

## REFERENCES

- Andres, C. 1977. *Encapsulation ingredients: I. Food Processing* 38(12): 44-56.
- Adhikari, B., T. Howes, B.R. Bhandari, and V. Troung. 2004. *Effect of addition of maltodextrin on drying kinetics and stickiness of sugar and acid rich foods during convective drying: experiments and modelling. Journal of Food Engineering* 62: 53–68.
- Bates College. 2013. *Centrifugation*. <http://abacus.bates.edu/~ganderso/biology/resources/centrifugation.html>, accessed on May 10, 2015.
- Beecher, G.R. 2003. *Overview of dietary flavonoids: nomenclature, occurrence and intake. Journal of Nutrition* 133 (10): 32485-32545.
- Bhagwat, S., D.B. Haytowitz, and J.M. Holden. 2013. *USDA database for the flavonoid content of selected foods*. <http://www.ars.usda.gov/Services/docs.htm?docid=6231>, accessed on November 9, 2014.
- Brahmachari, G. 2011. *Bio-flavonoids with promising anti-diabetic potentials: A critical survey. Opportunity, Challenge and Scope of Natural Products in Medicinal Chemistry* 37(2):187-212.
- Brahmachari, G., and D. Gorai. 2006. *Progress in the research on naturally occurring flavones and flavonols: An overview. Current Organic Chemistry* 10(8): 873-898.
- Canuto, H.M.P., M.R.A. Afonso, and J.M.C. da Costa. 2014. *Hygroscopic behavior of freeze-dried papaya pulp powder with maltodextrin. Acta Scientiarum Technology* 36 (1): 179-185.
- Conway, M.J., K. McCosker, V. Osten, S. Coaker, and B.C. Pengelly. 2001. *Butterfly pea – a legume success story in cropping lands of Central Queensland*. Proceedings of 10th Australian Agronomy Conference: 1305-1309.

Daisy, P., K. Santosh, and M. Rajathi. 2009. *Antihyperglycemic and antihyperlipidemic effect of Clitoria ternatea Linn. in alloxan-induced diabetic rats. African Journal of Microbiology Research* 3(5): 287-291.

Desai, K.G.H., and H.J. Park. 2004. *Solubility studies of valdecoxib in the presence of carriers, co-solvent and surfactants. Drug Development Research* 62(1): 41-48.

Desai, K.G.H., and H.J. Park. 2005. *Recent developments in microencapsulation of food ingredients. Drying Technology* 23: 1361-1394.

De León, D.D., and C.A. Stanley. 2007. *Mechanisms of disease: Advances in diagnosis and treatment of hyperinsulinism in neonates. Nature Clinical Practice Endocrinology and Metabolism* 3(1): 57-68.

Dixon, R.A., and N.L. Paiva. 1995. *Stress-induced phenylpropanoid metabolism. The Plant Cell* 7 (7): 1085-1097.

Ekoé, J.M., M. Rewers, R. Williams, and P. Zimmet. 2008. *The Epidemiology of Diabetes Mellitus*. New Jersey, USA: John Wiley & Sons, Inc.

Fang, Z., and B. Bhandari. 2010. *Encapsulation of polyphenols – a review. Trends in Food Science and Technology* 21 (10): 510-523.

Fantz, P.R. 1991. *Ethnobotany of Clitoria*. Missouri, MO, USA: New York Botanical Garden Press.

Gembal, M., P. Gilon, and J.C. Henquin. 1992. *Evidence that glucose can control insulin release independently from its action on ATP-sensitive  $K^+$  channel in mouse  $\beta$ -cells. Journal of Clinical Investigation* 89 (4): 1288-1295.

Gilbert, H.S., E.J. Rayfield, H. Jr. Smith, and G.T. Keusch. 1978. *Effects of acute endotoxemia and glucose administration on circulating leukocyte populations in normal and diabetic subjects. Metabolism* 12: 889-899.

Goula, A.M., K.G. Adamopoulos, N.A. Kazakis. 2004. *Influence of spray drying conditions on tomato powder properties. Drying Technology* 22 (5): 1129-1151.

Grover, J.K., S. Yadav, and V. Vats. 2002. *Medicinal plants of India with antidiabetic potential. Journal of Ethnopharmacology* 81(1): 81-100.

Gunt Gerätebau GmbH. *Solid-liquid extraction. Thermal Process Engineering Extraction*: 33. [http://www.gunt.de/download/extraction\\_english.pdf](http://www.gunt.de/download/extraction_english.pdf), accessed on October 11, 2014.

Hardjanti, S. 2008. *Potensi daun katuk sebagai sumber zat pewarna alami dan stabilitasnya selama pengeringan bubuk dengan menggunakan binder maltodekstrin. Jurnal Penelitian Saintek* 13(1): 1-18.

Hif, C.S., and S.L. Howell. 1985. *Effects of flavonoids on insulin secretion and  $Ca^{2+}$  handling in rat islets of Langerhans. Journal of Endocrinology* 107(1): 1-8.

International Diabetes Federation. 2013. *Diabetes. Proceedings of IDF 2013 Congress of the International Diabetes Federation*: 355-358. <http://www.idf.org/worlddiabetesday/toolkit/gp/facts-figures>, accessed on October 11, 2014.

Jones, W., and D. Kinghorn. 2000. *Extraction of Plant Secondary Metabolites*. Totowa, NJ, USA: Humana Pre, Inc.

Jung, M., M. Park, H.C. Lee, Y.H. Kang, E.S. Kang, and S.K. Kim. 2006. *Antidiabetic agents from medicinal plants. Current Medicinal Chemistry* 13(10): 1203-1218.

Kennedy, J.F., C.J. Knill, and D.W. Taylor. 1995. *Handbook of Starch Hydrolysis Products and Their Derivatives*. USA: Springer Science and Business Media.

Knekt, P., J. Kumpulainen, R. Jarvinen, H. Rissanen, M. Heliövaara, A. Reunanen, T. Hakulinen, and A. Aromaa. 2002. *Flavonoid intake and risk of chronic diseases. The American Journal of Clinical Nutrition* 76(3): 560-568.

Komatsu, M., T. Schermerhorn, T. Aizawa, and G.W. Sharp. 1995. *Glucose stimulation of insulin release in the absence of extracellular Ca<sup>2+</sup> and in the absence of any increase in intracellular Ca<sup>2+</sup> in rat pancreatic islets. Proceedings of National Academic Science USA: 10728-10732.*

Kumar, G.G., C. Jagbir, and B. Manisha. 2010. *Clitoria ternatea (L.): Old and new aspects. Journal of Pharmacy Research* 3(11): 2610-2614.

Lizcano, J.M., and D.R. Alessi. 2002. *The insulin signalling pathway. Current Biology* 12 (7): 236-238.

Master, K. 1991. *Spray Drying Handbook*. United Kingdom: Longman Scientific & Technical.

Matsui, T., I.A. Ogunwande, K.J.M. Abesundara, and K. Matsumoto. 2006. *Antihyperglycemic potential of natural products. Mini Reviews in Medicinal Chemistry* 6(1): 109-120.

Morita, N., M. Arisawa, M. Nagase, H.Y. Hsu, and Y.P. Chen. 1977. *Studies on the constituents of Foramosan leguminosae. L.: the constituents in the leaves of Clitoria ternatea L. Pharmaceutical Society of Japan* 97(6): 649-653.

Morris, C.E. 1984. *New application of maltodextrin. Food Eng.* 56 (7): 48-50.

Morris, J.B. 2009. *Characterization of butterfly pea (Clitoria ternatea L.) accessions for morphology, phenology, reproduction and potential nutraceutical, pharmaceutical trait utilization. Genetical Resources and Crop Evolution* 56 (3): 421-427.

Nahar, K., M.A. Rahman, M.N. Parvin, and S. Shamma. 2010. *Evaluation of anthelmintic activity of aqueous leaf. Stanford Journal of Pharmaceutical Sciences* 3 (1): 46-48.

Nilesh, S.P., G. Sudheendra, M.P. Shain, and S.M. Deepak. 2011. *Ethanopharmacology, pharmacognosy, and phytochemical profile of Clitoria ternatea Linn.: an overview. Pharmacology Online Journal* 3 (1): 166-175.

Oetjen, G.W., and P. Haseley. 2008. *Freeze-Drying*. New Jersey, USA: John Wiley & Sons, Inc.

Pandeya, K. 2010. *In vitro propagation of Clitoria ternatea L.: a rare medicinal plant. Journal of Medicinal Plants Research* 4 (8): 664-668.

Pangestuti, A.T. 2014. *Acute Toxicity Study of Butterfly Pea Leaf Extracts on Experimental Mice*. BS Thesis. Department of Biomedical Engineering. Swiss German University, Tangerang, Indonesia.

Patil, A.P., and V.R. Patil. 2011. *Clitoria ternatea Linn.: An overview. International Research Journal of Pharmacy* 3(1): 20-23.

Prentki, M. 1996. *New insights into pancreatic  $\beta$ -cell metabolic signalling in insulin action. European Journal of Endocrinology* 134(3): 272-286.

Prentki, M., K. Tornheim, and B.E. Corkey. 1997. *Signal transduction mechanism in nutrient-induced insulin secretion. Diabetologia* 40 (2): 32-41.

Qi, L.W., E.H. Liu, C. Chu, Y.B. Peng, H.X. Cai, and P. Li. 2010. *Anti-diabetic agents from natural products. Current Topics in Medicinal Chemistry* 10(4): 434-457.

Quek, S.Y., N.K. Chok, and P. Swedlund. 2007. *The physicochemical properties of spray-dried watermelon powders. Chemical Engineering and Processing* 46: 386-392.

Rajagopal, K., and K. Sasikala. 2008. *Antihyperglycemic and antihyperlipidemic effects of Nymphaea stellata in alloxan-induced diabetic rats. Singapore Medical Journal* 49(2): 137-141.

Rao, D.B., C.R. Kiran, Y. Madhavi, P.K. Rao, and T.R. Rao. 2009. *Evaluation of antioxidant potential of a Clitoria ternatea L. and Eclipta prostrate L.* *Indian Journal of Biochemistry and Biophysics* 46(3): 247-252.

Schmid-Schönbein, H., and E. Volger. 1976. *Red-cell aggregation and red-cell deformability in diabetes.* *Diabetes* 25: 897-902

Schuit, F., A. De Vos, S. Farfari, K. Moens, D. Pipeleers, T. Brun, and M. Prentki. 1997. *Metabolic fate of glucose in purified islet cells: glucose-regulated anaploresis in beta cells.* *Journal of Biological Chemistry* 272(30): 18572-18579.

Shrestha, A.K., T. Ua-Arak, B.P. Adhikari, T. Howes, and B.R. Bhandari. 2007. *Glass transition behavior of spray dried orange juice powder measured by differential scanning calorimetry (DSC) and thermal mechanical compression test (TMCT).* *International Journal of Food Properties* 10(3): 661-673.

Steven, C., M. Pandjaitan, and A.M. Marpaung. 2014. *Ready to drink butterfly pea leaves for anti-diabetic effects.* *Proceedings of ICBETA on Multidisciplinary Approach for the Sustainability of Health*: 47-51.

Surya, H., M. Pandjaitan, and A. M. Marpaung. 2013. *The effect of spray dried butterfly pea (Clitoria ternatea L.) leaf extract on alloxan-induced diabetic mice.* *Proceedings of 3rd International Conference on Instrumentation, Communications, Information Technology, and Biomedical Engineering (ICIC-BME)*: 329-333.

Tapas, A.R., D.M. Sakarkar, and R.B. Kakde. 2008. *Flavonoids as nutraceuticals: A review.* *Tropical Journal Pharmaceutical Research* 7(3): 1089-1099.

Tortora, G.J., and B. Derrickson. 2007. *Introduction to the Human Body.* New Jersey, USA: John Wiley & Sons, Inc.

Tunggal, M. G. 2012. *The Effect of Butterfly Pea Leaves in Blood Glucose Level in Mice*. BS Thesis. Department of Food Technology. Swiss German University, Tangerang, Indonesia.

Uma, B., K. Prabhakar, and S. Rajendran. 2009. *Phytochemical analysis and antimicrobial activity of Clitoria ternatea Linn. against extended spectrum beta lactamase producing enteric and urinary pathogens*. *Journal of Pharmaceutical and Clinical Research* 2 (4): 94-96.

Vessal, M., M. Hemmati, and M. Vasei. 2003. *Antidiabetic effects of quercetin in streptozocin induced diabetic rats*. *Comparative Biochemistry and Physiology – Part C: Toxicology and Pharmacology* 135 (3): 357-364.

Waterhouse, A.L. 2003. *Determination of Total Phenolics - Current Protocols in Food Analytical Chemistry*. CA, USA: University of California.

Winkel-Shirley, B. 2002. *Biosynthesis of flavonoids and effect of stress*. *Current Opinion in Plant Biology* 5 (3): 218-223.

World Health Organization. 2004. *Global prevalence of diabetes*. *Diabetes Care* 27 (5): 1047-1053.

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