BAB V
KESIMPULAN DAN SARAN

5.1 Kesimpulan

a. Perbedaan persen penambahan sari kacang hijau berpengaruh terhadap sifat fisikokimia *silken tofu* edamame yaitu terhadap kadar air, tekstur (*firmness*), sineresis, dan warna, serta tidak berpengaruh nyata terhadap pH.

b. Perbedaan persen penambahan sari kacang hijau berpengaruh terhadap sifat organoleptik *silken tofu* edamame yaitu terhadap rasa, kelembutan, dan warna, serta tidak berpengaruh nyata terhadap aroma

c. *Silken Tofu* Edamame dengan 10% sari kacang hijau merupakan perlakuan terbaik dengan rata-rata pH 5,51; Kadar air 92,17%; *Firmness* 3,8038 N; Sineresis hari ke-1 0,49%, Hari ke-4 1,00%, dan Hari ke-7 2,27%; *Lightness* 77,11; *Chroma* 16,88; *Hue* 135,23. Sedangkan nilai kesukaan terhadap rasa 4,42; kelembutan 5,92; aroma 4,27 ; dan warna 5,06.

5.2. Saran

Perlu dilakukan penelitian lebih lanjut untuk mengetahui batas umur simpan dari *silken tofu* edamame denan penambahan sari kacang hijau untuk menghasilkan *silken tofu* edamame komersil.

DAFTAR PUSTAKA

AOAC. 1995. *Official Methods of Analysis of Association of Analytical Chemists*. USA: The Association of Official Analytical Chemist, Inc.

Belitz, H. D. dan W. Grosch. 2009. *Food Chemistry* 2nd *Edition*. Berlin: Springer Berlin.

C. G. Beddows and J. Wong. 1997. Optimization of Yield and Properties of Silken Tofu from Soybeans. Coagulant concentration, Mixing and Filtration Pressure. *International journal of Food Science and Technology* 22(3): 29-34.

Carballo, J.S.. G. Barreto, and F.J. Colmenero. 1995. Starch and Egg White Inf1uence on Properties of Bologna Sausage as Related to Fat Content. *JodSci* 60 (4): 673-677.

Coolong, T. 2009. *Edamame*. Kentucky: College of Agriculture University of Kentucky.

Daftar Komposisi Bahan Makanan. 2011. Jakarta: LIPI

DeMan, J.M., L. deMan, and S. Gupta. 1986. Texture and Microstructure of Soybean Curd (Tofu) As Affected by Different Coagulants. *Food Microstructure* 5: 83-89.

Fauziah, Amelia. 2018. Karakteristik Fisik, Kimia, dan Organoleptik Tahu Edamame (Glycine max (L.) Merrill), *Skripsi S1*, Faculty of Agricultural Industrial Technology, Universitas Padjajaran, Bandung.

Feedipedia. Mung Bean (Vigna radiata) Pods. www.feedipedia.org/sites/default/files/images/mung_bean_pods.jpg (20 September 2017).

Halim, A.O. 2015. Pengaruh Konsentrasi Agar Terhadap Karakteristik Fisikokimia dan Organoleptik Selai Kelapa Lembaran, *Skripsi S-1*,

Fakultas Teknologi Pertanian, Program Studi Teknologi Pangan, Universitas Katolik Widya Mandala Surabaya, Surabaya.

Harper, J. M., 1981. *Extrusion of Food Vol II*. Florida: CRS Press. Boca Roton.

Hoover, R., Li, Y.X., Hynes, G. and Sennayake, N. 1997. Physicochemical Characterization of Mung Bean Starch. *Food Hydrocolloids* 11: 401-408.

Hutching JB. 1999. *Food Color and Apearance*. Marylan: Aspen publisher Inc.

Jaiwal P.K., Kumari R., Ignacimuthu S., Potrykus I., and Sautter C. 2001. Agrobacterium Tumefaciens Mediated Transformation of Mungbean (Agrobacterium L. Wilczek) a Recalcitrant Grain Legume. *Plant Sci* 161:239–247.

Johnson, D., S. Wang, and A. Suzuki. 1999. Edamame Vegetable Soybean for Colorado, (dalam *Kualitas Mi Basah dengan Kombinasi Edamame dan Bekatul Beras Merah*, C. Riyanto, L.M.E. Purwijantiningsih, dan F.S. Pranata), http://www.e-journal.uajy.ac.id/id/eprint/6503 (18 Agustus 2017).

Kaiser, C. and Ernst, M.. 2013. *Edamame*. Kentucky: University of Kentucky College of Agriculture, Food, and Environment.

Karim, A. A. G. A. Sulebele, M. E. Azhar, dan C. Y. Ping. 1999. Effect of Carrageenan on Yield and Properties of Tofu. *Food Chemistry* 66: 159-165.

Kohyama, Kaoru, Y. Sano, and E. Doi. 1995. Rheological Characteristics and Gelation Mechanism of Tofu (Soybean Curd). *Journal of Agricultural Food Chemistry* 43: 1808-1812.

Koswara, S. 1995. *Teknologi Pengolahan Kedelai Menjadikan Makanan Bermutu*. Jakarta: Pustaka Sinar Harapan.

Kusnandar, Feri. 2010. *Kimia pangan*. Komponen Pangan. PT. Dian Rakyat. Jakarta.

Leach, H.W. 1965. Gelatinization of Starch. Dalam Whistler, R.L. and E.F. Paschal (eds. Starch:Chemistry and Technology. Vol. 1. Academic Press. New York.

Liu, K.S. 1997. *Soybeans: Chemistry, Technology, and Utilization*. New York: International Thomson Publishing.

Lukman, I., N. Huda, dan N. Ismail. 2009. Physicochemical and Sensory Properties of Commercial Chicken Nuggets. As. *Journal Food AgInd.*, 2(02), 171-180.

Masuda, R. 1991. Quality requirement and improvement of vegetable soybean. (dalam S. Shanmugasundaram (ed.), Vegetable soybean: Research needs for production and quality improvement. Asian Vegetable Res. Dev. Center, Taiwan.

Milewski, S. 2001. Protein Structure and Physicochemical Properties. *Properties of Food Proteins*. 35-55.

Mubarak, A. E. 2004. Nutritional Composition and Antinutritional Factors of Mung Bean Seeds (Phaseolus aureus) As Affected by Some Home Traditional Processess. *Food Chem.* 89: 489-495.

Ningtyas, F. W., N. R. Santi, dan Sulistiyani. 2017. Pengaruh Penambahan Tepung Kacang Tanah (*Arachis hypogaea L.*) terhadap Daya Terima, Kadar Air, dan Kadar Protein Nugget Edamame (*Glycin max (L) Merril*). *Amerta Nutr* i2: 62-71.

Obatolu, V. A. 2007. Effect of Different Coagulants on Yield and Quality of tofu from soymilk. *J Eur Food Res and Tech* 226: 467-427

Oh, H.E., S. G. Anema, M. Wong, D. N. Pinder, and Y. Hemar. 2006. Effect of Potato Starch Addition on The Acid Gelation of Milk. *International Dairy Journal* 17: 808-815.

PMP Fermentation Products. 2011. *Glucono*-δ-*Lactone*. http://www.pmpinc.com/documents/gdl-brochure.pdf (20 Agustus 2017).

PT. Mitratani Dua Tujuh. 2016. *Fakta Gizi Edamame.* http://www.mitratani27.co.id/informasi/fakta-gizi-edamame (18 Agustus *2017*).

Ramadhan, W. 2011. Pemanfaatan Agar-Agar Tepung Sebagai Texturizer Pada Formulasi Selai Jambu Biji Merah (*Psidium Guajava* L.) Lembaranan Pendugaan Umur Simpannya, *Skripsi S-1*, Fakultas Perikanan dan Ilmu Kelautan, Institut Pertanian Bogor, Bogor.

Renkema, J. M. S., H. Grupen, and T. V. Vliet. 2002. Influence of pH and Ionic Strength on Heat-Induced Formation Rheological Properties of Soy Protein Gels in Relation to Denaturation and Their Protein Composition. *Journal of Agricultural and Food Chemistry* 50: 6064-6071.

Rohmah, Selsiami. 2017. *Optimalisasi Formulasi Tahu Dari Kacang Kedelai Lokal (Glicine Max) Dan Bahan Gluco Delta Lactone dengan Aplikasi Program Linier*. Bandung: Universitas Pasundan

S. Somaatmadja dan Van der Maesen, L. J. G., 1993. *Proses Sumber Daya Nabati Asia Tenggara 1 Kacang-Kacangan* Jakarta: PT Gramedia Pustaka Umum..

SEAFAST Center. 2012. Hijau Klorofil. http://seafast.ipb.ac.id/tpc-project/wp-content/uploads/2013/03/09-hijau-klorofil.pdf. (01 Juli 2018).

Shanmugasundaram, S. 1989. Global Cooperation for the Improvement of Soybean Research and Development, (dalam *World Soybean Research Conference IV*, A.J. Pascale, Ed.), Buenos Aires: Continuing Committee, 1939-1947

Shurtleff, W. and A. Aoyagi. 1984. *Tofu and Soymilk Production: The Book of Tofu Vol. II*. Westport Connecticut: Autumn Press.

Soyfoods Association of America. 1986. *Tofu Standards*. http://www.soyfoods.org/wp_content/uploads/2010/Tofu%20Voluntary%20Standard.pdf (8 Agustus 2017).

Sudarmadji, Slamet. 2010. *Analisa Bahan Makanan dan Pertanian*. Yogyakarta : Liberty Yogyakarta.

Suhaidi, Ismed. 2003. *Pengaruh Lama Perendaman Kedelai dan Jenis Zat Penggumpal terhadap Mutu Tahu*. Fakultas Pertanian Jurusan Teknologi Pertanian Universitas Sumatera Utara.

http://library.usu.ac.id/download/fp/tekper-ismet%20suhadi2.pdf (27 Novemeber 2017).

Suprapto, H.S., 2007. *Bertanam Kacang Hijau*. Jakarta: Penebar Swadaya.

Syah, Darul, R. H. F. Faradilla, V. Trisna, dan Y. Karsono. 2012. Pengaruh Koagulan dan Kondisi Koagulasi terhadap Profil Protein Curd Kedelai serta Korelasinya terhadap Tekstur. *Jurnal Teknologi dan Industri Pangan Institut Pertanian Bogor* 23 (1).

Thomas, M.J., Robertson, S., Fukai, M.B. 2004. The Effects Of Timing And Severity Of Water Deficit On Growth, Development, Yield Accumulation And Nitrogen Fixation Of Mungbean. *Field Crops Res*. 86 : 67-80

Tina, W. S. 2012. Efektivitas Sari Kacang Hijau (Phaseolus Radiatus L.) sebagai Media Pertumbuhan Bakteri Asam Laktat (*Lactobacillus Acidophilus* dan *Lactococcus Lactis*), *Skripsi S-1*, Fakultas Sains dan Teknologi UIN Sunan Gunung Djati, Bandung.

Tsai, S. J., C. Y., Lan, C. S. Kao, and S. C. Chen., 1981. Studies on the Yield and Quality Characteristic of Tofu. *Journal of Food Science* 46: 1734-1740

United States Department of Agriculture. 1998.*USDA Nutrient Database for Standard Reference*. http://www.nal.usda.gov/fnic/foodcomp. (18 Agustus 2017).

Valentina, F. 2001. Kajian Pemanfaatan Kacang Hijau Sebagai Bahan Baku Pembuatan Ice Cream, *Skripsi S-1*, Fakultas Teknologi Pengolahan Pangan UKWMS, Surabaya.

Liu, W., dan Qun S. 2006. Studies on The Physicochemical Properties of Mung Bean Starch from Sour Liquid Processing and Centrifugation. *J. Food. Eng.* 79: 358-363.

Wahono, S. A. 2018. Pengaruh Penambahan Maizena Terhadap Sifat Fisikokimia Dan Kelembutan Silken Tofu Edamame (*Glycine Max* L. *Merrill*), *Skripsi S-1*, Fakultas Teknologi Pengolahan Pangan UKWMS, Surabaya.

Winarno, F.G., 1997. *Kimia Pangan dan Gizi*. Gamedia Pustaka Utama, Jakarta.

Winarno, F. G. 2002. Produksi Tahu Cina Tradisional. Bogor: MBRIO press.

Winarno F.G. 2004. *Kimia Pangan dan Gizi*. PT Gramedia Pustaka Utama: Jakarta.

X-Rite. 2004. *The Color Guide and Glossary*. USA: X-Rite Inc.

Yang, A., and Andrew T. J., 2013. Effects of Soybean Protein Composition and Processing Conditions on Silken Tofu Properties. *J Sci Food Agric* 93: 3065–3071.