

BAB VI KESIMPULAN DAN SARAN

6.1. Kesimpulan

1. Proporsi margarin:bubur buah pisang kepok putih pada *cookies* memberikan pengaruh nyata ($\alpha = 5\%$) terhadap kadar air, kadar lemak, daya patah, *spread ratio*, *lightness*, *yellowness* dan organoleptik, yang meliputi tingkat kesukaan terhadap aroma, kemudahan digigit, kerenyahan, rasa, dan warna *cookies*.
2. Penggunaan bubur buah pisang kepok putih yang semakin tinggi menyebabkan kadar air dan daya patah yang cenderung naik, sedangkan nilai dari *spread ratio*, kadar lemak, *lightness*, dan *yellowness* cenderung semakin menurun.
3. Penggunaan bubur buah pisang kepok putih yang semakin tinggi menyebabkan tingkat kesukaan panelis terhadap *cookies* cenderung menurun.
4. Proporsi margarin: bubur buah pisang kepok putih pada *cookies* yang dapat diterima oleh panelis adalah 100:0, 90:10, 80:20 dan perlakuan yang dipilih adalah 80:20.

6.2. Saran

Penggunaan bubur buah pisang kepok untuk menggantikan margarin pada pembuatan *cookies* akan menghasilkan *cookies* yang keras dan susah digigit. Tingkat proporsi bubur buah pisang kepok putih yang lebih dari 20% sebenarnya masih dapat diterima oleh konsumen, jika dilakukan upaya mereduksi tingkat kekerasan *cookies*. Hal ini menyebabkan perlu dilakukan penelitian lebih lanjut mengenai pengurangan jumlah margarin dengan bubur buah pisang kepok putih disertai dengan pengurangan jumlah terigu.

DAFTAR PUSTAKA

- Adair, M., Knight, S. 2001. Acceptability of Peanut Butter Cookies Prepared Using Mungbean Paste as A Fat Ingredient Substitute. *Journal of The American Dietetic Association*.
- Adapa, S., H. Dingeldein, K. A. Schmidt, and T. J. Herald. 2000. Rheological Properties of Ice Cream Mixes and Frozen Ice Creams Containing Fat and Fat Replacers. *J. Dairy Sci.* 83 (10): 2224-2229.
- Akoh, C.C. 1998. Fat Replacers. *J. Fd Technol.* 52(3):47-53.
- Ambarini. 2006. *Kue Kering Ekonomis*. Jakarta: PT. Gramedia Pustaka Utama.
- AOAC. 1997. *Official Methods of Analysis of The Association of Official Analytical Chemists*. Washington DC: Association of Official Analytical Chemists.
- AOAC. 2006. *Official Methods of Analysis of The Association of Official Analytical Chemists*. Washington DC: Association of Official Analytical Chemists.
- Armbrister, W.L., Setser C.S. 1994. Sensory and Physical Properties of Chocolate Chip Cookies Made with Vegetable Shortening or Fat Replacers at 50 and 75% Levels. *American Association of Cereal Chemists*. 71(4):344-351.
- Azizah, N. 2011. Physicochemical and Organoleptic Properties of Cookies Incorporated with Legume Flour. *International Food Research Journal* 19(4):1539-1543
- Badan Pusat Statistik Indonesia. 2013. *Tabel Produksi Tanaman Hias di Indonesia 2013*.
http://www.bps.go.id/tab_sub/view.php?kat=3&tabel=1&daftar=1&id_subyek=55¬ab=52 (11 Agustus 2014).
- Badan Standarisasi Nasional. 1992. *Cara Uji Makanan dan Minuman*. Jakarta: SNI 01-2973-1992.

- Badan Standarisasi Nasional. 1994. *Margarin*. Jakarta: SNI 01-3541-1994.
- Cahyono, B. 2002. *Pisang Usaha Tani dan Penanganan Pascapanen*. Yogyakarta: Kanisius.
- Causiol, L. 2001. *Postharvest Quality Conventional and Organically Grown Banana Fruit*. Master of Science by Research In Postharvest Technology. Institute of Agriculture of Agritechology.
- Charley, H. 1982. *Food Science* (2nd ed). New York: John Willey and Sons
- Chugh, B., Singh G., Kumbhar, B.K. 2013. Development of Low-Fat Soft Dough Biscuits Using Carbohydrate-Based Fat Replacers. *International J. Fd Sci*.
- Coultrate, T. P. 2009. *Food: The Chemistry of Its Components*. Cambridge: Royal Society of Chemistry.
- Cunningham, F. E. 1976. Properties of Egg White Foam Drainage. *Poultry Science*. Vol 55: 738-743. <http://albumen.stanford.edu/library/c20/cunningham1976.html> (11 Agustus 2014).
- Departemen Pertanian. 2009. Dasar Dasar Penyuluhan Pertanian. <http://www.pustaka.deptan.go.id> (11 Agustus 2014).
- Edwards, W. P. 2007. *The Science of Bakery Product*. Cambridge: Royal Society of Chemistry.
- Fennema, O. R. 1996. *Food Chemistry*. New York: Marcel Dekker, Inc.
- Figoni, P. 2008. *How Baking Works: Exploring the fundamental of baking science* (2nd ed). Publisher: John Willey & Sons, Inc.
- Food and Drug Administration. 2013. *Guidance for Industry: A Food Labeling Guide*. www.fda.gov/food/guidanceregulation/guidancedocumentsregulatoryinformation/labelingnutrition.ucm064911.htm (11 Agustus 2014)
- Gomez MI, Obilana AB, Martin DF, Madzvanuse M and ES Manyo. 1997. *Manual of Laboratory procedures for quality evaluation of sorghum and millet*. India: International Crops Research Institute for the Semi Arid Tropics (ICRISAT).
- Hanneman. 1989. *Bakery Flour Confectionary*. Oxford: Heitienann Professional Publish Ltd.
- Herbstreith & Fox. 1998. *Chances ad Limits for The Use of Pectin as Emulsifier*. Germany.

- Hui, Y. H. 2006. *Handbook of Food Science, Technology, and Engineering*. Volume 1. USA: CRC Press.
- Kartika, B., P. Hastuti, dan W. Supartono. 1988. *Pedoman Uji Inderawi Pangan*. Yogyakarta: Universitas Gadjah Mada.
- Ketaren, S. 1986. *Pengantar Teknologi Minyak dan Lemak Pangan*. Jakarta: UI Press.
- Lancashire, Robert J. 2007. *Vanilla*. <http://wwwchem.uwimona.edu.jm:1104/lectures/vanilla.html>. (23 Agustus 2014)
- Lee, S., Inglett, G.E. 2006. Rheological and Physical Evaluation of Jet-Cooked Oat Bran in Low Calorie Cookies. *International Journal of Food Science and Technology* 2006, 41,, 553-559.
- Lim, T.K. 2012. *Edible Medicinal and Non Medicinal Plants*. (Vol.3). New York: Springer.
- Manley, D. 2001. *Biscuit, Cracker, and Cookie Recipes For The Food Industry*. England: Woodhead Publishing LTD and CRC Press Ltd.
- Matz, S. A. 1962. *Food Texture*. Connecticut: AVI Publishing Co. Inc.
- Matz, S. A. 1978. *Cookie and Cracker Technology*. Connecticut: AVI Publishing Co. Inc.
- McWilliams, M. 1997. *Foods Experimental Perspectives*. (3rd ed). New Jersey: Prentice-Hal Inc.
- Meilgaard, M., Civille, G. V. Dan Car B. T. 1999. *Sensory Evaluation Techniques*. (3rd ed). Boca Raton, Florida : CRC Press.
- Miraglio, A. M. 1995. Nutrient Substitutes and Their Energy Values in Fat Substitutes and Replacers. *J. Clin Nutr* 62. American Society for Clinical Nutrition.
- Ngraho. 2008. *Budidaya Tanaman Pisang*. http://www.ngraho.com/2008/02/21/budidaya_pisang (11 Agustus 2014)
- Nonaka, H.H. 1997. *Plant Carbohydrate-Derived Products as Fat Replacers and Calorie Reducers*. Cereal Foods Worlds.
- O'Brien. 2003. *Fats and Oils* (2nd ed). CRC Press: New York, Washington D.C.

- Phillips, G.O. dan Williams, P. A. 2009. *Handbook of Hydrocolloids*. New York, Washington D.C.: CRC Press.
- Prabawati, S., Suyanti., Setyabudi, D.A. 2008. *Teknologi Pascapanen dan Teknik Pengolahan Buah Pisang*. Balai Besar Penerbitan dan Pengembangan Pertanian.
- Ranganathan, S. 2014. *Carbohydrate Changes During The Ripening of Plantains*. Department of Bio-Chemistry, Indian Institute of Science, Bangalore.
- Saparianto, C. dan Hidayati, D. 2006. *Bahan Tambahan Pangan*. Yogyakarta: Penerbit Kanisius.
- Satuhu, S. dan A. Supriadi. 1994. *Budidaya Pisang. Pengolahan dan Prospek Pasar*. Jakarta: Penebar Swadaya.
- Selli, S., Gubbuk, H., Kafkas, E., Gunes, E. 2012. Comparison of Aroma Compounds in Dwarf Cavendish Banana (*Musa spp. AAA*) Grown From Open-Field and Protected Cultivation Area. *Science Horticulture* 141 76-82.
- Shaffer, A., Oswald, J., Duff, M. 2013. *Oil Replacement with Fruit Puree in Waffles*.
- Smith, W. H., 1972. *Biscuit, Crackers, and Cookies*. Technology, Production and Management. London: Applied Science Publisher.
- Stadelman. W. J. dan E. Cotteril. 1973. *Egg Science and Technology* (2nd ed). Westport, Connecticut: AVI Publishing Company, Inc.
- Stover, R.H. dan Simmonds, N.W. 1987. *Bananas, Tropical Agricultura Series*. Essex UK: Longman Scientific and Technical.
- Sudarmadji, S. 1984. *Prosedur Analisa Untuk Bahan Makanan dan Pertanian*. Edisi Ketiga. Yogyakarta: Liberty.
- Sudha, M.L., Srivastava., A.K., Vetrmani, R., Leelavathi, K. 2007. Fat Replacement in Soft Dough Biscuits: Its Implication on Dough Rheology and Biscuit Quality. *Journal of Food Engineering* 80 (2007) 922-930.
- Sultan, W. J. 1981. *Practical Baking, Revised* (3rd ed). Westport, Connecticut: The AVI Publishing Company.
- Suyanti, S. dan Supriyadi, A. 1992. *Pisang: Budidaya, Pengolahan, dan Prospek Pasar*. Jakarta: Penebar Swadaya.

- Swanson, B. G. 1996. *Low Calorie Fats and Fat Substitutes*. In "Handbook of Fat Replacers," ed. S. Roller and S. A. Jones, pp. 265-274, CRC Press, Inc., Boca Raton, Fla.
- Tjitrosoepomo, G. 2001. *Morfologi Tumbuhan*. Yogyakarta: Gadjah Mada University Press.
- Turksoy, S., S. Keskin, B. Ozkaya dan H. Ozkaya. *Effect of Black Carrot (Daucus carota L. Ssp. sativus var. atrorubens Alef.) Fiber Addition on the Composition and Quality Characteristics of Cookies*. *Journal of Food, Agriculture & Environment* Vol 9 (3&4): 57-60.2011
- Vaclavik, V. A. dan E. W. Christian. 2008. *Essentials of Food Science* (3rd ed).
- Wafaa, M.M.A., Salama, M.F., Moawad, R.K. 2011. Utilization of Fat Replacer in The Production of Reduced Cakes and Cookies. *Journal of Basic and Applied Sciences*, 5(12):2833-2840.
- Walter R. H. 1991. *The Chemistry and Technology of Pectin*. California: Academic Press Inc.
- Wekwete, B., Khurshed, P.N., 2008. Effects of Avocado Fruit Puree and Oatrim as Fat Replacers on The Physical, Textural and Sensory Properties of Oatmeal Cookies. *Journal of Food Quality* 31 (2008) 131-141.
- Whiteley, P. R. 1971. *Biscuit Manufacture*. Applied Science Publishing, Ltd. London.
- World Health Organization. 2002. *The Impact of Chronic Disease in Indonesia*. http://www.who.int/chp/chronic_disease_report/en (11 Agustus 2014)
- Yuni, A., Arief, R.W., Mulyanti, N. 2013. Processing of Banana Flour Using a Local Banana as Raw Material in Lampung. *Int. Journal on Advance Science Engineering Information Technology*.
- Zoulias, E.I, Oreopoulou, V., Tzia, C. 2002. Textural Properties of Low-Fat Cookies Containing Carbohydrate- or Protein-based Fat Replacers. *Journal of Food Engineering* 55 (2002) 337-342.

LAMPIRAN 1. SPESIFIKASI PISANG KEPOK PUTIH

Keterangan	Spesifikasi
<p>Warna</p> <p>Ukuran Panjang per Buah</p> <p>Ukuran Lingkar per Buah</p> <p>Berat per Buah</p> <p>Umur</p>	<div> </div> <p>Hijau</p> <p>13 – 15 cm</p> <p>13 – 14 cm</p> <p>115 – 120 g</p> <p>95 hari setelah berbunga</p>