DAFTAR PUSTAKA

Akhyar. 2009. Pengaruh Proses Pratanak Terhadap Mutu Gizi dan Indeks Glikemik Berbagai Varietas Beras Indonesia. [Tesis]. Fakultas Sains. Institut Pertanian Bogor. Bogor . 102 hal.

Anju, P., Moothedath, I.,and Shree, A.B.R. 2014. Gamma Amino Butyric Acid accumulation in medicinal plants.Anc Sci Life. 34(2): 68-72.

Andarwulan N, Kusnandar, F dan Herawati, D., 2011, Analisa Pangan, PT. Dian Rakyat, Jakarta.

Anonim. 2009. Mutu Gizi dan Mutu Rasa Beras Varietas Unggul Ciherang. Warta Pnelitian dan Pengembangan Pertanian Volume 31 Nomor 2, Balai Besar Penelitian Tanaman Padi Subang.

AOAC. 1995. Official Methods of Analysis of Assosiation of Official Analytical Chemist. AOAC Int. Washington DC.

AOAC. 2005. Offical Methods of Analysis. 16th ed. AOAC Int., Washington D. C.

Astawan, M., 1999, Membuat Mie dan Bihun, Penebar Swadaya, Jakarta.

Astawan, M. (2006). Membuat Mie dan Bihun. Penebar Swadaya. Bogor.

Astawan, M., Febrinda A.E. 2010. Potensi Dedak dan Bekatul Beras sebagai Ingredient Pangan dan Produk Pangan Fungsional. Jurnal Pangan. Vol. 19 (1): 14–21.

Badan Ketahanan Pangan Kementerian Pertanian. 2015. Data Statistik Ketahanan Pangan Tahun 2014. Jakarta.

Badan Pusat Statistik (BPS). 2019. Produksi Padi Tahun 2015 Naik 6,42 Persen Luas Panen dan Produksi Padi pada Tahun 2019 MengalamaiPenurunan Dibandingkan Tahun 2018 Masing- MasingSebesar 6,15 dan 7,76 Persen. Jakarta. https://www.bps.go.id/pressrelease/2020/02/04/1752/luas-panen-dan-produksi-padi-padatahun-2019-mengalami-penurunan-dibandingkan-tahun-2018-masing-masing-sebesar-6-15-dan-7-76persen.html. Diakses pada tanggal 30 Agustus 2020. Makassar.

Badani, A.A. 2017. Studi pengaruh perendaman gabah kering terhadap nutrisi beras yang dihasilkan. Skripsi Program Studi Ilmu dan Teknologi Pangan Universitas Hasanuddin.

BAKER, A. E., DOERRY, W. T. & KEMP, K. (1986). Instron factors involved in measuring crumb firmness. Cereal Foods World 31, 193.

Ballo, M., Nio, S.A., Pandiangan, D., dan Mantiri, F.R. 2012. Respons morfologis beberapa varietas padi (Oryza sativa L.) terhadap kekeringan pada fase perkecambahan. Jurnal Bioslogos. 2(2): 88-95.

Banchuen, J. 2010. Bioactive compounds in germinated brown rice and its application. PhD Thesis at Prince of Songkla University.

Bhattacharya, K.L., 1985. *Parboiling of Rice. In: Rice Chemistry and Technology*. AAC International: St. Paul, MN. 305-306. Dalam Sareepuang, K., Siriamornpun, S., Wiset, L., dan Meeso, N. 2008. *Effect of Soaking Temperature on Physical, Chemical and Cooking Properties of Parboiled Fragrant Rice. World Journal of Agricultural Sciences* 4 (4): 409- 415, 2008.

Buckle, K.A., R.A. Edwards, G.H. Fleet, M. Wootton. 1987. Universitas Indonesia Press. Jakarta.

Cáceres, P.J., Peñas E., Martinez-Villaluenga C., Amigo L., Frias J. 2017. Enhancement of biologically active compounds in germinated brown rice and the effect of sun drying. Journal of Cereal Science. Vol. 73. Nov:1–9. doi:10.1016/ j.jcs.2016.11.001.

Campbell, N.A., Reece, J.B., & Mitchell, L.G. (2003). Biologi. Jilid 2. Edisi Kelima. Alih Bahasa: Wasmen. Jakarta: Penerbit Erlangga.

Charley, H., 1970, Food Science, John Willey and Sons Inc, New York.

Damardjati, D.S., dan E.Y. Purwani. 1991. Mutu Beras. Padi Buku 3. Puslitbang Tanaman Pangan, Bogor.

Derycke, V., Vandeputte, G.E., Vermeylen, R., De Man, W., Goderis, B., Koch, M.H.J, and Delcour, J.A. 2005. *Starch gelatinization and amylose- lipid interactions during rice parboiling investigated by temperature resolved wide angle x-ray scattering and differential scanning calorimetry*. Journal of Cereal Science 42(3): 334-343.

Departemen Kesehatan RI, 2004, Keputusan Menteri Kesehatan Republik Indonesia Nomor 1197/Menkes/SK/X/2004, tentang Standar Pelayanan Farmasi di Rumah Sakit, Jakarta.

Desrosier, N. W., 1988. Teknologi Pengawetan Pangan. Universitas Indonesia Press. Jakarta.

Dianti, R.W. 2010. Kajian Karakteristik Fisikokimia dan Sensori Beras Organik Mentik Susu dan IR64, Pecah Kulit dan Giling Selama Penyimpanan. [Skripsi]. Universitas Sebelas Maret. Surakarta. Hal 5.

Direktorat Gizi Departemen Kesehatan RI. 2004. Daftar Komposisi zat Gizi. Pangan Indonesia. Departemen Kesehatan. Jakarta.

Dobraszczyk, B. J. (2003). The physics of baking: rheological and polymer molecular structure-function relationships in breadmaking. Polish Journal of Food and Nutrition Sciences, 12(53).

Driskell, J.A. 1994. Piridoksin requirements ofhumans. Nutr Res. 14, 293-324.

Ejebe, F., N. Danbaba, M. Ngadi. 2015. Effect of steaming on physical and thermal properties of parboiled rice. European International Journal of Science and Technology Vol.4(4): 71-80.

FAO. 2004. Statistical Database of Food Balance Sheet. FAOSTAT. http://www.fao.org. [13 September 2021].

Faridah, A. Kasmita S.Pada. Asmar Y. Liswarti Y. 2008. Patiseri jilid 1 untuk SMK, Jakarta Pembinaan Sekolah Menengah Kejuruan, Direktorat Jenderal Manajemen Pendidikan Dasar dan Menegah Departmen Pendidikan Nasional. 546 hal.

Fatkurahman R, Windi A, Basito. (2012) Karakteristik Sensoris Dan Sifat Fisiko kimia Cookies Dengan Subtitusi Bekatul Beras Hitam (Oryza Sativa, L.) dan Tepung Jagung (Zea Mays L.). Jurnal Teknosains Pangan Vol 1 No 1 Oktober 2012. Jurusan Ilmu dan Teknologi Pangan Universitas Sebelas Maret. 50-55.

Food Safety and Standards Authority of India (FSSAI). Trainning Manual for Food Safety Regulators. New Delhi : Food Safety and Standards Authority of India. Vol I. Introduction to Foof and Food Processing. 2010.

Franklin, I.K. and Wollheim, C.B. 2004. GABA in the endocrine pancreas : its putative role as an islet cell paracrine-signalling molecule. J Gen Physiol. 123: 185-190.

Gariboldi. 1984. Parboiled rice. Dalam Houston DF, editor. Rice Chemisty and Technology. Minnesota (USA): American Association Cereal Chemist Inc.

H.B. Sutopo. 2002. Pengantar Penelitian Kualitatif. Surakarta : Universitas Sebelas Maret Press.

Handoyo, T. 2008. Kandungan Gamma-Amino Butyric Acid dan Protein Alergenik Selama Perkecambahan Biji . Prosiding Seminar Nasional Pangan : Yogyakarta.

Hanum, C. 2008. Teknik Budidaya Tanaman jilid 2. Direktorat Pembinaaan Sekolah Menengah Kejuruan. Jakarta. 280 hal.

Hartatik dan L.R. Widowati. 2010. Pupuk Organik dan Pupuk Hayati. http://www.balittanah.litbang.deptan.go.id. Diakses 30 Agustus 2021.

Haryadi. 2006. Teknologi Pengolahan Beras. Yogyakarta :Gadjah Mada University Press

Hasbullah, R. 2013. Pengaruh Lama Perendaman Terhadap Mutu Beras Pratanak pada Padi Varietas IR 64. Jurnal Keteknikan Pertanian, 27(1): 54-60.

Hayakawa, K., Kimura M., Kasaha K., Matsumoto K., Sansawa H., Yamori Y. 2004. Effect of a gammaaminobutyric acid enriched dairy product on blood pressure of spontaneously hypertensive and normotensive Wistar–Kyoto rats. British

Journal of Nutrition. Vol. 92:411–417.

Hermayanti., Yeni., Eli G. 2006. Modul Analisis Proksimat. Padang. SMAK.

He, H., & Hoseney, R. C. (1990). Changes in bread firmness and moisture during long-term storage. Cereal Chemistry, 67(6): 603-605.

Himmelsbach DS, Manful JT, Coker RD (2008) Changes in rice with variable temperature parboiling: thermal and spectroscopic assessment. Cereal Chemistry 85: 384–390. DOI: 10.1094/CCHEM-85-3-0384.

Indrasari, S. D. dan Adnyana. 2006. Preferensi Konsumen terhadap Beras Merah sebagai Sumber Pangan Fungsional. Iptek Tanaman Pangan.Vol 2(2): 227-241.

Inyang, C. U. dan U. M. Zakaria. 2008. Effect of Germination and Frementation of Pearl Millet on Proximate Chemical and Sensory Properties of Instant Fura a Nigerian Cereal Food. Pakistan Journal of Nutrition. 7(1): 9-12.

Jones, D.W. and Amos, A.J., 1967. Modern Cereal Chemistry, Sixth edition, Food Trade Press LTD. London.

Juliano, B. O. 1972. The Rice Caryopsis and Its Composition. Dalam D, F. Hounston (Ed), Rice, Chemistry and Technology, The American Association of Cereal Chemistry, St. Paul, Minnesota. Pp :21-27.

Kartika,B.P. Hastuti, W. Supartono. , 1987. Pedoman Uji Inderawi Bahan Pangan. Penerbit UGM. Yogyakarta.

Kayahara, H.; Tsukahara, K. 2000. Flavor, Health and Nutritional Quality of Pre-Germinated Brown rice. In *Proceedings of the International Chemical Congress of Pacific Basin Societies*, Honolulu, HI, USA, 14–19 December 2000.

Kook, M.C. and S.C. Cho. 2013. Production of GABA (gamma amino butyric acid) by Lactid Acid Bacteria. Korean Journal Food and Science. 3(3): 377-387.

Komatsuzaki, M., and Ohta, H. 2007**.** Soil management practice for sustainable agroecosystem. Sustain.Sci, 2:103–120.

Koswara, S. 2009. Teknologi pengolahan roti. Http://www.ebookpangan.com [Diakses tanggal 28 September 2021].

Lešková, E., Kubíková, J., Kováčiková, E., Košická, M., Porubská, J., & Holčíková, K. (2006). *Vitamin losses: Retention during heat treatment and continual changes expressed by mathematical models. Journal of Food Composition and analysis*, *19*(4), 252-276.

Lopez, A.C.B., Pereira, A.J.G., and Junqueria, R.G. 2004. Flour Mixture of Rice Flour, Corn and Cassava Starch in The Production of GlutenFree White Bread. Brazillian archieve of Biology and Technology. Vol 47(1):66-70.

Lopez, E. P., Perez, G. T., Erramouspe, J. P. L., Cuevas, C. M. (2013). Effect of Brea Gum on the characteristics of wheat bread at different storage times. Food Science and Technology, Campinas, 33(4): 745-752. doi. org/10.1590/s0101-20612013000400021.

Luscher, B. and Keller, C.A. 2004. Regulation of GABA A receptor trafficking , chanel activity, and functional plasticity of inhibitory synapses. Pharmacology and Therapeutics. 102(3): 195-221.

Mirsaeedghazi, H., Emam-Djomeh, Z., & Mousavi, S. M. A. (2008). Rheometric measurement of dough rheological characteristics and factors affecting it. International Journal of Agriculture and Biology, 10: 112-119.

Muchtadi, T.R., 1997. Teknologi Proses Pengolahan Pangan. Terjemahan A.M. Syarief, Bogor: IPB-Press.

Mudjajanto, E. S dan L.N. Yulianti. 2004. Membuat Aneka Roti. Penebar Swadaya, Bogor.

Noguchi, T., Nakamura, K., Nagai, T., Katsuda, S. I., & Koga, H. (2007). Antihypertensive effects of GABA-enriched potato snacks in spontaneously hypertensive rats. Journal of the Japanese Society for Food Science and Technology (Japan).

Nurhaeni, S. 1980. Mempelajari Kebutuhan Panas dan Kecepatan Pengeringan Pengolahan Parboiled Rice [skripsi]. Fakultas Mekanisasi dan Teknologi Hasil Pertanian, Institut Pertanian Bogor. Bogor.

Rahman, A.N.F., Genisa, J., Dirpan, A., Badani, A.A. 2018. Modification of dry grain processing for rice nutrition produced. IOP conf series: Earth and Environmental Science 157 012036.

Rauf, R., & Sarbini, D. (2015). Water absorption as a reference to determine the volume of water in the manufacture of white bread dough mixture of wheat flour and cassava flour. Jurnal Agritech, 35(3): 324–330. doi.org/10.22146/ agritech.9344.

Rauf, R., Sarbini, D., & Nurdiana. 2017. Optimization of Fermentation Time on Physical Characteristics and Sensory Acceptance of Bread from Composite Wheat and Cassava Flours with Proporsional Water Volume. In International Conference on Science, Technology, and Humanity. Surakarta, Indonesia.

Roy, P., Orikasa, T., Okadome, H., Nakamura, N. and Shiina, T. 2011. Processing conditions, rice properties, health and environment. *Int. J. Environ. Res. Pub. Healt,* 8, 1957-1976.

Różył, R., Dziki, D., Gawlik-Dziki, U., Cacak-Pietrzak, G., Miś, A., & Rudy, S. (2015). Physical properties of gluten-free bread caused by water addition. International Agrophysics, 29: 353-364. doi.org/10.1515/intag-2015-0042.

Salmenkallio-Marttila, M., Roininen, K., Autio, K., & Lähteenmäki, L. (2004). Effects of gluten and transglutaminase on microstructure, sensory characteristics and instrumental texture of oat bread. Agricultural and Food Science, 13: 138-150. doi.org/10.2137/1239099041838003.

Sareepuang, K., Siriamornpun, S., Wiset, L., dan Meeso, N. 2008. Effect of Soaking Temperature on Physical, Chemical and Cooking Properties of Parboiled Fragrant Rice. World Journal of Agricultural Sciences 4 (4): 409- 415, 2008.

Setyaningsih, D. Apriyantono, A. Sari, P. M. 2010. Analisis Sensori untuk Industri Pangan dan Agro. IPB. Bogor.

Srisang, N., Varanyanond W., Soponronnarit S., Prachayawarakorn S. 2011. Effects of heating media and operating conditions on drying kinetics and quality of germinated brown rice. Journal of Food Engineering. Vol. 107: 385–392. doi:10.1016/j.jfoodeng.2011.06.030.

Sroan, B. S., Bean, S. R., & MacRitchie, F. (2009). Mechanism of gas cell stabilization in bread making. I. The primary gluten-starch matrix. Journal of Cereal Science, 49: 32- 40. doi.org/10.1016/j.jcs.2008.07.003.

Standar Nasional Indonesia (SNI).01-3840-1995. Syarat Mutu Roti Tawar. Dewan Standar Nasional. Jakarta.

Sudarmadji, S., B. Haryono, Suhardi, 1997. Prosedur Analisa untuk Bahan Makanan dan Pertanian. Liberty, Yogyakarta.

Sufi, S.Y. 1999. Kreasi Roti. Jakarta; Gramedia Pustaka Utama.

Supardi dan Sukamto. 1999. Mikrobiologi, Pengolahan dan Keamanan Pangan. Jakarta: Alumni.

Suprapto, H.S. 2004. Bertanam Kacang Tanah. Penebar Swadaya. Jakarta.

Susilo, N., Hasbullah, R., dan Sugiyono. 2013. Proses Pengolahan Beras Pratanak Memperbaiki Kualitas dan Menurunkan Indeks Glikemik Gabah Varietas Ciherang. Artikel Pangan, 22(3): 209-219.

Suwandi, N. 2018. Pengaruh perkecambahan gabah (Oryza sativa) terhadap mutu beras. Skripsi Program Studi Ilmu dan Teknologi Pangan Universitas Hasanuddin.

Taneera J., Jin, Z., Jin, Y., Muhammed, S.J., Zhang, E., Lang, S., Salehi, A., Korsqren, O., Renstrom, O., Groop, L. and Birnir, B. 2012. Y aminobutyric acid (GABA) signalling in human pancreatic islet is altered in type 2 diabetes. Diabetalogia. 55(7):1985-1994.

Tarwotjo C. S. 1998. Dasar-dasar Gizi Kuliner. Jakarta: Grasindo

Tian, S.; Nakamura, K.; Kayahara, H. 2004. Analysis of phenolic compounds in white rice, brown rice, and germinated brown rice. *J. Agric. Food Chem.*, *52*, 4808-4813.

Uthayakumaran, S., Newberry, M., Keentok, M., Stoddard, F. L., & Bekes, F. (2000). Basic rheology of bread dough with modified protein and glutenin-to-gliadin ratios. Cereal Chemistry, 77(6): 744-749. doi.org/10.1094/ cchem.2000.77.6.744

Wahyudi. 2003. Memproduksi Roti. Direktorat Pendidikan Menengah Kejuruan Direktorat Jenderal Pendidikan Dasar dan Menengah Departemen Pendidikan Nasional, Jakarta.

Wang, B., J. Xie, Z. Chen, X. Lin and Z.W. Li. 2011. Effect of Prenatal Heat Stress on the Development of GABAB Receptor in Newborn Mouse Pituitary. Progress in Veterinary Medicine. 32(6): 60-63.

Watanabe, M., Maeda, T., Tsukahara, K., Kayahara H., and Morita N. 2004. An Application of Pre-Germinated Brown Rice for Bread-Making. Cereal Chem. 81:450-455.

Weiser, H. 2007. Chemistry of gluten protein. Food Microbiology, 24(2): 155-119. doi.org/10.1016/j.fm.2006.07.004.

Wenzhao L., Guangpeng L., BaolingS. Xianglei T., Xu, S., 2013, Effect of Sodium Stearoyl and the Microstruture of Dough. Advance Journal of Food Scence and Technology 5(6):682-687.

Widiatmoko, A. 2005. Perubahan Mutu Fisik Beras IR 64 Ciherang dan Sintanur pada Proses Penyimpanan Model Karungan.

Widowati, S. 2003. Prospek Tepung Sukun Untuk Berbagai Produk Makanan Olahan dalam Upaya Menunjang Divertifikasi Pangan. Makalah Pribadi pengantar ke Falsafah Sains. Program Sarjana S3. Institut Pertanian Bogor. Bogor

Widowati, S. 2009. Tepung Aneka Umbi Sebuah Solusi Ketahanan Pangan. Balai Besar Penelitian dan Pengembangan Pascapanen Pertanian dalam Tabloid Sinar Tani.

Wijayanti. 2007. Subtitusi Tepung Gandum (Triticum aestivum) Dengan Tepung Garut *(Maranta arundinaceaeL)* Pada Pembuatan Roti Tawar. Skripsi. Teknologi Pertanian Universitas Gajah Mada. Yogyakarta.

Wimberly, J.E. 1983. Paddy Rice Post Harvest Industry in Developing Countries. http://books.google.com/books/paddy+rice+post+harvest. [20 Agustus 2021].

Winarno. 1993. Pangan, Gizi, Teknologi dan Konsumen. Jakarta: PT Gramedia Pustaka Utama.

Winarno, F.G.(1995).Kimia Pangan dan Gizi.Gramedia Pustaka.Jakarta.

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

Winarno, F.G. 2002. Kimia Pangan dan Gizi. Gramedia Pustaka Utama. Jakarta.

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

Winarno, F. G. (2008). Ilmu Pangan dan Gizi. Jakarta : Gramedia Pustaka Utama

LAMPIRAN

Lampiran A. Tabel Rekapitulasi Hasil Penelitian

No	Parameter Uji	Sampel Roti		
		Formula 3	Formula 5	Formula 7
1.	Organoleptik	3.34	3.83	3.41
2.	Kadar Air	24.9%	20.26%	20.49%
3.	Kadar Abu	0.7%	0.003%	0.79%
4.	Kadar Lemak	34.17%	39.18%	22.01%
5.	Kadar Protein	9.60%	9.13%	7.86%
6.	Serat Kasar	3.86%	3.66%	4.69%
7.	Kadar Karbohidrat	22.18%	22.63%	25.44%
8.	GABA	21.52 mg/kg	83.54 mg/kg	64.91 mg/kg
9.	Vitamin B1	0 mg / g	0 mg / g	0 mg / g
10.	Vitamin B2	0.05 mg / g	0.48 mg / g	0.28 mg / g
11.	Vitamin B6	0 mg / 100 g	0.3 mg / 100 g	0.33 mg / g
12.	Vitamin B9	218.26 mcg / 100 g	256.77 mcg / 100 g	149.67 mcg / 100 g
13.	Mangan	8.96 mg / kg	7.97 mg / kg	7.03 mg / kg
14.	Magnesium	37.49 mg / 100 g	35.63 mg / 100 g	37.03 mg / 100 g
15.	Zat Besi (Fe)	3.92 mg / 100 g	7.15 mg / 100 g	4.69 mg / 100 g
16.	Indeks Glikemik	60.11	50.67	51.65
17.	Gula Total	3.01%	11.30%	13.06%
18.	Tingkat Pengembangan Adonan	246%	210%	220%
19.	Tensile Strenght	35.1	28.2	31.7
20.	Strain adonan	66.8%	53.1%	56.1%
21.	Pengukuran Tekstur Roti	177 g	227 g	188 g

Tabel Lampiran B. Hasil Uji Organoleptik dari 7 Formula Roti

No	Karakteristik	Formula 1	Formula 2	Formula 3	Formula 4	Formula 5	Formula 6	Formula 7
1	Warna	3,33	2,06	3,46	3,86	3,93	2,26	3,67
2	Aroma	3,06	2,26	3,2	3,67	3,86	2,46	3,46
3	Tekstur	3,13	1,86	3,26	3,4	3,53	1,33	3,2
4	Rasa	3,06	1,93	3,33	3,6	3,86	1,86	3,26
5	Keseluruhan	3,13	2	3,46	2,2	4	3,73	3,46
Total		**15,71**	**10,11**	**16,71**	**16,73**	**19,18**	**11,64**	**17,05**

Lampiran C. Parameter Sifat Kimia pada Tepung Beras Pratanak dan Tepung Beras Tanpa Perlakuan

Parameter Uji	Sampel Tepung Beras	
	Tepung Beras Tanpa Perlakuan	Tepung Beras Pratanak
Kadar Air	23.15%	21.71%
Kadar Abu	1.23%	1.27%
Kadar Lemak	0.58%	1.2%
Kadar Protein	12.30%	12.16%
Serat Kasar	2.26%	2.05%
Kadar Karbohidrat	62.5%	63%
Vitamin B1	<15 mg / g	<15 mg / g
Vitamin B2	28 mg / g	14 mg / g
Vitamin B6	<0.06 mg / 100 g	<0.06 mg / 100 g
Vitamin B9	27 mcg / 100 g	<27 mcg / 100 g
Mangan	29.04 mg / kg	11.37 mg / kg
Magnesium	76.44 mg / 100 g	37.48 mg / 100 g
Zat Besi (Fe)	9.78 mg / 100 g	19.80 mg / 100 g
Kalsium	124 mg / 100 g	90 mg / 100 g
Gula Total	<28 mg / g	<28 mg / g

Lampiran D. Kuesioner Uji Organoleptik Roti

UJI HEDONIK

Produk: Roti Tawar

Nama :

Tanggal :

Instruksi

Dihadapan Anda disajikan 7 sampel **Roti Tawar** dengan kode yang berbeda. Anda diminta untuk memberi penilaian tingkat kesukaan terhadap warna, aroma, tekstur, rasa dan keseluruhan dengan cara memberikan skor kesukaan berdasarkan tingkatan berikut:

1 = Sangat Tidak Suka

2 = Tidak Suka

3 = Agak Suka

4 = Suka

5 = Sangat Suka

Netralkan indra pengecap Anda dengan air putih yang telah disediakan dan kemudian cicipilah sampel berikutnya.

Kode Sampel	Parameter				
	Warna	Aroma	Tekstur	Rasa	keseluruhan
961					
183					
551					
434					
623					
397					
836					

Selanjutnya Anda diminta untuk merangking 3 sampel yang Anda suka:

1.

2.

3.

Komentar:

……..

Tabel Lampiran D1. Hasil Analisa Sidik Ragam (ANOVA) Kadar Air Roti dengan 3 Formula yang berbeda

Descriptives

Air

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	3	24.9000	.02000	.01155	24.8503	24.9497	24.88	24.92
5	3	20.2567	.05508	.03180	20.1199	20.3935	20.20	20.31
7	3	20.4900	.02646	.01528	20.4243	20.5557	20.46	20.51
Total	9	21.8822	2.26582	.75527	20.1406	23.6239	20.20	24.92

Test of Homogeneity of Variances

Air

Levene Statistic	df1	df2	Sig.
1.276	2	6	.345

ANOVA

Air

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	41.063	2	20.532	14901.927	.000
Within Groups	.008	6	.001		
Total	41.071	8			

Tabel Lampiran D2. Hasil Uji Lanjut Kadar Air Roti dengan 3 Formula yang berbeda

Air

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
5	3	20.2567		
7	3		20.4900	

3	3			24.9000
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran E1. Hasil Analisa Sidik Ragam (ANOVA) Kadar Abu Roti dengan 3 Formula yang berbeda

Descriptives

abu

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	3	.7000	.03000	.01732	.6255	.7745	.67	.73
5	3	.3333	.05774	.03333	.1899	.4768	.30	.40
7	3	.7933	.02517	.01453	.7308	.8558	.77	.82
Total	9	.6089	.21345	.07115	.4448	.7730	.30	.82

Test of Homogeneity of Variances

abu

Levene Statistic	df1	df2	Sig.
2.375	2	6	.174

ANOVA

abu

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.355	2	.177	109.342	.000
Within Groups	.010	6	.002		
Total	.364	8			

Tabel Lampiran E2. Hasil Uji Lanjut Kadar Abu Roti dengan 3 Formula yang berbeda

abu

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
5	3	.3333		
3	3		.7000	
7	3			.7933
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran F1. Hasil Analisa Sidik Ragam (ANOVA) Kadar Protein Roti dengan 3 Formula yang berbeda

Descriptives

Protein

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	3	9.6023	.02023	.01168	9.5521	9.6526	9.58	9.62
5	3	9.1300	.16052	.09268	8.7312	9.5288	8.95	9.25
7	3	7.8607	.00473	.00273	7.8489	7.8724	7.86	7.87
Total	9	8.8643	.78423	.26141	8.2615	9.4671	7.86	9.62

Test of Homogeneity of Variances

Protein

Levene Statistic	df1	df2	Sig.
10.959	2	6	.010

ANOVA

Protein

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.868	2	2.434	278.700	.000
Within Groups	.052	6	.009		
Total	4.920	8			

Tabel Lampiran F2. Hasil Uji Lanjut Kadar Protein Roti dengan 3 Formula yang berbeda

Protein

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
7	3	7.8607		
5	3		9.1300	
3	3			9.6023
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran G1. Hasil Analisa Sidik Ragam (ANOVA) Kadar Serat Roti dengan 3 Formula yang berbeda

Descriptives

Serat

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	3	3.8633	.06028	.03480	3.7136	4.0131	3.80	3.92
5	3	3.6633	.04726	.02728	3.5459	3.7807	3.61	3.70
7	3	4.6900	.02646	.01528	4.6243	4.7557	4.66	4.71
Total	9	4.0722	.47310	.15770	3.7086	4.4359	3.61	4.71

Test of Homogeneity of Variances

Serat

Levene Statistic	df1	df2	Sig.
.838	2	6	.478

ANOVA

Serat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.777	2	.889	406.010	.000

Within Groups	.013	6	.002		
Total	1.791	8			

Tabel Lampiran G2. Hasil Uji Lanjut Kadar Serat Roti dengan 3 Formula yang berbeda

Serat

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
5	3	3.6633		
3	3		3.8633	
7	3			4.6900
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran H1. Hasil Analisa Sidik Ragam (ANOVA) Kadar Karbohidrat Roti dengan 3 Formula yang berbeda

Descriptives

Karbohidrat

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	3	22.1833	.11676	.06741	21.8933	22.4734	22.08	22.31
5	3	22.6200	.08185	.04726	22.4167	22.8233	22.53	22.69
7	3	25.4433	.04509	.02603	25.3313	25.5553	25.40	25.49
Total	9	23.4156	1.53437	.51146	22.2361	24.5950	22.08	25.49

Test of Homogeneity of Variances

Karbohidrat

Levene Statistic	df1	df2	Sig.
1.331	2	6	.332

ANOVA

Karbohidrat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.789	2	9.395	1260.100	.000
Within Groups	.045	6	.007		
Total	18.834	8			

Tabel Lampiran H2. Hasil Uji Lanjut Kadar Karbohidrat Roti dengan 3 Formula yang berbeda

Karbohidrat

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
3	3	22.1833		
5	3		22.6200	
7	3			25.4433
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran I1. Hasil Analisa Sidik Ragam (ANOVA) Kadar Lemak Roti dengan 3 Formula yang berbeda

Descriptives

lemak

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	3	3.5033	.43247	.24969	2.4290	4.5777	3.10	3.96
5	3	3.5167	.51598	.29790	2.2349	4.7984	3.12	4.10
7	3	2.6733	.53126	.30672	1.3536	3.9930	2.06	2.99
Total	9	3.2311	.59909	.19970	2.7706	3.6916	2.06	4.10

Test of Homogeneity of Variances

lemak

Levene Statistic	df1	df2	Sig.
.233	2	6	.799

ANOVA

lemak

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.400	2	.700	2.856	.134
Within Groups	1.471	6	.245		
Total	2.871	8			

Tabel Lampiran I2. Hasil Uji Lanjut Kadar Lemak Roti dengan 3 Formula yang berbeda

lemak

Duncan[a]

perlakuan	N	Subset for alpha = 0.05
		1
7	3	2.6733
3	3	3.5033
5	3	3.5167
Sig.		.091

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran J1. Hasil Analisa Sidik Ragam (ANOVA) GABA Roti dengan 3 Formula yang berbeda

Descriptives

GABA

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	2	21.4800	1.45664	1.03000	8.3926	34.5674	20.45	22.51
5	2	83.5400	2.87085	2.03000	57.7464	109.3336	81.51	85.57
7	2	64.9150	2.34052	1.65500	43.8862	85.9438	63.26	66.57
Total	6	56.6450	28.53932	11.65113	26.6948	86.5952	20.45	85.57

Test of Homogeneity of Variances

GABA

Levene Statistic	df1	df2	Sig.
.	2	.	.

ANOVA

GABA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4056.622	2	2028.311	384.110	.000
Within Groups	15.842	3	5.281		
Total	4072.464	5			

Tabel Lampiran J2. Hasil Uji Lanjut GABA Roti dengan 3 Formula yang berbeda

GABA

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
3	2	21.4800		
7	2		64.9150	
5	2			83.5400
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Tabel Lampiran K1. Hasil Analisa Sidik Ragam (ANOVA) Vitamin B2 Roti dengan 3 Formula yang berbeda

Descriptives

vitamin_b2

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	2	.0550	.00707	.00500	-.0085	.1185	.05	.06
5	2	.4800	.00000	.00000	.4800	.4800	.48	.48
7	2	.2800	.00000	.00000	.2800	.2800	.28	.28
Total	6	.2717	.19020	.07765	.0721	.4713	.05	.48

Test of Homogeneity of Variances

vitamin_b2

Levene Statistic	df1	df2	Sig.
.	2	.	.

ANOVA

vitamin_b2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.181	2	.090	5425.000	.000
Within Groups	.000	3	.000		
Total	.181	5			

Tabel Lampiran K2. Hasil Uji Lanjut Vitamin B2 Roti dengan 3 Formula yang berbeda

vitamin_b2

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
3	2	.0550		
7	2		.2800	
5	2			.4800

Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Tabel Lampiran L1. Hasil Analisa Sidik Ragam (ANOVA) Vitamin B6 Roti dengan 3 Formula yang berbeda

Descriptives

Vitamin_B6

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	2	.0000	.00000	.00000	.0000	.0000	.00	.00
5	2	.2950	.00707	.00500	.2315	.3585	.29	.30
7	2	.3300	.00000	.00000	.3300	.3300	.33	.33
Total	6	.2083	.16216	.06620	.0382	.3785	.00	.33

Test of Homogeneity of Variances

Vitamin_B6

Levene Statistic	df1	df2	Sig.
.	2	.	.

ANOVA

Vitamin_B6

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.131	2	.066	3943.000	.000
Within Groups	.000	3	.000		
Total	.131	5			

Tabel Lampiran L2. Hasil Uji Lanjut Vitamin B6 Roti dengan 3 Formula yang berbeda

Vitamin_B6

Duncan[a]

perlakuan	N	Subset for alpha = 0.05

		1	2	3
3	2	.0000		
5	2		.2950	
7	2			.3300
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Tabel Lampiran M1. Hasil Analisa Sidik Ragam (ANOVA) Vitamin B9 Roti dengan 3 Formula yang berbeda

Descriptives

Vitamin_B9

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	2	218.7200	2.10718	1.49000	199.7878	237.6522	217.23	220.21
5	2	256.7700	3.30926	2.34000	227.0375	286.5025	254.43	259.11
7	2	149.6700	.59397	.42000	144.3334	155.0066	149.25	150.09
Total	6	208.3867	48.59318	19.83808	157.3912	259.3821	149.25	259.11

Test of Homogeneity of Variances

Vitamin_B9

Levene Statistic	df1	df2	Sig.
1162086288981 0380.000	2	3	.000

ANOVA

Vitamin_B9

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11790.743	2	5895.372	1123.342	.000
Within Groups	15.744	3	5.248		
Total	11806.488	5			

Tabel Lampiran M2. Hasil Uji Lanjut Vitamin B9 Roti dengan 3 Formula yang berbeda

Vitamin_B9

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
7	2	149.6700		
3	2		218.7200	
5	2			256.7700
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Tabel Lampiran N1. Hasil Analisa Sidik Ragam (ANOVA) Zat Besi Roti dengan 3 Formula yang berbeda

Descriptives

Zat_Besi

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	2	3.9550	.20506	.14500	2.1126	5.7974	3.81	4.10
5	2	7.1450	.06364	.04500	6.5732	7.7168	7.10	7.19
7	2	4.6850	.03536	.02500	4.3673	5.0027	4.66	4.71
Total	6	5.2617	1.49807	.61158	3.6895	6.8338	3.81	7.19

Test of Homogeneity of Variances

Zat_Besi

Levene Statistic	df1	df2	Sig.
.	2	.	.

ANOVA

Zat_Besi

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.174	2	5.587	353.973	.000
Within Groups	.047	3	.016		

Total	11.221	5			

Tabel Lampiran N2. Hasil Uji Lanjut Zat Besi Roti dengan 3 Formula yang berbeda

Zat_Besi

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
3	2	3.9550		
7	2		4.6850	
5	2			7.1450
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Tabel Lampiran O1. Hasil Analisa Sidik Ragam (ANOVA) Magnesium Roti dengan 3 Formula yang berbeda

Descriptives

magnesium

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	2	37.2750	2.65165	1.87500	13.4509	61.0991	35.40	39.15
5	2	35.6250	.75660	.53500	28.8272	42.4228	35.09	36.16
7	2	37.0300	.21213	.15000	35.1241	38.9359	36.88	37.18
Total	6	36.6433	1.47104	.60055	35.0996	38.1871	35.09	39.15

Test of Homogeneity of Variances

magnesium

Levene Statistic	df1	df2	Sig.
1653568424442 6140.000	2	3	.000

ANOVA

magnesium

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.171	2	1.586	.622	.594
Within Groups	7.649	3	2.550		
Total	10.820	5			

Tabel Lampiran O2. Hasil Uji Lanjut Magnesium Roti dengan 3 Formula yang berbeda

magnesium

Duncan[a]

perlakuan	N	Subset for alpha = 0.05
		1
5	2	35.6250
7	2	37.0300
3	2	37.2750
Sig.		.375

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Tabel Lampiran P1. Hasil Analisa Sidik Ragam (ANOVA) Mangan Roti dengan 3 Formula yang berbeda

Descriptives

mangan

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	2	8.9450	.21920	.15500	6.9755	10.9145	8.79	9.10
5	2	7.9700	.04243	.03000	7.5888	8.3512	7.94	8.00
7	2	7.0250	.00707	.00500	6.9615	7.0885	7.02	7.03
Total	6	7.9800	.86448	.35292	7.0728	8.8872	7.02	9.10

Test of Homogeneity of Variances

mangan

Levene Statistic	df1	df2	Sig.
.	2	.	.

ANOVA

mangan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.687	2	1.843	110.823	.002
Within Groups	.050	3	.017		
Total	3.737	5			

Tabel Lampiran P2. Hasil Uji Lanjut Mangan Roti dengan 3 Formula yang berbeda

mangan

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
7	2	7.0250		
5	2		7.9700	
3	2			8.9450

Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Tabel Lampiran Q1. Hasil Analisa Sidik Ragam (ANOVA) Indeks Glikemik Roti dengan 3 Formula yang berbeda

Descriptives

indeks_glikemik

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	3	60.1167	19.73046	11.39139	11.1035	109.1299	38.63	77.42
5	3	50.6733	12.61352	7.28242	19.3396	82.0071	36.28	59.80
7	3	51.6500	11.17116	6.44967	23.8993	79.4007	43.58	64.40
Total	9	54.1467	13.73039	4.57680	43.5926	64.7008	36.28	77.42

Test of Homogeneity of Variances

indeks_glikemik

Levene Statistic	df1	df2	Sig.
.725	2	6	.522

ANOVA

indeks_glikemik

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	161.815	2	80.907	.361	.711
Within Groups	1346.374	6	224.396		
Total	1508.189	8			

Tabel Lampiran Q2. Hasil Uji Lanjut Indeks Glikemik Roti dengan 3 Formula yang berbeda

indeks_glikemik

Duncan[a]

perlakuan	N	Subset for alpha = 0.05
		1
5	3	50.6733
7	3	51.6500
3	3	60.1167
Sig.		.483

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran R1. Hasil Analisa Sidik Ragam (ANOVA) Gula Total Roti dengan 3 Formula yang berbeda

Descriptives

gula_total

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	2	3.2100	.42426	.30000	-.6019	7.0219	2.91	3.51
5	2	11.2950	.00707	.00500	11.2315	11.3585	11.29	11.30
7	2	13.0600	.19799	.14000	11.2811	14.8389	12.92	13.20
Total	6	9.1883	4.70225	1.91969	4.2536	14.1230	2.91	13.20

Test of Homogeneity of Variances

gula_total

Levene Statistic	df1	df2	Sig.
.	2	.	.

ANOVA

gula_total

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	110.337	2	55.168	754.869	.000
Within Groups	.219	3	.073		

Total	110.556	5			

Tabel Lampiran R2. Hasil Uji Lanjut Gula Total Roti dengan 3 Formula yang berbeda

gula_total

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
3	2	3.2100		
5	2		11.2950	
7	2			13.0600
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Tabel Lampiran S1. Hasil Analisa Sidik Ragam (ANOVA) Elongasi Adonan Roti dengan 3 Formula yang berbeda

Descriptives

pengembangan

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3	3	246.6667	85.04901	49.10307	35.3932	457.9401	160.00	330.00
5	3	210.0000	70.00000	40.41452	36.1104	383.8896	140.00	280.00
7	3	220.0000	101.48892	58.59465	-32.1124	472.1124	130.00	330.00
Total	9	225.5556	76.66667	25.55556	166.6243	284.4868	130.00	330.00

Test of Homogeneity of Variances

pengembangan

Levene Statistic	df1	df2	Sig.
.265	2	6	.776

ANOVA

pengembangan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2155.556	2	1077.778	.144	.869
Within Groups	44866.667	6	7477.778		
Total	47022.222	8			

Tabel Lampiran S2. Hasil Uji Lanjut Elongasi Adonan Roti dengan 3 Formula yang berbeda

pengembangan

Duncan[a]

perlakuan	N	Subset for alpha = 0.05
		1
5	3	210.0000
7	3	220.0000
3	3	246.6667
Sig.		.633

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran S3. Hasil Analisa Sidik Ragam (ANOVA) Elongasi Adonan Roti dengan 3 Formula yang berbeda

Descriptives

elongasi_tensile_strength

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
7	3	31.7333	.95551	.55167	29.3597	34.1070	30.63	32.29
5	3	28.2113	.43582	.25162	27.1287	29.2940	27.74	28.60
3	3	35.1350	.46773	.27005	33.9731	36.2969	34.61	35.49
Total	9	31.6932	3.05279	1.01760	29.3466	34.0398	27.74	35.49

Test of Homogeneity of Variances

elongasi_tensile_strength

Levene Statistic	df1	df2	Sig.
2.800	2	6	.138

ANOVA

elongasi_tensile_strength

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	71.913	2	35.956	81.613	.000
Within Groups	2.643	6	.441		
Total	74.556	8			

Tabel Lampiran S4. Hasil Uji Lanjut Elongasi Adonan Roti dengan 3 Formula yang berbeda

elongasi_tensile_strength

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
5	3	28.2113		
7	3		31.7333	
3	3			35.1350
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran S5. Hasil Analisa Sidik Ragam (ANOVA) Elongasi Adonan Roti dengan 3 Formula yang berbeda

Descriptives

elongasi_strain

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
7	3	56.1717	.59950	.34612	54.6824	57.6609	55.57	56.77
5	3	53.1640	.56200	.32447	51.7679	54.5601	52.60	53.73
3	3	66.8413	.70950	.40963	65.0788	68.6038	66.13	67.55
Total	9	58.7257	6.24815	2.08272	53.9229	63.5284	52.60	67.55

Test of Homogeneity of Variances

elongasi_strain

Levene Statistic	df1	df2	Sig.
.060	2	6	.942

ANOVA

elongasi_strain

	Sum of Squares	df	Mean Square	F	Sig.

Between Groups	309.957	2	154.979	394.470	.000
Within Groups	2.357	6	.393		
Total	312.315	8			

Tabel Lampiran S6. Hasil Uji Lanjut Elongasi Adonan Roti dengan 3 Formula yang berbeda

elongasi_strain

Duncan[a]

perlakuan	N	Subset for alpha = 0.05		
		1	2	3
5	3	53.1640		
7	3		56.1717	
3	3			66.8413
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Tabel Lampiran T1. Hasil Analisa Sidik Ragam (ANOVA) Tingkat Kekerasan Roti dengan 3 Formula yang berbeda

Descriptives

kekerasan

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
7	3	188.6667	29.90541	17.26589	114.3775	262.9558	162.00	221.00
5	3	227.6667	21.96209	12.67982	173.1098	282.2235	214.00	253.00
3	3	177.6667	41.63332	24.03701	74.2438	281.0896	131.00	211.00
Total	9	198.0000	35.98958	11.99653	170.3360	225.6640	131.00	253.00

Test of Homogeneity of Variances

kekerasan

Levene Statistic	df1	df2	Sig.

.887	2	6	.460

ANOVA

kekerasan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4142.000	2	2071.000	1.998	.216
Within Groups	6220.000	6	1036.667		
Total	10362.000	8			

Tabel Lampiran T2. Hasil Uji Lanjut Tingkat Kekerasan Roti dengan 3 Formula yang berbeda

kekerasan

Duncan[a]

		Subset for alpha = 0.05
perlakuan	N	1
3	3	177.6667
7	3	188.6667
5	3	227.6667
Sig.		.116

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Lampiran U. Dokumentasi Penelitian

Proses Pembuatan Tepung Beras Hasil Perkecambahan Gabah

Hasil perendaman gabah

Hasil pemeraman gabah

Penggilingan gabah menjadi beras

Pengeringan gabah

Penggilingan beras menjadi tepung

Pengeringan tepung

Pengayakan tepung

Proses Pembuatan Tepung Beras Pratanak

Perendaman gabah suhu 60°C

Hasil penirisan gabah

Pengukusan gabah suhu 90°C

Pengeringan gabah hasil pratanak

Penggilingan gabah menjadi beras

Penggilingan beras menjadi tepung

Pengeringan tepung

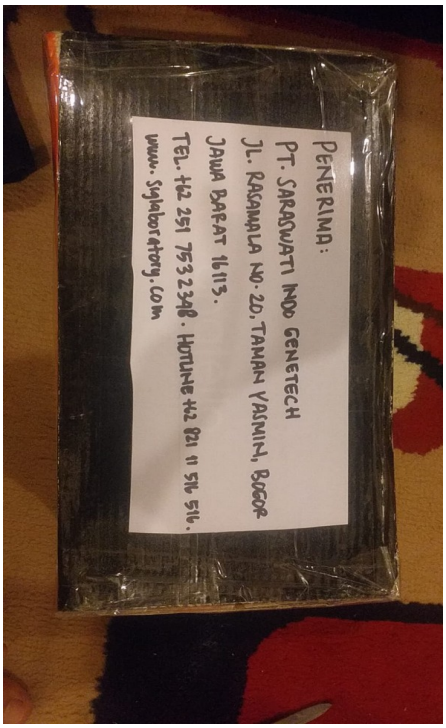
Pengayakan tepung

Produk Roti

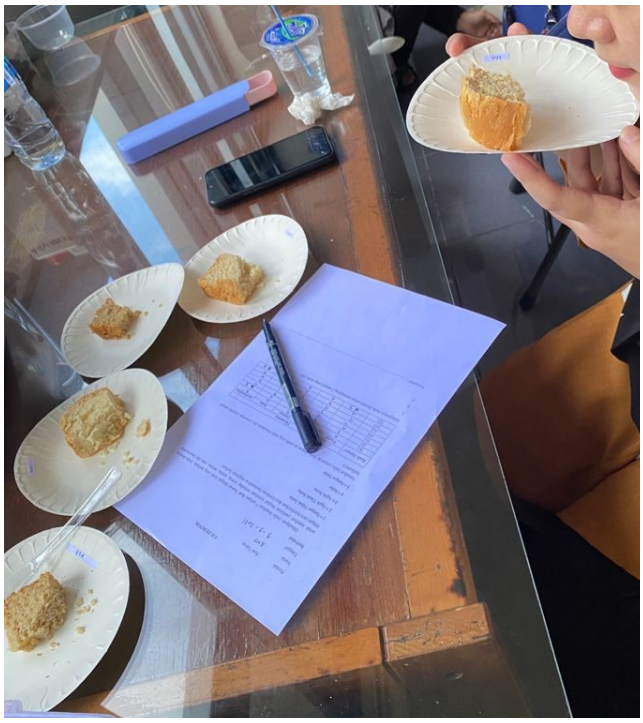
Roti formula 3, 4 dan 6

Roti formula 1 dan 2

Roti formula 5 dan 7



Pengiriman sampel roti ke PT Saraswanti untuk uji GABA, vitamin, mineral dan gula total



Uji organoleptic metode hedonik

Uji Karbohidrat

Uji kadar abu

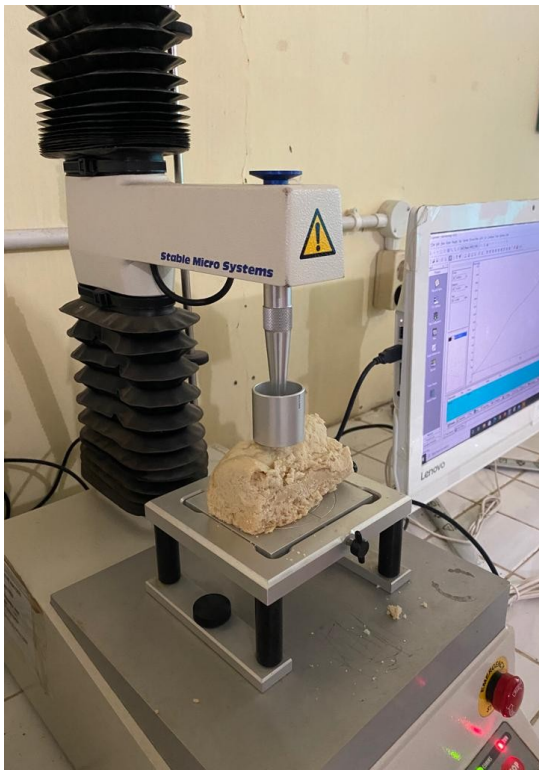
Uji Lemak

Uji Protein

Uji Serat kasar

Indeks glikemik

Uji elongasi adonan roti



Uji pengukuran tekstur