaca, R., Miranda, M., López, J., and Perez-Won, M. 2009. Effect of air-drying temperature on physico-chemical properties, antioxidant capacity, colour and total phenolic content of red pepper (*Capsicum annuum*, L. var. *Hungarian*). *Food chem.* 117(4): 647-653.
- Vega-Mercado, H., Gongora-Nieto, M. M., and Barbosa-Canovas, G. V. 2001. Advances in dehydration of foods. *J. Food Eng.* 49: 271–289
- Vercet, A., Burgos, J., Crelier, S., and Lopez-Buesa, P. 2001. Inactivation of protease and lipase by ultrasound. *Innov. Food Sci. and Technol.* 2: 139-150.
- Vercet, A., Sanchez, C., Burgos, J., Montanes, L., and Lopez, B.P. 2002. The effects of manothermosonication on tomato pectic enzymes and tomato paste rheological properties. *J. Food Engg.* 53(3): 273-278.
- Vidyarthi, S., Li, X., and Pan, Z. 2019. Peeling of tomatoes using infrared heating technology. *Tomato chem., ind. processing and prod. dev.* 180-200.
- Villamiel, M., Hamersveld, E.H., and DeJong, P. 1999. Effect of ultrasound processing on quality of dairy products. *Milchwissenschaft.* 54: 69-73.
- Virone, C., Kramer, H.J.M., Rosmalen, G.M., Stoop, A.H., and Bakker, T.W. 2006. Primary nucleation induced by ultrasonic cavitation. *J. Crystal Growth.* 1: 9- 15.
- Vishwanathan, K. H., Hebbar, H. U., and Raghavarao, K. S. M. S. 2010. Hot air assisted infrared drying of vegetables and its quality. *Food Sci. Technol. Res.* 16(5):381-388.

- Vo, H. D. and Le, V. V. M. 2014. Optimization of ultrasonic treatment of rose myrtle mash in the extraction of juice with high antioxidant level. *Int. Food Res. J.* 21(6): 2331.
- Wang, J., Ding, J., Abulimiti, A., and Cai, L. 2018. Quantitative estimation of soil salinity by means of different modeling methods and visible-near infrared (VIS–NIR) spectroscopy, Ebinur Lake Wetland, Northwest China. *PeerJ.* 6:4703.
- Wang, J. and Sheng, K. 2006. Far-infrared and microwave drying of peach. *LWT-Food Sci. Technol.* 39(3):247-255.
- Wang, L., Xu, B., Wei, B., and Zeng, R. 2018. Low frequency ultrasound pretreatment of carrot slices: Effect on the moisture migration and quality attributes by intermediate-wave infrared radiation drying. *Ultrasonics Sonochem.* 40:619-628.
- Wang, W., Xing, W., Shao, Q., Yu, Z., Peng, S., Yang, T., and Singh, V. P. 2013. Changes in reference evapotranspiration across the Tibetan Plateau: Observations and future projections based on statistical downscaling. *J. Geophys. Res.: Atmos.* 118(10): 4049-4068.
- Wati, M. and Khabiruddin, M. 2018. Variations in nutritional composition among different selected medicinal plants. *Chem. Sci. Rev. Lett.* 6(21): 88-93.
- Watson, T. 1998. The importance of power ultrasound in cleaning and disinfection in the poultry industry – a case study. In *Ultrasound in Food Processing* (Povey M, Mason TJ, eds), *Lond.: Blackie Acad. Professional.* 144– 150 p
- Wiktor, A., Dadan, M., Nowacka, M., Rybak, K., and Rajchert, W.D. 2019. The impact of combination of pulsed electric field and ultrasound treatment on air drying kinetics and quality of carrot tissue. *Lwt, 110:* 71-79.

- Wintergerst, E. S., Maggini, S., and Hornig, D. H. 2006. Immune-enhancing role of vitamin C and zinc and effect on clinical conditions. *Annals of Nutri. Metabolism*. 50(2) :85-94.
- Wiriya, P. P. P. T., Paiboon, T., and Somchart, S. 2009. Effect of drying air temperature and chemical pretreatments on quality of dried chilli. *Int. Food Res. J.* 16(3): 441-454.
- Wu, H., Hulbert, G.J., and Mount, J.R. 2001. Effects of ultrasound on milk homogenization and fermentation with yogurt starter, *Innov. Food Sci. Emerging Technol.*1: 211 – 218.
- Yadav, G., Gupta, N., Sood, M., Anjum, N., and Chib, A. 2020. Infrared heating and its application in food processing. *The Pharma Innov. J.* 9(2): 142-151.
- Yahya, M., Fahmi, H., Fudholi, A., and Sopian, K. 2018. Performance and economic analyses on solar-assisted heat pump fluidised bed dryer integrated with biomass furnace for rice drying. *Solar Energy*. 174:1058-1067.
- Yaldyz, O. and Ertekyn, C. 2001. Thin layer solar drying of some vegetables. *Drying Technol.* 19(3-4):583-597.
- Yang, R. Y., Chang, L. C., Hsu, J. C., Weng, B. B., Palada, M. C., Chadha, M. L., and Levasseur, V. 2007. Nutritional and Functional Properties of Moringa Leaves– From Germplasm, to Plant, to Food, to Health. *Moringa Leaves: Strategies, Standards and Markets for a better impact on nutrition in Africa*.
- Yang, X. H., Deng, L. Z., Mujumdar, A. S., Xiao, H. W., Zhang, Q., and Kan, Z. 2018. Evolution and modeling of colour changes of red pepper (*Capsicum annuum L.*) during hot air drying. *J. Food Eng.* 231:101-108.
- Yashwant kumar. 2015. Beetroot: A Super Food. *Int. J.Eng. Stud. Tech. approach*. 01:3

- Yildiz, G. and G. Izli. 2019. The effect of ultrasound pretreatment on quality attributes of freeze-dried quince slices: Physical properties and bioactive compounds. *J. Food Process Eng.* 42(5):13223.
- Zhang, W. P., Chen, C., Pan, Z., Xiao, H. W., Xie, L., Gao, Z. J., and Zheng, Z. A. 2020. Design and performance evaluation of a pilot-scale pulsed vacuum infrared drying (PVID) system for drying of berries. *Drying Technol.* 38(10): 1340-1355.
- Zhang, Z.S., Wang, L.J., Li, D., Jiao, S.S., Chen, X.D., and Mao, Z.H. 2008. Ultrasound assisted extraction of oil from flaxseed. *Sep. Puri. Technol.* 62: 192-198.
- Zheng, L. and Sun, D.W. 2006. Innovative applications of power ultrasound during the food freezing process – A review. *Trends Food Sci. Technol.* 17(1): 16-23.
- Zheng, Y., Shi, J., Pan, Z., Cheng, Y., Zhang, Y., and Li, N. 2014. Effect of heat treatment, pH, sugar concentration, and metal ion addition on green color retention in homogenized puree of Thompson seedless grape. *LWT-Food Sci. Technol.* 55(2):595-603.
- Zisu, B. and Chandrapala, J. 2015. High power ultrasound processing in milk and dairy products. *Emerging dairy process. technol-opportunities for the dairy ind.* 149-179.