

## **BAB V** **KESIMPULAN**

### **5.1. Kesimpulan**

1. Perbedaan proporsi lesitin dan IPK dalam *toffee* berpengaruh nyata terhadap fisikokimia dari *toffee*, yaitu kadar air (%), *chroma*, dan *hardness* (*gram force*), namun tidak berpengaruh terhadap *hue*, *lightness* dan sifat organoleptik dari *toffee*.
2. Perbedaan proporsi lesitin dan IPK mempengaruhi stabilitas emulsi *toffee*.
3. Proporsi IPK yang semakin tinggi menyebabkan peningkatan kadar air (0,87% - 2,18%) dan menurunkan *chroma* (13,5- 8,24), dan *hardness* (13407 gf - 7196 gf) dan sebaliknya.
4. Perlakuan terbaik diambil berdasarkan sifat organoleptik *toffee* adalah pada perlakuan P5 dengan proporsi lesitin 0,2% dan IPK 0,5%.

### **5.2. Saran**

1. Proses pemanasan perlu dilakukan menggunakan kompor dengan api yang seragam atau mempertimbangkan penggunaan kompor elektrik untuk menjaga agar panas yang dihasilkan merata.
2. Perlu dilakukan penelitian terkait dengan umur simpan *toffee* pada perlakuan lesitin 0,2% dan IPK 0,5%.

## DAFTAR PUSTAKA

- Andrae, L. M., S. Y. Lee, dan J. E. Nick. 2009. *Textural Changes in Chocolate Characterized by Instrumental and Sensory Techniques.*
- Anonim, 2018. *Toffee*. <https://en.wikipedia.org/wiki/Toffee#/media/File:Thorntonstoffee.jpg> (27 Februari 2018)
- AOCS, 2017. *Phospholipid Biosynthesis*. <http://lipidlibrary.accs.org/Biochemistry/content.cfm?ItemNumber=39191>(27 Februari 2018).
- Astuti, S., Zulferiyenni dan N. N. Yuningsih. 2015. Pengaruh Formulasi Sukrosa dan Sirup Glukosa terhadap Sifat Kimia dan Sensori Permen Susu Kedelai. *Jurnal Teknologi Industri dan Hasil Pertanian*. 20(1). 25-37.
- Aulton, M. E. 2002. *Pharmaceutics: The Science of Dosage Form Design* 2nd edition. Churchill Livingstone. p. 96.
- Badan Standarisasi Nasional Indonesia. 2010. Gula Kristal - Bagian 3 : Putih.SNI 3140.3:2010
- Badan Standarisasi Nasional Indonesia. 1995. Mentega. SNI 01-3744-1995.
- BeMiller, J.N. 2008. *Carbohydrate Chemistry for Food Scientist (Second Edition)*. Minnesota: AACC International.
- Brown, A. 2014. *Understanding Food: Principles and Preparation*. Cengage Learning.Thomson Learning, Inc. pp. 520–521.
- Chavan, U. D., U. B. Pawar, dan G. H. Pawar.2015. *Studies on preparation of mixed toffee from guava and strawberry*. *Journal of food science and technology*.
- Chin, L. 2016. *Effect of Ingredients Ratio on the Texture Profile of Cookies*.[http://lillych.in/files/lchin\\_2671Paper.pdf](http://lillych.in/files/lchin_2671Paper.pdf) (10 Februari 2018).
- DeMann, M. J. 1997. *Kimia Pangan*. Bandung : Institut Teknologi Bandung.

- Edwards, W. P. 2000. *The Science of Sugar Confectionery. Technology and Engineering.*
- Fitriyaningtyas, S. I., dan T. D. Widyaningsih. 2015. Pengaruh Penggunaan Lesitin dan CMC terhadap Sifat Fisik, Kimia, dan Organoleptik Margarin Sari Apel Manalagi (*Malus sylfertris Mill*) Tersuplementasi Minyak Kacang Tanah. *Jurnal Pangan dan Agroindustri Vol. 3 No 1 p.226-236*
- Garba, U., dan S. Kaur. 2014. *Protein Isolates: Production, Functional Properties and Application. International Research Journal of Chemistry.*
- Hartel, R. W., J Elbe dan R Hofberger. 2017. *Confectionery Science and Technology.* Springer.
- Hasenhuettl, L. Gerard, dan R. W. Hartel. 2008. *Food Emulsifiers and Their Applications.* Food Science and Nutrition.
- Keith, D. W. 1999. Ubiquitin-Dependent Signaling: The Role of Ubiquitination in the Response of Cells to Their Environment., *The Journal of Nutrition*, Vol 129, 11, Hal 1933–1936, <https://doi.org/10.1093/jn/129.11.1933>
- Koswara, S. 2009. Teknologi Pembuatan Permen. Ebookpangan.com (diakses pada tanggal 5 Oktober 2017)
- LaBau, E. 2012. *The Sweet Book of Candy Making: From the Simple to the Spectacular-How to Make Caramels, Fudge, Hard Candy, Fondant, Toffee, and More!.* Quarry Books.
- National Research Council, 1976, *online edition Fat Content and Composition of Animal Products*, Printing and Publishing Office, National Academy of Science, Washington, D.C., ISBN 0-309-02440-4; p. 203
- Nollet, M. L. Leo, dan F. Toldra. 2015. *Handbook of Food Analysis.* CRC Press.
- McClements, D.J. 2016. *Food Emulsions: Principles, Practices, and Tehchnique*, 3<sup>rd</sup> Ed. Florida: CRC Press.

- Peacock, D., dan R. Peacock. 2014. *How To Make Sweets and Treats.* Hachette, UK.
- Preece, K.E., N. Hooshyar, dan N.J. Zuidam. 2017. Whole soybean protein extraction processes: A review, *Innovative Food Science and Emerging Technologies*.
- Schultz, S. 2008. *How To Make World-Class Gourmet Toffee - 12 Secrets -Included Toffee Recipe.* [www.erzinearticle.com/?How-To-Make-World-Class-Gourmet-Toffee-12-Secrets-Included-Toffee-Recipe](http://www.erzinearticle.com/?How-To-Make-World-Class-Gourmet-Toffee-12-Secrets-Included-Toffee-Recipe) (Diakses 25 Oktober 2017)
- Selamat, J., N. Hussin, A. M. Zain, dan Y. B. C. Man,. 1998. Effects of soy protein isolates on quality of chocolates during storage. *Journal of Food Processing and Preservation.*
- Shukla, K. S. V. 1994. Milkfat in Sugar and Chocolate Confectionery. Dalam: *Moran D.P.J., Rajah K.K. Fats in Food Products.* Springer, Boston, MA
- Singh, P., R., Kumar, S. N. Sabapathy, A. S. dan Bawa, 2008. *Functional and Edible Uses of Soy Protein Products.* Comprehensive Reviews in Food Science and Food Safety, 7: 14–28.
- Sudarmadji, S., H. Bambang, dan Suhardi. 2003. *Analisa Bahan Makanan dan Pertanian.* Yogyakarta: Liberty Press.
- Szuhaj, B. F. 1989. *Lecithin: Sources, Manufactures and Uses.* USA: American Oil Chemists' Society.
- Talignani, A. 1979. Industrial production of caramel using soy protein. *Journal of the American Oil Chemists' Society,* 56 : 354–355.
- Winarno, F. G. 2002. *Kimia Pangan dan Gizi.* Jakarta: Gramedia Pustaka Utama.
- Wills, D. 1998. Water Activity and Its Importance in Making Candy, *National AACT Technical Seminar.*

- Xrite. 2015. *A Guide to Understanding Color Communication.*  
[https://www.xrite.com/documents/literature/en/L10-001\\_Understand\\_Color\\_en.pdf](https://www.xrite.com/documents/literature/en/L10-001_Understand_Color_en.pdf) (9 Februari 2018).