

BAB VI

KESIMPULAN DAN SARAN

6.1. Kesimpulan

1. Konsentrasi susu skim berpengaruh terhadap tingkat sineresis, pH, total asam laktat, dan total BAL *corngurt* sinbiotik. Semakin tinggi konsentrasi susu skim yang ditambahkan, tingkat sineresis, total asam laktat, dan total BAL *corngurt* sinbiotik semakin rendah, sedangkan pH *corngurt* sinbiotik semakin tinggi.
2. Lama penyimpanan berpengaruh terhadap tingkat sineresis, pH, total asam laktat, dan total BAL *corngurt* sinbiotik. Semakin lama *corngurt* sinbiotik disimpan, tingkat sineresis, dan total asam laktat *corngurt* sinbiotik semakin tinggi, sedangkan pH dan total BAL semakin rendah.
3. Interaksi konsentrasi susu skim dan lama penyimpanan berpengaruh terhadap tingkat sineresis dan total asam laktat *corngurt* sinbiotik.

6.2. Saran

Berdasarkan parameter yang diuji pada *corngurt* sinbiotik yang disimpan selama 14 hari pada suhu $5^{\circ}\text{C} \pm 2^{\circ}\text{C}$ masih memenuhi syarat SNI sehingga perlu dilakukan uji lama penyimpanan lebih dari 14 hari untuk menentukan masa kadaluarsa.

DAFTAR PUSTAKA

- Aachary, A.A. 2009. Prebiotics: specific colonic nutrients. In: Bioactive xylooligosaccharides from corncob: enzymatic production and applications. *Thesis*. University of Mysore.
- Adam, M. R. and M. O. Moss. 2000. *Food Microbiology 2nd edition*. UK: MDG Books Ltd.
- Adnan, M. 1984. *Kimia dan Teknologi Pengolahan Air Susu*. Yogyakarta: Andi Offset.
- Akalin, A.S. and D. Erisir. 2008. Effects of Inulin and Oligofructose on The Rheological Characteristics and Probiotic Culture Survival in Low-Fat Probiotic Ice Cream, *J. Food Sci.*, 73:184-188.
- Alakali, J. S, Okonkwo, T. M. dan Iordye, E. M. (2008). *Effect of stabilizer on the physico-chemical and sensory attributes of thermized yoghurt*. African Journal of Biotechnology, 7(2): 158-163.
- Axelsson, L. 1998. *Lactic Acid Bacteria: Classification and Physiology*. dalam S. Salminen and A Von Wright (Ed). *Lactic Acid Bacteria Microbiology and Functional Aspects*. 2nd ed: Revised and Expanded. New York: Marcell Dekker, Inc.
- Badan Pusat Statistik. 2015. *Tanaman Pangan*. http://www.bps.go.id/tnmn_pgn.php. (17 Juni 2015).
- Badan Standardisasi Nasional. 2009. *SNI 01-2891-1992: Yoghurt*. http://sisni.bsn.go.id/index.php?sni_main/sni/detail_sni/3373 (30 Agustus 2015).
- Bahar, Burhan. 2008. *Kefir Minuman Susu Fermentasi Dengan Segudang Khasiat Untuk Kesehatan*. Jakarta: Gramedia Pustaka Umum.
- Bakirci, I. and A. Kavaz. 2008. An Ivestigation of Some Properties of Banana Yogurts Made with Commercial ABT-2 Starter Culture during Storage. *International Journal of Dairy Technology* 61 (3): 270-276.
- Batt, C. A. and M.L. Tortorello. 2014. *Encyclopedia of Food Microbiology Second Edition*. UK: Elsevier

- Belitz, H.D. and W. Grosch. 2009. *Food Chemistry*. Germany: Springer Verlag.
- Bengmark, S. 2010. Pre-, Pro-, Synbiotics and Human Health. *Food Technol. Biotechnol.* 48 (4) 464–475.
- Bouhnik, Y., Vahedi, K., Achour, L., Attar, A., Salfati, J., Pochart, P., Marteau, P., Flourié, B., Bornet, F., and Rambaud, J.C. 1999. Short-chain Fructo-oligosaccharide Administration Dose-dependently Increases Fecal Bifidobacteria in Healthy Human, *J. Nutr. Sci. Vitaminol.*, 129: 113-116.
- Buckle, K. A., Edward, R.A., Fleet. G.H and Wooton, M. 1987. *Ilmu Pangan*. Jakarta: UI- Press.
- Chandan, R.C. 2006. *Manufacturing Yogurt and Fermented Milks*. Australia: Blackwell Publishing.
- Considine, D.M. and G.D. Considine. 1982. *Foods and Foods Production Encyclopedia*. New York: Van Nostrand Reinhold Company Inc.
- Delzenne, N. M. and P.D. Cani. 2008. Nutritional Modulation of Gut Microbiota in The Context of Obesity and Insulin Resistance: Potential Interest of Prebiotics. *International Dairy Journal*. 20: 277-280.
- deMann, M. J. 1989. *Kimia Makanan*. ITB-Press, Bandung.
- Eskin, M.N.A., 1990. *Biochemistry of Food*. New York: Academic Press Inc.
- Ersan L.Y. and Kural E. 2014. The Production of Set Type Bio Yoghurt with Commercial Probiotic Culture. *International Journal of Chemical Engineering and Applications*. Vol.5 No.5
- Fardiaz, S. 1992. Mikrobiologi Pangan 1. PT Gramedia Pustaka Utama, Jakarta.
- Food and Agriculture Organization (FAO). 2013. *Milk and Dairy Products in Human Nutrition*. Rome.
- Franck, A. dan De Leenher, L. (2005). Inulin Dalam: Steinbuchel A, dan Rhee, S.K. (ed). Polysaccharides and Polyamides in The Food Industry. Volume 1. WILEY-VCH, Weinheim
- Fuquay, J. W., P. F. Fox, dan P. L. H. McSweeney. 2011. *Encyclopedia of Dairy Sciences, Second Edition*. United States: Academic Press. 227.

- Hadiwiyoto, S., 1983. *Teori dan Prosedur Pengujian Mutu Susu dan Hasil Olahannya*. Yogyakarta: Liberty.
- Haryani, S., dan Aisyah, Y., 2012, Pengaruh Penambahan Buah Segar Dan Jenis Bahan Tambahan Terhadap Umur Simpan Yoghurt, *Jurnal Teknologi dan Industri Pertanian Indonesia*. 4 (1).
- Hassan, A and I. Amjad. 2010. Nutritional evaluation of yoghurt prepared by different starter cultures and their physicochemical analysis during storage African J. Of Biotechnology Vol. 9 (20):2913-- - 2917.
- Helperich W., Dennis C. dan Westhoff. 1980. *All about Yoghurt*. New Jersey: Prentice-Hall. Hal 76-81.
- Hui, Y.H. 1992. *Encyclopedia of Food Science and Technology*. New York: Jhon Wiley and Sons Inc.
- Hui, Y.H. 1993. *Dairy Science and Technology Handbooks: Principles and Properties*. VCH Publishers, New York, p. 435
- Hutkins, R.W. dan N.L. Nannen. 1993. pH Homeostatis in Lactic Acid Bacteria. *J. Dairy Sci.* 76 (8), 2354-2365.
- Ide, Pangkalan. 2008. *Health Secret of Kefir*. Jakarta: Elex Media Kamputindo.
- Kim, S. H., C. H. Lim., C. Lee., and G. An. 2008. Optimization of Growth and Storage Condition for Lactic Acid Bacteria in Yogurt and Frozen Yogurt *Journal Korean Soc Application Biological Chemistry*, 52 (1): 76-79
- Kolida, S., K. Tuohy and G.R. Gibson. 2002. Prebiotic Effects of Inulin and Oligofructose, *British Journal of Nutrition*. S:193–197.
- Koswara J. 1989. *Makalah Khusus Budidaya Jagung Manis*. Fakultas Pertanian-IPB. Bogor.
- Kulminskaya, A. A., M. Arand, E. V. Eneyskaya, D. R. Ivanen, K. A. Shabalin, S. M. Shishlyannikov, A. N. Saveliev, O. S. Korneeva and K. N. Neustroev. 2003. Biochemical characteristic of *Aspergillusawamori* exoinulinase: substrate binding characteristic

- and regioselectivity of hydrolysis. *Biochem. Biophys. Acta* 1650:22-29.
- Lee, W. J. dan J. A. Lucey. 2004. Structure and Physical Properties of Yogurt Gels: Effect of Inoculation Rate and Incubation Temperature. *J. Dairy Sci.* 87:3153-3164.
- Lehnninger, A.L., 1982. *Dasar-Dasar Biokimia Jilid 1*. Jakarta: Erlangga.
- Maulidya, A. 2007. *Kajian Pembuatan Yoghurt Susu Jagung Sebagai Minuman Probiotik Menggunakan Campuran Kultur Lactobacillus delbruekii subsp. *Bulgaricus*, Streptococcus *salivarius* subsp. *Thermophilus* Dan Lactobacillus *casei* subsp. *Rhamnonius**. Skripsi. Bogor: Institute PertanianBogor.
- Muchtadi, D. 2012. *Pangan Fungsional dan Senyawa Bioaktif*. Bandung: Penerbit Alfabeta.
- Mulyani, Yeni. 2011. Perbandingan Aktivitas Enzim Amilase dari Biji Jagung yang Sedang Tumbuh dengan Amilase dari *Saccharomyopsis fibuligera*. <http://pustaka.unpad.ac.id/archives/75983>. (17 Juni 2015)
- Nitema. 2006. *Substitusi Susu Kedelai dengan Susu Sapi pada Pembuatan Soyghurt Instan*. Sumatera Utara: Jurnal Penelitian Ilmu Pengetahuan Bidang Pertanian Volume 4, hal:75-82.
- Palungkun, R dan Budiarti. 2001. *Sweet Corn, Baby Corn*. Jakarta: Penebar Swadaya.
- Pernoud, S., C. Fremaux, A. Sepulchre, G. Corrieu, dan C. Monnet. 2004. *Effect of the Metabolism of Ureaon the Acidifying Activity of Streptococcus thermophilus*. *J. Dairy Sci.* 87 (3), 550-555.
- Ray, B. 1996. *Fundamental Food Microbiology*. CRC Press. Boca Raton. Florida.
- Ray, B. 2004. *Fundamental Food Microbiology, 3rd Ed.* CRC Press. Boca Raton. Florida. p: 36-40.
- Robinson, R.K. 1999. *Encyclopedia of Food Microbiology (eds)*. London: Academic press.

- Routray, W. and H.N. Mishra. 2011. Scientific and technical aspects of yogurt aroma and taste: a review. *Comprehensive Reviews in Food Science and Food Safety.* 10 (4):208-220.
- Rukmana, R. 1997. *Jagung.* Yogyakarta: Kanisius.
- Sabbah, M., Legowo, A.M. dan Pramono, Y.B. (2012). The effect of different ratio of bacteria (*Lactobacillus bulgaricus* + *Streptococcus thermophilus* and *Bifidobacterium longum*. ATCC15707) on characteristics of yogurt at different storage period. *Journal of Applied Food Technology* 1: 32-38.
- Saleh, eniza. 2004. *Teknologi pengolahan susu dan hasil ikutan ternak.* Sumatra utara : USU digital library.
- Seeley, H. W., P. J. Van Demark & J. J. Lee. 2001. *Microbes in Action: A Laboratory Manual of Microbiology.* 4th Ed. W. H. Freeman and Company, New York.
- Shofyan A., 2010. *Pedoman Teknis Perluasan Areal Kebun Hijauan Makanan Ternak.* Kementerian Pertanian, Jakarta.
- Sneath, P. H. A. 1986. *Endospore-forming gram-positive Rods and Coccii,* Hlm. 1104 –1139. Di dalam P. H. A. Sneath, N. S. Mair, M. E. Sharpe, and J. G. Holt (Penyunting). *Bergey's Manual of Systematic Bacteriologi.* Volume 2 Baltimore, USA.
- Sugiyono. 2004. *Kimia Pangan.* Yogyakarta: Fakultas Teknik Universitas Negeri Yogyakarta.
- Supavititpatana, P., Wirjantoro, T.I., and P. Raviyan. 2010. *Characteristic and Shelf Life of Corn Milk Yoghurt, J. Nat. Sci.* 9(1):133-149.
- Surono, I.S. 2004. *Probiotik Susu Fermentasi dan Kesehatan.* Jakarta: Tri Cipta Karya.
- Susilorini, Tri Eko, dan E.S. Manik. 2006. *Produk Olahan Susu.* Jakarta: Penebar Swadaya.
- Tamime, A. 2005. *Probiotic Dairy Products.* Oxford: Blackwell Publishing Ltd.

- Tamime, A. Y. dan R. K. Robinson. 2000. *Yogurt Science and Technology second edition*. England: Woodhead Publishing Limited.
- Tamime, A.Y. and R. K. Robinson. 2007. *Tamime and Robinson's Yoghurt*. Boca Raton: CRC Press.
- Tamime, A.Y. and R.K. Robinson. 1989. *Yoghurt science and technology*. New York: Pergamon Press Ltd.
- Thomas T. D and O. E. Mills. 1981. Proteolytic enzymes of dairy starter cultures. A review, *J. Food Microbiol.* 46: p. 245
- Wahyudi, M. 2006. Proses Pembuatan dan Analisis Mutu Yoghurt. *Buletin Teknik Pertanian*. 11 (1).
- Widiningsih, S. 2011. Aktivitas Antibakteri dan Sifat Organoleptik Yogurt Susu Jagung Manis dengan Penambahan Sukrosa, *Undergraduate Thesis*, Universitas Muhammadiyah Semarang, Semarang.
- Widodo W. 2002. Bioteknologi Fermentasi Susu. Malang: Pusat Pengembangan Bioteknologi Universitas Muhammadiyah Malang.
- Widowati, S., T.C. Sunarti, dan A. Zaharani. 2008. Ekstraksi, Karakterisasi, dan Kajian Potensi Prebiotik Inulin Dari Umbi Dahlia (*Dahlia pinnata L.*). Seminar Rutin Puslitbang Tanaman Pangan. Bogor.
- Winarno, F.G, Ahnan, W.W dan W. Widjajanto. 2003. *Flora Usus dan Yoghurt*. Bogor. MBrio Press.
- Winarno, F.G.2002. *Kimia Pangan dan gizi*. Jakarta: Gramedia Pustaka Utama.
- Yasni, S dan A. Maulidya. 2014. Development of Corn Milk Yoghurt Using Mixed Culture of *Lactobacillus delbruekii*, *Streptococcus salivarius*, and *Lactobacillus casei*. *HAYATI Journal of Biosciences*. 21 (1): 1-7.