

## BAB VI KESIMPULAN DAN SARAN

### 6.1. Kesimpulan

1. Konsentrasi isolat protein kedelai memberikan pengaruh nyata terhadap *cooking loss*, kadar air, *juiciness*, *water holding capacity*, warna, tekstur (*hardness*, *cohesiveness*, *springiness*, *gumminess*, *chewiness* dan *adhesiveness*), dan kesukaan organoleptik (kenampakan dan rasa) sosis ayam rendah lemak.
2. Konsentrasi isolat protein kedelai tidak memberikan pengaruh nyata terhadap kesukaan organoleptik (warna, kemudahan digigit, kemudahan dikunyah, dan *juiciness*) sosis ayam rendah lemak.
3. Perlakuan yang paling disukai oleh panelis adalah penambahan konsentrasi isolat protein kedelai 3% pada sosis ayam rendah lemak.

### 6.2. Saran

Penggunaan isolat protein kedelai pada sosis ayam rendah lemak telah diteliti dapat memperbaiki karakteristik sosis ayam rendah lemak namun kombinasi antara konsentrasi tapioka sebagai *filler* dan isolat protein kedelai yang digunakan perlu dilakukan penelitian lebih lanjut sehingga menghasilkan sosis ayam rendah lemak yang memiliki karakteristik yang lebih baik dan disukai oleh panelis.

## DAFTAR PUSTAKA

- Aberle, D.E., J.C. Forrest, D.E. Gerrard, and E.W. Mills. 2001. *Principles of Meat Science. Fourth Edition*. San Francisco, United States of America : W.H. Freeman and Company
- Akesowan, A. 2010. Effect of Soy Protein Isolate on Quality of Light Pork Sausages Containing Konjac Flour. *African Journal Of Biotechnology* 7(24):4586-4590.
- Akoh, C. C. 1998. *Fat Replacer*. New York : John Wiley and Sons, Inc.
- Andres, S. C., N. E. Zaritzky, and A. N. Califano. 2009. Innovation in The Development of Healthier Chicken Sausages Formulated with Different Lipid Sources. *Poultry Science* 88: 1755-1764.
- Ariyani, F. R. 2005. Sifat Fisik dan Palatabilitas Sosis Daging Sapi dengan Penambahan Karagenan. *Skripsi S-1*. Fakultas Teknologi Pertanian Insitut Pertanian Bogor, Bogor. <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&d=1&ved=0CCYQFjAA&url=http%3A%2F%2Fjournals1.undip.ac.id%2Findex.php%2Fjpbhp%2Farticle%2Fdoi> (15 Agustus 2014).
- AOAC. 1990. *Official Methods of Analysis*. Washington D.C : Association of Analytical Chemists.
- Belitz, H.D., W. Grosch, dan P. Schieberle. 2009. *Food Chemistry 4<sup>th</sup> Revised and Extended Edition*. Germany : Springer-Verlag Berlin Heidelberg.
- Berk, Z. 1992. *FAO Agricultural Services Buletin No. 97*. www.fao.org. (10 Juni 2014).
- Bourne, M.C. 2002. *Food Texture and Viscosity: Concept and Measurement 2<sup>nd</sup> Edition*. New York: Academic Press.
- Conforti F.D. 2006. The Effect of Soya Flour and Flaxseed As A Partial Replacement For Bread in Yeast Bread. *International Journal Food Science Technology* 41: 95-101.

- Departemen Kesehatan Republik Indonesia. 2000. *Mengapa kita perlu daging*. <http://www.depkes.go.id/index.php?option=articles&task=article=110&itemid=3> (25 Agustus 2014).
- Effie. 1980. Pembuatan Sosis Ikan Cucut (*Centroscymus coelolepsi*). *Skripsi*. Fakultas Teknologi Pertanian Insitut Pertanian Bogor, Bogor. <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&d=1&ved=0CCYQFjAA&url=http%3A%2F%2Fjournal.s1.undip.ac.id%2Findex.php%2Fjpbhp%2Farticle%2Fdown> (3 September 2014).
- Endres, J.G. 2011. *Soy Protein Product, Characteristics, Nutritional Aspect And Utilization Revised And Expanded Edition*, AOAC Press ISBN 1-893997-27-8, Champaign, IL, USA.
- FAO. 2010. *Fats and Fatty Acid in Human Nutrition*. Roma: Food and Agriculture Organization of The United Nations.
- Fakolade, P. O. and A. B. Omojola. 2008. *Proximate Composition, pH Value, and Microbiological Evaluation of "Kundi" (dry meat) Product from Beef and Camel Meat*. Nigeria : Meat Science Laboratory, Animal Science Department, University of Ibadan. <http://www.tropentag.de/2008/abstracts/full/38.pdf> (2 September 2014)
- FDA. 2013. *Guidance for Industry : A. Food Labeling Guide*. <http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm064911.htm> (27 Agustus 2014)
- Gadiyaram, K.M. and G. Kannan. 2004. Comparison of Textural Properties of Low Fat Chevon, Beef, Pork, and Mixed Meat Sausages. *South African Journal Animal Science* 34(1):212-214.
- Gujral, H.S., A. Kaur, N. Singh and N.S. Sodhi. 2002. Effect of Liquid Whole Egg, Fat, and Textured Soy Protein on the Textural and Cooking Properties of Raw and Baked patties from Goat Meat. *Journal Food Engineering* 53: 377-385.
- Hettiarachchy, N. S. and Siegler, G. R. (1994). Structure-Function Relationship Of Food Protein dalam N. S. Hettiarachchy and G. R. Ziegler (Eds.). *Protein Functionality In Food Systems*. New York : Marcel Dekker.

- Hendrarsono. 1984. Produktifitas dan Sifat Fisiko Kimia Pati Kacang Merah (Kacang merahga pinnata Merr) di Pengolahan Kedung Halang Kabupaten Bogor. *Skripsi*. Fakultas Teknologi Pertanian Insitut Pertanian Bogor, Bogor. <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&d=1&ved=0CCYQFjAA&url=http%3A%2F%2Fjournals1.undip.ac.id%2Findex.php%2Fjpbhp%2Farticle%2Fdownload> (3 September 2014).
- Hui, Y.H. 2006. *Encyclopedia of Food Science and Technology*. New York : John Wiley and Sons Inc.
- Kartika, B., P. Hastuti dan W. Supartono. 1988. *Pedoman Uji Inderawi Bahan Pangan*. Yogyakarta : Pusat Antar Universitas Pangan dan Gizi, Universitas Gadjah Mada.
- Kay, D.E. 1979. *Food Legumes*. London : Tropical Product Institute.
- King, J. M., S. M. Chin, L. K. Svendsen, C. A. Reitmeier, L. A. Johnson, and W. R. Fehr. 2001. Processing of Lipoxygenase-Free Soybean and Evaluation in Foods. *J. American Oil Chemists' Society*, 78: 353 – 360
- Koswara,S. 1992. *Teknologi Pengolahan Kedelai Menjadi Makanan Bermutu*. Jakarta : Pustaka Sinar Harapan.
- Kramlich, R. V. 1971. *Sausage Product*. San Fransisco : W. H. Freeman and Company.
- Kramlich, D. M., A. W. Kotula and B. C. Breidnstein. 1973. *Muscle Food*. New York : Champman dan Hall Inc.
- Kurniani, A.D.T. 2014. Karakteristik Sosis Ayam Rendah Lemak dengan Variasi Jenis dan Konsentrasi *Filler*, *Skripsi*, Jurusan Teknologi Pangan dan Gizi, Universitas Katolik Widya Mandala Surabaya, Surabaya.
- Jideani, V.A. 2011. *Functional Properties of Soybean Food Ingredients in Food Systems, Soybean - Biochemistry, Chemistry and Physiology*. Prof. Tzi-Bun Ng (Ed.), ISBN: 978-953-307-219-7, InTech, DOI: 10.5772/14668.<http://www.intechopen.com/books/soybean->

biochemistry-chemistry-and-physiology/functional-properties-of-soybean-food-ingredients-in-food-systems (9 April 2015).

- Lawrie, R. A. 1998. *Meat Science 6th Edition*. England : Woodhead Publ. Limited. Cambridge.
- Lin MY, Humbert ES, Sosulki FW. 1974. Certain Functional properties of Sun Flower Meal Products. *J Food Science*. 39: 368.
- Liu, K. 1999. *Soybeans : Chemistry, Technology, and Utilization*. Maryland : Aspen Publishers Inc.
- Marsono, Y. 2002. Penentuan Indeks Glikemik Kacang-Kacangan, Faktor Determinan, dan Efek Hipoglisemiknya (KTI). *Jurnal Teknologi & Industri Pangan XII (3): 211- 216*.
- McElhatton A. dan P.J. do Amaral Sobral. 2011. *Novel Technologies in Food Science: Their Impact on Products, Consumer Trends and the Environment*. New York : Springer-Verlag New York Inc.
- Melnychuck V.L., J.D. Kirby, Y.K. Kirby, D.A. Emmerson & N.B. Anthony. 2004. Effect of Strain, Feed Allocation Program, and Age of Photostimulation on Reproductive Development and Carcass Characteristic of Broiler Breeder Hens. *Poultry Science* 83: 1861-1867.
- Meilgaard, M., Civille, G.V. dan Carr, B.T. 1999. *Sensory Evaluation Techniques 3rd ed*. Florida : CRC Press, Boca Raton.
- Muchtadi, T.R dan Sugiyono. 1992. *Petunjuk Laboratorium Ilmu Pengetahuan Bahan Pangan*. Bogor : Pusat Antar Universitas Pangan dan Gizi Institut Pertanian Bogor.
- Moehyi, S. 1992. *Penyelenggaraan Makanan Institusi dan Jasa Boga*. Jakarta: Bharata.
- Naruki, S. 1991. *Gizi Terapan. Pusat Antar Universitas Pangan dan Gizi*. Yogyakarta : Universitas Gadjah Mada.
- Pabita, G. 2011. Pengaruh Tingkat Penambahan Lemak dan Isolat Protein Kedelai (IPK) Terhadap Kualitas Burger dari Daging Sapi Bali. *Skripsi*. Fakultas Peternakan, Universitas Hasanuddin, Makassar.

- Park, J., K. S. Hee and Y. A. Ziprin. 1990. Low Fat Frankfurthers with Elevated Level of Water and Oleic Acid. *Journal of Food Science* 55(3) : 871-872, 874.
- Pearson, A.M. dan T.R. Dutson. 1997. *Production and Processing of Healthy Meat, Poultry and Fish Products*. London : Chapman & Hall.
- Pour-El, A. 1980. *Protein Functionality, Classification, Definition, and Anethodology di dalam Cherry, J.P. (Ed). Protein Functionality in Foods, ACS Symposium (147)*, American Chem. Society, Washington D.C.
- Prijambodo, O.M. 2014. Karakteristik Fisikokimia dan Organoleptik Sosis Ayam dengan Proporsi Kacang Merah Kukus dan Minyak Kelapa Sawit. *Skripsi*. Jurusan Teknologi Pangan dan Gizi, Universitas Katolik Widya Mandala Surabaya, Surabaya.
- Putra, A.A., N. Huda and R. Ahmad. 2011. Changes During the Processing of Duck Meatballs Using Different Fillers after The Preheating and Heating Process. *International Journal Poultry Science* 10(1):62-70.
- Radley, J.A. 1954. *Starch and It's Derivates*. New York : John Willey and Sons Inc.
- Ranken, M.D. 2000. *Meat Product Technology*. United Kingdom : Blackwell Science, Ltd.
- Romans, J. R., W. J. Costello, C. W. Carlson, M. L. Greaser and K.W. Jones. 1994. *The Meat We Eat 13th Edition*. Illinois : Interstate Publishers Inc.
- Rosenthal, A.J. 1999. *Food Texture: Measurement and Perception A Chapman & Hall Food Science Book*. United Kingdom: Springer.
- Rust, R. E. 1977. *Sausage Products*. (dalam *Science of Meat and Meat Product*, J. F. Price dan S. B. Schweigert, Eds.), *Food and Nutrition Press Inc.*, USA 457-485.
- Sai-Ut, S., S. Ketnawa, P. Chaiwut and S. Rawdkuen. 2009. Biochemical and Functional Properties of Proteins from Red Kidney Navy and Adzuki Beans. *Asian Journal of Food and Agro-Industry*. 2(04): 493-504

- Sathe, S. K. 2002. Dry Bean Protein Functionality. *Critical Reviews in Biotechnology* 22(2):175-223.
- Setiasih, I.S., I. Setiawan, H.R. Mahmud dan T. Sukarti. 2003. Pembuatan Sosis Daging Itik Sebagai Salah Satu Diversifikasi Produk Pangan Ternak, *Prosiding Seminar Nasional PATPI*, Malang, 30-31 Juli 2003.
- Sevilla, M.T.E. 2008. Isolation, Purification, and Characterization of Globulin of *Ditaxis heterantha* Seed and Gel-Foaming-Evaluaziton by Heat-Induction. *Thesis S-2*. Wageningen University. [http://educon.javeriana.edu.co/lagrotech/images/maria\\_espino.pdf](http://educon.javeriana.edu.co/lagrotech/images/maria_espino.pdf) (4 September 2014)
- Schmidt, G. R. 1988. *Processing*. In: H. R. Cross dan A. J. Overby. *Meat Science, Milk Science and Technology*. Amsterdam : Elsevier Sci. Publ., B. V.
- Suyatma, 2009. Diagram Warna Hunter (Kajian Pustaka). *Jurnal Penelitian Ilmiah Teknologi Pertanian*, Institut Pertanian Bogor, Page 8-9.
- Soeparno. 1994. *Ilmu dan Teknologi Daging*. Yogyakarta: Universitas Gadjah Mada.
- Stadelman, W.J., V.M. Olson, G.A. Shmwell, S. Pasch.1988. *Egg and Poultry Meat Processing*. London: Ellis Harwood Ltd.
- Tang, Q.N. 2011.Process For The Production Of Protein Concentrates And Protein Isolates, *EP 2293685 A1*, Bioexx Specialty Proteins Ltd.
- USDA. 2010. *Nutrient Database*. <http://ndb.nal.usda.gov/ndb/search/list>. (20 Juli 2014).
- Wang, R. 2013. Karakteristik Sifat Fungsional Kacang Merah Rebus dengan Variasi Waktu Perebusan. *Skripsi*. Fakultas Teknologi Pertanian, Universitas Katolik Widya Mandala, Surabaya.
- Wicaksana, F.C., Tri Winarni, Dan Laras R. 2014. Pengaruh Penambahan Bahan Pengikat Terhadap Karakteristik Fisik Surimi Ikan Patin

- (*Pangasius Hypophthalmus*). Jurnal Pengolahan dan Bioteknologi Hasil Perikanan Vol. 3 No. 3.
- Widiantoro, B. 2014. Warna *Hue, Value, Chroma* Pengelompokan dan Karakter Warna. Semarang: Unika Soegijapranata.
- Widjanarko, S.B., Erryana M., dan Pritta N. 2013. Mutu Sosis Lele Dumbo (*Clarias gariepinus*) Akibat Penambahan Jenis dan Konsentrasi Binder. Jurnal Teknologi Pertanian Vol.5 No.3:106-115.
- Widodo, S.A. 2008. Karakteristik Sosis Ikan Kurisi (*Nemipterus nematophorus*) dengan Penambahan Isolat Protein Kedelai dan Karagenan pada Penyimpanan Suhu *Chilling* dan *Freezing*. Skripsi. Fakultas Perikanan dan Ilmu Kelautan, Institut Pertanian Bogor, Bogor.
- Winarno, F. G. dan S. Koswara. 2002. *Unggas*. Bogor : M-Brio Press.
- Wijaya, D. A. 2014. Pengaruh Lama Pengukusan Kacang Merah Terhadap Karakteristik Sosis Ayam Rendah Lemak Yang Menggunakan Kacang Merah Sebagai Fat Replacer. Skripsi. Jurusan Teknologi Pangan dan Gizi, Universitas Katolik Widya Mandala Surabaya, Surabaya.
- Zayas, J.F. 1997. *Functionality of Food Proteins in Food*. German : Springer Verlag Berlan Heidelberg.