

REFERENCES

- Andarwulan NF Kusnandar and D. Herawati. 2011. *Food Analysis*. People's Diane. Jakarta.
- Andriyani, D, Utami, PI, Dhani, BA 2010, 'Determining the tannin content of rambutan leaves (*Nephelium lappaceum* L.) by visible ultraviolet spectrophotometry, *Journal of Pharmacy*, Vol.7 August 2010.
- Anita, S. 2009. Study of Physico-chemical Properties, Functional Properties of Carbohydrates, and Antioxidant Activity of Komak Bean Sprout Flour (*Lablab purpureus* (L.) sweet). Essay. Faculty of Agricultural Technology. IPB. Bogor.
- Astawan M. 2011. Functional Foods for Optimal Health. Faculty of Agricultural Technology IPB, Bogor.
- Author N. 2011. Palm Sugar Substitution on Quality and Shelf Life of Pineapple Juice (*Ananas comosus* (L.) Merr.) Queen Varieties with Different Time. Essay. Agrotechnology Study Program, Faculty of Agriculture and Animal Husbandry, Sultan Syarif Kasim State Islamic University, Riau, Pekanbaru.
- BPOM. 2011. Study of Functional Food Product Standardization Process at the Food and Drug Administration. Workshop on the Study of Functional Food Standards. Drug and Food Control Agency, Jakarta.
- Cahyanto H, A. 2018. Antioxidant Activity of Areca Seed Ethanol Extract (*Areca catechu*, L). Pontianak Research and Industrial Standardization Center. BIAM. 14 (02): 70-73. e-ISSN: 2548 -4842.
- Chauliyah, AIN, and Murbawani, EA 2015. Analysis of nutritional content and antioxidant activity of honey pineapple ice cream. *J. Nutrit. College*, 4(2), 628-635.
- Desmiaty, Y, Ratih H, Dewi MA, Agustin, R 2008, 'Determination of Total Tannins in Dutch Teak Leaves (*Guazuma ulmifolia* Lamk) and Blood

- Sambang Leaves (*Excoecaria bicolor* Hassk.) Colorimetrically with Prussian Blue Reagent', *Ortocarpus*, 106 -109.
- Dewi P. 2020. Qualitative and Quantitative Test of Secondary Metabolites of Awar-Awar Leaf Ethanol Extract with UV-VIS Spectrophotometer Method. Pelta Mas College of Pharmacy, Palu. ISSN 2656-8233.
- Directorate General of Plantation. 2015. Plantation Statistics. Jambi Province.
- Dokkedal, AD, Francisco, L. Lourdes CdS, and Wagner, V. 2007. Xeractinol – A New Flavanonol C-glucoside from *Paepalanthus argenteus* var. *argenteus* (Bongard) Hensold (Eriocaulaceae). *J. Braz. Chem. Soc.*, Vol. 18, No. 2, 437-439, 2007. March 16, 2007; 1-3.
- Duke JA 1985. Hand Book of Medicinal Herbs. Boca Raton. FL. CRC Press
- Evitasari, LD 2013. Vitamin C in Pineapple can Increase the Body's Immunity Against Flu Attacks. Scientific papers.
- Emma, S., and S. Wirakusumah. 2000. Fruits and Vegetables for Therapy. Self-Help Spreader. Jakarta. pp. 133-134.
- Farikha I, Anam C, and Widowati. 2013. Effect of Types and Concentrations of Natural Stabilizers on Physicochemical Characteristics of Red Dragon Fruit Extract (*Hylocereus Polyrhizus*) During Storage. *Journal of Food Technology* Vol 2 No 1.
- Hadiati, S., and Indriyani, NLP 2008. Pineapple Cultivation, West Sumatra: Research Institute for Tropical Fruits
- Hannan A, Samen K and Tapan K, C. 2012. A Comparative study of In-Vitro Antioxidant Activity of Different Extracts of Areca Seed Collected From Areca catechu Plant Grown In Assam. *J. International Journal of Pharmacy and Pharmaceutical Science*.4(2):120-127.ISSN:0975-1491.

- Harnowo I and Yunianta. 2015. 2015. Addition of Areca Nut Seed Extract and Citric Acid to the Physical, Chemical, and Organoleptic Properties of Sweet Starfruit Juice. J. Food and Agroindustry.3(3):1241-1251.
- Haryastuti DA2012. Inhibition of Areca Seed Extract (*Areca catechu* L.) Against Calcium Release in Teeth Demineralization Process Stimulated by Streptococcus Mutans. Thesis. Biomedical Department, Faculty of Dentistry, University of Jember.
- Herawati, N. Sukatiningsih, and Wiwik. 2012. Production of Functional s Based on Red Dragon Fruit Skin Extract (*Hylocereus Polyrhizus*), Roselle (*Hibiscus Sabdariffa* L.) And Salam Fruit (*Syzygium Polyanthum Wigh Walp*). Herbal Based Functional Drinks. AGROTEK Vol. 6, No. 1, 2012:407-50
- Herbie, T. 2015. 226 Medicinal Plants for Healing Diseases and Body Fitness. 1st edn. Edited by Adhe. Yogyakarta: Octopus.
- Herold. 2007. Formulation of Functional Drinks Based on Cat's Whiskers (*Orthosiphon aristatus* BI. Miq) Based on Optimization of Antioxidant Activity, Taste Quality and Color. [Essay]. IPB. Bogor
- Ilhasanurrozi, Mohamad. 2014. Comparison of the number of offspring from female mice mated with male mice that received treatment with young areca nut juice and Dutch teak leaf juice. Essay. Indonesian education university.
- Irfandi. 2005. Morphological Characterization of Five Pineapple Populations (*Ananas comosus*, L. Merr.). [Essay]. Field of Horticulture Studies, Faculty of Agriculture, Bogor Agricultural University. Bogor. pp 5-6.
- Irina, I. and G. Mohamed. 2012. Biological Activities and Effects of Food Processing on Flavonoids as Phenolic Antioxidants. Nancy University ENSAIA: France. DOI: 10.5772/30690.

- Iriani, Evi Safitri. 2005. Effect of Pectinase Addition on Changes in Yield and Quality Characteristics of Kweni Mango Juice (*Mangifera odorata*, Griff). Thesis. Bogor : Graduate School of Bogor Agricultural University.
- Ishak, MC 2012. Effect of Drying and Immobilization Process on Activity and Stability of Bromelain Enzyme from Pineapple (*Ananas comosus* L. Merr). [Essay]. Faculty of Agriculture. Hasanuddin University. Macassar.
- Ismarani. 2012. Potential of Tannin Compounds in Supporting Environmentally Friendly Production. J. Agribusiness and Regional Development. 3(2):64-55.
- Jaiswal, P., Kumar, P., Singh, VK 2011. Areca catechu L.: A Valuable Medicine Against Different Health Problems. Research Journal of Medicinal Plants 5 (2), pp. 145–152.
- Ministry of Research and Technology (2010). Food Technology and Agroindustry. Indonesian Ministry of Research and Technology. Jakarta
- Kikuzaki H, Hisamoto M, Hirose K, Akiyama K, and Taniguchi H. 2002. Antioxidants Properties of Ferulic Acid and Its Related Compound. J. Agrig. Food Chemistry, 50, 2161-2168.
- Kusumawati, RP 2008. Effect of Addition of Citric Acid and Natural Dyes of Secang Wood (*Caesalpinia sappan* L) on Color Stability of Sweet Starfruit Juice. Essay. Bogor Agricultural Institute. Bogor.
- Kristina, NN and Shahid, Sitti Fatimah. 2012. Effect of Coconut Water on In Vitro Shoot Multiplication, Rhizome Production, and Xanthorrhizol Content of Temulawak in the Field. Journal of Litr 18(3): 125-134
- Lestari, B. 2020. Characteristics of Candidates for Functional Drinks with Pineapple Juice with the Addition of Turmeric Extract. Essay. Sriwijaya University.
- Lim T, K. 2012. Edible Medicinal and Non-Medicinal Plants. London New York. Springer Dordrecht Heidelberg. Page: 489-91

- Loebis. EH and L. Junaidi. 2015. Production of Jackfruit Extract Powder with Encapsulation Technique. Journal of Industrial Research Results. Vol. 28(2) : 78-87. ISSN 2089-5380.
- Mahdavi, D., Depandhe, SS, and Salunke, DK 1996. Food Antioxidant Tecnological, Toxicological, and Health Perspective. New York: Marcel Dekker, Inc.
- Marji, AM 2018. Effect of Addition of Juice from Various Parts of Pineapple (*Ananas comosus* L. Merr) on Curd Characteristics During Fermentation. thesis. Andalas University.
- Malangngi LP, S Meiske, Sangi, JE Jessy and Paengdong. 2012. Determination of Tannin Content and Antioxidant Activity Test of Avocado Seed Extract. J. Mipa UNSRAT.1(1):5-10.
- Mamonto SI, MRJ Runtuwene and F Wehantouw. 2014. Antioxidant Activity of Yaki Betel Nut Peel Extract (*Areca vestiaria giseke*) Soxlet Extracted. J. Scientific Pharmacy – Unsrat. 3(3); 263-273. ISSN 2302 – 2493.
- Mawa, J. 2017. The Potential of Areca Nut Seeds (*Areca Catechu* L.) As Antioxidant Rich Functional Drinks. Essay. Jambi: Jambi University
- Miftahorachman. 2012. Genetic Potential of Areca Germplasm (*Areca catechu*) in Jambi Province. J. Balit Palma. News of the Agency for Research and Development of Industrial Plants. 18(3): 1-4
- Mirnawati and Sevenline. 2019. Preference of Several of Starch n Use as Edible Coating. Boindustri Journal. Vol. 02. No.01. University Trilogy
- Miryanti, A. 2011. Extraction of Antioxidants from Mangosteen Peel (*Garcinia mangostana* L.). Research institutions and community service. Parahyangan Catholic University Bandung.
- Muchtadi, TR, 1997. Instructions for Food Processing Technology Laboratory. IPB-Press. Bogor.

- Muctiadi D. 2012. Functional Foods and Bioactive Compounds. Bogor. Alfabeta.
- Munaro, PS 2002. Understanding Food Science and Technology. Thomson Wadsworth. Australia.
- Murdianto, W., and Syahrumsyah, H. 2012. Effect of sodium bicarbonate on vitamin C levels, total dissolved solids and sensory values of carbonated pineapple juice. J. Agricultural Technology, 8(1), 1-5.
- Nengah. 1990. Study of Thermal Browning Reaction in the Process of Making Brown Sugar from Nira and Palm Oil. Thesis. IPB Postgraduate Program.
- Neungnapa, R., Jia, Z., Xue, D., Bao, YJ, and Yueming. 2008. Effects of Various Temperatures and pH Values on the Extraction Yield of Phenolics from Litchi Fruit Pericarp Tissue and the Antioxidant Activity of the Extracted Anthocyanins. Journal. Molecular Science, 9, 1333-1341.
- Nurdia. 2017. Analysis of Caffeine Levels in Black Coffee in Bukian Gianyar Using UV-Vis Spectrophotometer Chemistry Laboratory, Vol. 2 No.1 :30-37.
- Nurman, S., Muhajir., and Muhardina, V. 2018. The effect of sodium benzoate concentration and storage time on the quality of pineapple juice (*Ananas comosus* L.). J. Agricultural Postharvest Research, 15(3), 140-146.
- Prahasta, USA 2009. Pineapple Agribusiness. Gravity library. Bandung: p182.
- Purwaningsih, I. 2017. The potential of the bromelain enzyme in pineapple juice (*Ananas comosus* L.) in increasing protein levels in tofu. J. Laboratory Technology, 6(1), 39-46.
- Center for Agricultural Data and Information Systems (Pusdatin). 2016. Horticulture Sub-Sector Agricultural Commodities. Secretariat General of the Ministry of Agriculture, Jakarta.

- Putri, R. M, Yuanita. 2016. Anti-Bacterial Power of Pineapple Extract Against the Growth of *Enterococcus Faecalis* Bacteria. *Conservative Dentistry Journal*, 1-6.
- Rahayu, E. Purwasih, R. Hidayat, R. 2020. Effect of Addition of Pineapple Juice to Chemical and Sensory Characteristics of The Cascara Drink. *Subang State Polytechnic*. Vol 11, No 2. P-ISSN: 2087-9679
- Rathod K, M Shivaprasad and Rajshekhar. 2015. Characterization and Extraction of Tannins From Areca Nut Waste and Using It as Rust Deactivator. *J. Department of Chemical Engineering. HR College of Engineering and Technology, Karnataka, India*. 3(2) ISSN: 2348-4098.
- Reynolds, JEF, 1982. *Martindale The Extra Pharmacopoeia*. Ed 28. London: The Pharmaceutical Press. Page 234, 257
- Riana, E. 2012. Genetic Diversity of Pineapple (*Ananas comosus* L. Merr.) in Kampar Regency, Riau Province Based on Morphological Characterization and Peroxynase Isozyme Band Patterns. Essay. Faculty of Mathematics and Department of Natural Sciences. Riau University.
- Richa Y. 2009. Test of Radical Capture Activity of Petroleumether Extract, Ethyl Acetate and Ethanol Rhizoma Binahong (*Anredera cordifolia* (tenore) steen) with DPPH Method (2,2-Diphenyl-1-Picrihydrazil). Essay. Faculty of Pharmacy, University of Muhammadiyah Surakarta.
- Ridwan, J., Emanauli., and Sahrial. 2016. The Effect of Addition of Turmeric Extract on Physical, Chemical and Organoleptic Properties of Functional Drinks Juice Fruit Juice (*Sonneratia alba*). Faculty of Agricultural Technology, Jambi University.
- Rismunandar. 1983. *Cultivating Fruit Crops*. Sinarbaru. Bandung.
- Rivai H, E Widiya and Rusdi. 2013. Effect of Comparison of Ethanol and Water Solvents on Total Phenolic Compound Levels and Antioxidant Power of

- Soursop Leaf Extract (*Annona muricata* L). J.Pharmaceutical Science and Techno.18(1):35-42.
- Rosyida, F. 2014. The Effect of Sugar and Citric Acid Amounts on Organoleptic Properties, Moisture Content, and Microbes of Dry Candied Siwalan (*Borassus flabellifer*). Surabaya State University. Vol. 03. Pg. 297-307
- Rukmana, Rahmat. 2003. Lime Agribusiness Prospects for Cultivation and Post Harvest. Yogyakarta: Kaninius.
- Santoso R. 2015. The Effect of Formulation of Young Coffee Leaves with Old Coffee Leaves on Chemical and Organoleptic Properties of Kopilibtukom Leaf Tea. J. National Fateta Unja. Jambi.
- Sari, NR 2002. Analysis of Morphological Performance and Fruit Quality Population of Pineapple (*Ananas Comosus* L. Merr) Quenn in Four Villages, Bogor Regency. Essay. Faculty of Agriculture. Bogor Agricultural Institute.
- Sayuti, K and R, Yenrina. 2015. Natural and Synthetic Antioxidants. field. Andalas University Press.
- Selvi AT, GS Joseph, and GK Jayaprakarsa. 2003. Inhibition of Growth and Aflatoxin Productionin *Aspergillus flavus* by *Garcinia Indiica* Extract and Its Antioxidant Activity. J. Food Microbial. 20:455-460.
- Septiana AT and Hidayah D. 2009. Antioxidant Activity of Functional Drinks from Mahkota Dewa Dried Fruit Slices. Agritech. 1(29) : 16-21.
- Setyaningsih, D., Apriyantono, A and Puspita, M. 2010. Sensory Analysis for the Food and Agro Industry. IPB. Bogor.
- Sinchaipanit, P., Ahmad, M., and Twichatwitayakul, R. 2015. Kinetics of ascorbic acid degradation and quality changes in guava juice during refrigerated storage. J. Food Nutrit. Res., 3(8), 550-557.

- SNI 01-3719-1995. Fruit Juice Drink. National Standardization Agency BPOM Regulation No. 36 Year 2013
- Sudarmadji, S., Haryono, B., Suhadi. 1997. Analysis of Foodstuffs and Agriculture. Yogyakarta: Liberty.
- Sudarmadji, S., Haryono, B., and Suhardi. 2007. Analysis Procedures for Foodstuffs and Agriculture. Bogor: Liberty.
- Sugianitri NK2011. Areca nut (*Areca catechu* L.) Seed Extract Can Inhibit the Growth of *Candida Albicans* Colonies In Vitro on Heat Cured Acrylic Resin. Thesis. Masters Program in Biomedical Sciences Postgraduate Program at Udayana University Denpasar.
- Sulastri T.2009. Analysis of Tannin Levels in Water Extract and Ethanol Extract in Areca Betel Seeds (*Areca catechu*. L.), J.Chemica. Department of Chemistry, FMIPA UNM.10(1) ;59-63.
- Suprapti, MI 2004. Making Various Processed Pineapple. Puspa Swara. Final Effect of Comparison of Ethanol and Water Solvents on Total Phenolic Compound Levels and Antioxidant Power of Soursop Leaf Extract (*Annona muricata* L). J. Science and Pharmaceutical Technology. 18(1):35-42.
- Supriyanto, R 2011, 'Study of Speciation Analysis of Metal Ions Cr(III) and Cr(VI) with Tannic Acid from Gambir Extract using UV-VIS Spectrophotometry', J. MIPA Science, April 2011, Vol. 17, No1, ISSN 1978-1873.
- Tranggono and Sutardi. 1990. Biochemistry and Post-Harvest Technology, PAU Food and Nutrition. UGM, Yogyakarta.
- Trinidad P. T, Aida C. M, Rosario SS, and Rosario RE 2010. Glycemic Index of Commonly Consumed Carbohydrate Foods in the Philippines. J. Functional Foods. Food and Nutrition Research Institute. Department of Science and Technology, Bicutan, Taguig City, Metro Manila 1631, Philippines.

- Trissanthi, CM and Susanto, WH 2016. Effect of Citric Acid Concentration and Heating Time on Chemical and Organoleptic Characteristics of Alang-Alang (*Imperata cylindrica*) syrup. Journal of Food and Agroindustry. 4(1): 180-189.
- Vanimakhal, RR and Ezhilarasi, BS 2016. Phytochemical Qualitative Analysis And Total Tannin Content In The Aqueous Extract Of Areca Catechu Nut. Asian Journal of Biomedical and Pharmaceutical Sciences, Department Of Zoology, Ethiraj College For Women, Chennai-8, Tamil Nadu, India.
- Wahono, H. S and Pertiwi, Setyohadi, BR 2011. Effect of Apple Varieties and Fermentation Time by Yeast *Saccharomyces cerevisiae* as Pre-Processing Treatment of Syrup Characteristics. Universitas Brawijaya, Malang.
- Wang, CK, and Lee, WH 1996. Separation, Characteristics, and Biological Activities of Phenolics in Areca Fruit. J. Agric. Food Chem., 44(8):2014 - 2019.
- Wetwitayaklung P, T. Phaechamud, C.Limatvapirat and S.Koekitichai.2006.The Study of Antioxidant Capacity In Various Part of Araca catechu LJ Naresuan university. 14(1):1-14.
- Winarno, FG 2002. Food Chemistry and Nutrition. PT. Gramedia Main Library: Jakarta
- Winarno, F. 2004. Food Chemistry and Nutrition, Eleventh Issue. Jakarta: PT. Main Library Gramedia.
- Winarti, C. & N. Nurdjanah. 2005. Opportunities for Spice and Medicinal Plants as Functional Food Sources. Center for Agricultural Postharvest Research and Development J. Agricultural Research and Development. 24(2) : 47-55.
- Winarti S. 2010. Food Technology. Functional Food. Graha Ilmu, Yogyakarta: 137-165.
- Windono, T., Soediman, S., Yudawati, U., Ermawati, E., Srielita, Erowati, TI 2001. Free Radical Immersion Test Against 1,1-Diphenyl-2-Picrylhydrazyl

(DPPH) from Fruit Peel and Seed Extract Grapes (*Vitisvinifera* L.)
Probolinggo Blue and Bali. *Artocarpus*.1, 34-43

Wiyono, TS, and Kartikawati, D. 2017. Effect of pineapple juice extraction method directly and osmosis with variation of boiling on the quality of pineapple syrup (*Ananas comosus* L.). *J. Scientific UNTAG Semarang*, 6(2), 108-118.

Yenrina R, Novizar. N, Alfian. SL2014. Unripe Areca (*Areca catechu*. L) Nut Syrup as a Functional Drinks With Addition of Powdered Cassia Vera Extract. *J. Asia Pacific Journal of Sustainable Agriculture Food and Energy (APJSafe)*. 2(1): 17-22. ISSN: 2338-1345.

Yusriah L, SM Sapuan, ES Zainudin and M. Mariatti.2014. Characterization of Physical, Mechanical, Thermal and Morphological Properties of Agro-Waste Betel Nut (*Areca catechu*) Husk Fiber. *J. Cleaner Production*. Department of Mechanical and Manufacturing Engineering, Universiti Putra Malaysia:1-7.

Zhang Wei-Min, Wu-Yang H, Wen-Xue C, Lin H and Hai-De Z. 2014. Optimization of Extraction Conditions of Areca Seed Polyphenols and Evaluation of Their Antioxidant Activities. *J. Molecules*. ISSN:14203049.