

## **BAB IV**

### **KESIMPULAN**

1. Produk roti non-gluten sangat diperlukan oleh penderita *celiac disease*.
2. Penambahan hidrokoloid dalam adonan roti non-gluten mampu memberikan karakteristik rheologis yang menyerupai karakteristik rheologis adonan roti mengandung gluten.
3. Adonan roti non-gluten memiliki kemampuan glutenisasi yang lebih baik dibandingkan adonan roti mengandung gluten.
4. Adonan roti mengandung gluten dan adonan roti non-gluten memiliki beberapa sifat rheologis yang dapat dibandingkan.

## DAFTAR PUSTAKA

- Attenburrow, G., Barnes, D. J., Davies, A. P., & Ingman, S. J. (1990). Rheological properties of wheat glten. *Journal of Cereal Science*, 12, 1-4.
- Ballard, D. 2009. *Master Breadmaking Using Whole Wheat*. Utah: Cedar Fort Inc.
- Bloksma, A.H. 1990a. Rheology of the breadmaking process. *Cereal Foods World*. 35:228-236.
- Chaiwanichsiri, S., Ohnishi, S., Suzuki, T., Takai, R., Miyawaki, O. 2001. Measurement of electrical conductivity, differential scanning calorimetry and viscosity of starch and flour suspensions during gelatinization process. *Journal of the Science of Food and Agriculture* 81, 1586-1591.
- De Gennes, P. G. 1979. Scalling Concepts in Polymer Physics, Cornell University press. Ithaca.
- Dobraszczyk, B. J. and M.P. Morgenstern. 2003. Rheology and the Breadmaking process. *J. Cereal Sci.* 28 (3):229-245.
- Dobraszczyk, B. J. P. Ainsworth, S. Ibanoglu and P. Bouchon. 2006. Baking, Extrusion and Frying. In: Wiley-VCH Verlag GmbH & Co. KGaA. Pp. 237-290.
- Evans, I.D., Haisman, D.R., 1982. The effect of solutes on the gelatinization temperature range of potato starch. *Starch* 34, 224–231.
- Faridi, H. and J.M. Faubion. 1986. Fundamentals of Dough Rheology. American Association of Cereal Chemists, St. Paul, MN, USA.
- Fanta, G.F., Christianson, D.D., 1996. Starch-hydrocolloid composites prepared by steam jet cooking. *Food Hydrocolloids* 10, 173–178.

- Fischer, P. and E.J. Windhab. 2011. Rheology of food materials. Current Opinion in Colloid and Interface Science. 16:36-40.
- Greenwood, C.T. 1979. *Principle of Food Science: Food Chemistry, Part I.* New York: Marcell Dekker, Inc.
- Hanneman, L. J. 1986. *Bakery Bread and Fermented Goods.* London: William Heinemann, Ltd.
- Hui, Y.H., (Ed). 2006. *Bakery Products: Science and Technology.* Iowa: Blackwell Publishing.
- Kuswanto, K. R. dan Sudarmadji, S. 1988. *Proses-proses Mikrobiologi Pangan.* Yogyakarta: PAU Pangan dan Gizi, UGM
- Karaoglu, M.M. 2011. Dough Characteristics of Wheat Flour Milled from Wheat Grains Stored in Spike Form. Int. J. Food Sci. Technol. 46(9):1905-1911.
- Lazaridou, A., Duta, D., Papageorgiou, M., Belc, N., Biliaderis, C.G., 2007. Effects of hydrocolloids on dough rheology and bread quality parameters in gluten-free formulations. Journal of Food Engineering 79, 1033–1047.
- Li, W., Dobraszczyk, B.J., Schofield, J.D., 2003. Stress relaxation behaviour of wheat dough and gluten proteins fractions. Cereal Chemistry 80, 333–338
- Marco, C. and C.M. Rosell. 2008. Functional and rheological properties of protein enriched gluten free composite flours. J. Food Engg. 88(1):94-103.
- Matz, S. A. 1972. *Bakery Technology and Engineering, 2<sup>nd</sup> Edition.* Connecticut: AVI Publishing Company, Inc.
- Moore, M.M., Heinbockel, M., Dockery, P., Ulmer, H.M., Arendt, E.K., 2006. Network formation in gluten-free bread with application of transglutaminase. Cereal Chemistry 83 (1), 28–36.
- Mudjajanto E.S dan L.N Yulianti. 2004. Membuat Aneka Roti, Penebar Swadaya. Jakarta.

- Sanchez, D.H., Osella, C.A., de la Torre, M.A.G., 2002. Optimization of gluten-free bread prepared from corn starch, rice flour and cassava starch. *Journal of Food Science* 67, 416–419.
- Sikora, M., Krystyjan, M., 2009. Interactions of Potato (*Solanum tuberosum L.*) starch with selected polysaccharide hydrocolloids – a mini review. *Food*, 2009, Special issue 1, Potato III, 72–78.
- Sultan, W. J. 1981. *Practical Baking Manual, 3<sup>rd</sup> Edition*. Connecticut: AVI Publishing Company, Inc.
- Vaclavik, V.A. dan E.W. Christian. 2008. *Essentials of Food Science Third Edition*. New York: Springer.
- van Vliet, T., A.M. Janssen, A.H. Bloksma and P. Walstra. 1992. Strain hardening of dough as a requirement for gas retention. *J. Texture Stud.* 23:439-460.
- Watanabe, A., H. Larsson and A.C. Eliasson. 2002. Effect of physical state of nonpolar lipids on rheology and microstructure of gluten-starch and wheat flour doughs. *Cereral Chem.* 79:203-209.
- Wijayanti, Y. R. 2007. *Substitusi Tepung Gandum dengan Tepung Garut pada Pembuatan Roti Tawar*. Yogyakarta: PAU Pangan dan Gizi, UGM.
- Zheng, H., M.P. Morgenstern, O.H. Campanella and N.G. Larsen. 2000. Rheological properties if dough during mechanical dough development. *J. Cereal Sci.* 32(3):293-306.