

## DAFTAR PUSTAKA

- [BSN] Badan Standarisasi Nasional. 1995. SNI 01-3840-1995. Roti. Badan Standarisasi Nasional: Jakarta.
- Amar, W. S., & Lutfiati, D. (2013). Pengaruh Penggunaan Minyak Kedelai dan Susu Skim Terhadap Sifat Organoleptik Pasta Kedelai Edamame. *Jurnal Boga*, 2(1), 139–149.
- Andarina, R., & Djauhari, T. (2017). Antioksidan dalam Dermatologi. *Jurnal Kedokteran Dan Kesehatan*, 4(1), 39–48.
- Anggi Dewi. (2019). *Pengaruh Penambahan Tepung Ubi Ungu (Ipomea Batatas L. Poiret) Terhadap Mutu Organoleptik, Zat Gizi Makro Dan Kadar Betakaroten Muffin*. Skripsi. Stikes Perintis Padang. Padang.
- Ann, K. C., Suseno, T. I. P., & Utomo, A. R. (2012). Pengaruh Perbedaan Konsentrasi Ekstrak Bit Merah Dan Gelatin Terhadap Sifat Fisikokimia Dan Organoleptik Marshmallow Beet. *Jurnal Teknologi Pangan Dan Gizi*, 11(2), 28–36. <http://jurnal.wima.ac.id/index.php/JTPG/article/view/1472/1363>
- AOAC. (2005). Association Official Analytical Chemistry. *Official Methods of Analysis*.
- Arbi, Y., Aidha, E. R., & Deflanti, L. (2018). Analisis Nilai Kalori Briket Tempurung Kelapa Sebagai Bahan Bakar Alternatif Di Kecamatan Sipora Utara Kabupaten Mentawai. *Jurnal Pendidikan Teknologi Kejuruan*, 1(3), 119–123. <https://doi.org/10.24036/jptk.v1i3.2123>
- Ari, P., Wipradnyadewi, S., Jambe, A. A., Puspawati, G. A. K. D., Timur, P., Yusa, N. M., & Yusasrini, N. L. A. (2016). Kajian Perbandingan Tepung Ubi Jalar Kuning ( Ipomoea batatas L ) dan Tepung Terigu terhadap Karakteristik Bolu Kukus. *Jurnal Ilmiah Teknologi Pertanian*, 1(1), 32–36.
- Asih, L. D., & Widayastiti, M. (2016). Meminimumkan Jumlah Kalori Di Dalam Tubuh Dengan Memperhitungkan Asupan Makanan dan Aktivitas Menggunakan Linear Programming. *Ekologia*, 16(1), 38–44.
- Badan Pusat Statistik. (2015). *Statistik Penduduk Lanjut Usia 2014*. Jakarta : Badan Pusat Statistik.
- Buana, H. A. (2018). *Aktivitas Antioksidan, Karakteristik Fisikokita dan Sensoris Cheesecake Ubi Jalar Kuning (Ipomoea batatas L.)*. Skripsi. Sekolah Tinggi Ilmu Kesehatan (STIKES) PKU Muhammadiyah Surakarta. Surakarta.
- Budoyo, E. A. S., Suseno, T. I. P., & Widjajaseputra, A. I. (2017). Substitusi Terigu dengan Tepung Labu Kuning Terhadap Sifat Fisik dan Organoleptik Muffin. *J. Teknologi Pangan Dan Gizi*, 13(2), 75–80.
- Bustanul, A., & Sanusi, I. (2018). *Struktur, Bioaktivitas dan Antioksidan Flavonoid*. 6(1), 21–29.
- Colla, K., & Gamlath, S. (2015). Inulin and Maltodextrin Can Replace Fat in Baked Savoury Legume Snacks. *International Journal of Food Science and Technology*, 50(10), 2297–2305. <https://doi.org/10.1111/ijfs.12892>
- Damayati, D. S., Rusmin, M., & M, S. H. (2018). *Analisis Kandungan Zat Gizi Muffin Ubi Jalar Kuning (Ipomea Batatas L.) Sebagai Alternatif Perbaikan Gizi Masyarakat*. Skripsi. Fakultas Kedokteran dan Ilmu Kesehatan. Universitas Islam Negeri Alauddin. Makassar.
- Dewa, S. M. (2018). *Application of Sweet Potato ((Ipomea Batatas (L. Lam cv. Cilembu) as Fat Replacer and Beta Carotene Source in Reduce Fat Ice Cream*. Skripsi. Fakultas Teknologi Pertanian. Unika Soegijapranata Semarang. Semarang.
- Dewi, S. R., Argo, B. D., & Ulya, N. (2018). Kandungan Flavonoid dan Aktivitas Antioksidan Ekstrak Pleurotus ostreatus. *Rona Teknik Pertanian*, 11(1), 1–10. <https://doi.org/10.17969/rtp.v11i1.9571>
- Feby, R.A, Eliza, Hana Yunianti, Sriwanti, S. (2021). Daya Terima Bolu Lapir Kojo Ubi Jalar Kuning Sebagai Snack Rendah Kalori dan Penambah Serat. *Jurnal Gizi Dan Kesehatan (JGK)*, 1(2), 62–71.

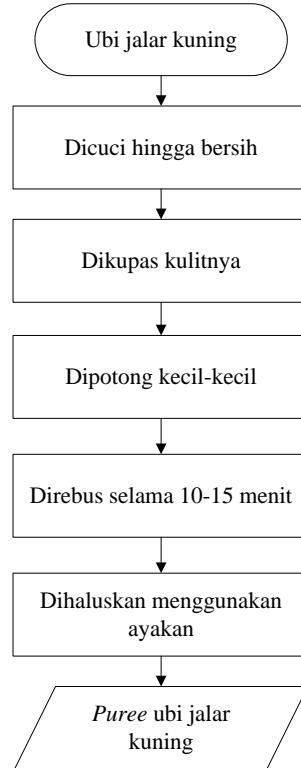
- Gabriela, M. C., Rawung, D., & Ludong, M. M. (2020). Pengaruh Penambahan Maltodekstrin pada Pembuatan Minuman Instan Serbuk Buah Pepaya (*Carica papaya L.*) dan Buah Pala (*Myristica fragrans H.*). *Cocos*, 7(7), 1–8.
- Ginting, E., Utomo, J. S., & Yulifanti, R. (2011). Potensi Ubijalar Ungu sebagai Pangan Fungsional. *Iptek Tanaman Pangan*, 6(1), 116–138.
- Goswami, D., Gupta, R. K., Mridula, D., Sharma, M., & Tyagi, S. K. (2015). Barnyard millet based muffins: Physical, textural and sensory properties. *Lwt*, 64(1), 374–380. <https://doi.org/10.1016/j.lwt.2015.05.060>
- Harryanto, I. C. T., Lewerissa, K. B., & Palimbong, S. (2022). Tempe Sebagai Bahan Dasar Pembuatan Sherbet Rendah Lemak dan Gula. *Science Technology and Management Journal*, 2(2), 45–50. <https://doi.org/10.53416/stmj.v2i2.90>
- Haryani, K., Retnowati, D. S., Handayani, N. A., Dewi, W. M., & Pamularsih, S. A. (2022). Modifikasi Pati Sorgum menjadi Maltodekstrin secara Enzimatik Dengan Menggunakan Enzim Alfa Amilase dan Gluko Amilase. *Jurnal Teknologi Pangan*, 6(1), 8–12.
- Haryoto, H., & Frista, A. (2019). Aktivitas Antioksidan Ekstrak Etanol, Fraksi Polar, Semipolar dan Non Polar dari Daun Mangrove Kacangan (*Rhizophora apiculata*) dengan Metode DPPH dan FRAP. *Jurnal Sains Dan Kesehatan*, 2(2), 131–138.
- Herawati, D. A., & Wibawa, D. A. A. (2011). Pengaruh Konsentrasi Susu Skim dan Waktu Fermentasi Terhadap Hasil Pembuatan Soyghurt. *Pengaruh Konsentrasi Susu Skim Dan Waktu Fermentasi Terhadap Hasil Pembuatan Soyghurt*, 1(2), 48–58. <http://pertanian.pontianakkota.go.id/produk-unggulan-detil/4-lidah-buaya.html>
- Herlinawati, L. (2020). Mempelajari Pengaruh Konsentrasi Maltodekstrin dan Polivinil Piolidon (PVP) Terhadap Karakteristik Sifat Tablet Effervescent Kopi Robusta (*Coffea robusta Lindl*). *Jurnal Agribisnis Dan Teknologi Pangan*, 1(1), 1–25.
- Ika, O. A. (2016). Analisis Kadar Lemak pada Tepung Ampas Kelapa. *Jurnal Technopreneur (JTech)*, 4(1), 19–23. <https://doi.org/10.1007/s11178-005-0153-7>
- Isti, P. (2010). *Pengembangan Proses Inovatif Kombinasi Reaksi Hidrolisis Asam dan Reaksi Photokimia UV Untuk Produksi Pati Termodifikasi Dari Tapioka*. Tesis. Program Pascasarjana. Universitas Diponegoro. Semarang.
- Iswendi, I., Yusmaita, E., & Pangestuti, A. D. (2019). Uji Organoleptik Sari Jagung Di Laboratorium Kimia FMIPA UNP. *Suluah Bendang: Jurnal Ilmiah Pengabdian Kepada Masyarakat*, 19(2), 92. <https://doi.org/10.24036/sb.0160>
- Julizan, N. (2019). Validasi Penentuan Aktifitas Antioksidan Dengan Metode Dpph. *Kandaga–Media Publikasi Ilmiah Jabatan Fungsional Tenaga Kependidikan*, 1(1). <https://doi.org/10.24198/kandaga.v1i1.21473>
- Juniawati, J., Usmiati, S., & Damayanthi, E. (2015). Pengembangan Keju Lemak Rendah Sebagai Pangan Fungsional. *Jurnal Penelitian Dan Pengembangan Pertanian*, 34(1), 31. <https://doi.org/10.21082/jp3.v34n1.2015.p31-40>
- Kaljannah, Indriyani, & Ulyarti. (2019). Pengaruh Konsentrasi Maltodekstrin Terhadap Sifat fisik, Kimia, dan Organoleptik Minuman Serbuk Buah Mengkudu (*Morinda citrifolia L.*). *Seminar Nasional Pembangunan Pertanian Berkelanjutan Berbasis Sumber Daya Lokal*, 7(1), 297–308.
- Kemal, N.-N., Karim, A., Asmawati, & Seniwati. (2012). Analisis kandungan  $\beta$ -karoten dan vitamin c dari berbagai varietas ubi Jalar (Ipomoea batatas). *Indonesia Chimica Acta*, 2(4), 1–8.
- Khouryieh, H. A., Aramouni, F. M., & Herald, T. J. (2005). Physical and sensory characteristics of no-sugar-added/low-fat muffin. *Journal of Food Quality*, 28(5–6), 439–451. <https://doi.org/10.1111/j.1745-4557.2005.00047.x>
- Krisnawati, R., & Indrawati, V. (2014). Pengaruh Subtitusi Puree Ubi Jalar (Ipomea batatas) Terhadap Mutu Organoleptik Roti Tawar. *Jurnal Boga*, 3(1), 79–88.
- Kumar, L. R. G., Sanath Kumar, H., Tejpal, C. S., Anas, K. K., Nayak, B. B., Sarika, K.,

- Greeshma, S. S., Chatterjee, N. S., Mathew, S., & Ravishankar, C. N. (2021). Exploring the Physical and Quality Attributes of Muffins Incorporated with Microencapsulated Squalene as a Functional Food Additive. *Journal of Food Science and Technology*, 58(12), 4674–4684. <https://doi.org/10.1007/s13197-020-04955-9>
- Lakshminarayan, S. M., Rathinam, V., & Krishnarau, L. (2006). Effect of Maltodextrin and Emulsifiers on the Viscosity of Cake Batter and on the Quality of Cakes. *Journal of the Science of Food and Agriculture*, 86(5), 706–712. <https://doi.org/10.1002/jsfa.2400>
- Lamusu, D. (2018). Uji Organoleptik Jalangkote Ubi Jalar Ungu (Ipomoea batatas L) Sebagai Upaya Diversifikasi Pangan. *Jurnal Pengolahan Pangan*, 3(1), 9–15. <https://doi.org/10.31970/pangan.v3i1.7>
- Maulida, Z., Aini, N., Sustriawan, B., & Sumarmono, J. (2019). Formulasi Roti Bebas Gluten Berbasis Tepung Sorgum Dengan Penambahan Pati Garut Dan Gum Arab. *Jurnal Penelitian Pascapanen Pertanian*, 16(2), 90. <https://doi.org/10.21082/jpasca.v16n2.2019.90-98>
- Melanie., Welma., S. M., & Ninan, L. L. (2023). Aktivitas Antioksidan dan Kandungan Kuersetin Ekstrak Daun dan Batang Melati Kosta. *Jurnal Pangan Dan Agroindustri*, 11(2), 100–106.
- Ningsih, E. M. R., Suhaidi, I., & Nainggolan, R. J. (2018). Pengaruh Perbandingan Sari Nanas Dengan Sari Daun Kemangi Dan Konsentrasi Maltodekstrin Terhadap Mutu Marshmallow. *Ilmu Dan Teknologi Pangan J.Rekayasa Pangan Dan Pert*, 6(4), 680–687.
- Nugroho, P., Hartayanie, L., & Dwiana, K. P. (2020). The Role of Mungbean (*Phaseolus radiatus*) as a Fat Replacer on the Physicochemical Properties of Ice Cream. *Indonesian Journal of Agricultural Research*, 2(3), 111–120. <https://doi.org/10.32734/injar.v2i3.2859>
- Nurdjanah, S., Yuliana, N., Zuidar, A. S., & Naim, I. E. (2017). Kharakteristik Muffin Dari Tepung Ubijalar Ungu Kaya Pati Resisten. *Jurnal Teknologi Agro Industri*, 9(2), 1–10. <http://bpkimi1.kemenperin.go.id/tegi/article/viewFile/3662/2919>
- Nuringtyas, D. P., & Adi, A. C. (2017). Mutu Organoleptik, Kandungan Protein Dan Betakaroten Mie Substitusi Ikan Rucah Dan Ubi Jalar Kuning. *Media Gizi Indonesia*, 12(2), 164–172. <https://doi.org/10.12962/j2580-0914.v4i2.9304>
- Paramita, I. I., Mulyani, S., & Hartati, A. (2015). Pengaruh Konsentrasi Maltodekstrin Dan Suhu Pengeringan Terhadap Karakteristik Bubuk Minuman Sinom. *Jurnal Rekayasa Dan Manajemen Agroindustri*, 3(2), 58–68.
- Pramadi, I. A., Rejeki, F. S., Rahayuningsih, T., & Wedowati, E. R. (2020). Proporsi Mocaf Dan Tepung Larut Dengan Penambahan Maltodekstrin Pada Pengolahan Cookies. *Jurnal Agroteknologi*, 13(02), 137. <https://doi.org/10.19184/j-agt.v13i02.14105>
- Purwanti, A., Putri, M. E. V. E., & Alviyati, N. (2019). Optimasi Ekstraksi  $\beta$ -Karoten Ubi Jalar Kuning (Ipomoea. *ReTII*, 414–419.
- Putri, D. N., Pakpahan, O. P., Damat, D., Ningrum, A. R. Y., & Santoso, E. N. (2021). Pengaruh Konsentrasi Maltodekstrin Pada Adonan Beku Tinggi Protein Terhadap Karakteristik Roti. *Jurnal Teknologi Dan Industri Pangan*, 32(1), 126–135. <https://doi.org/10.6066/jtip.2021.32.2.126>
- Razak, A., & Apriyanto, M. (2014). Formulasi Tepung Campuran Siap Pakai (TCSP) Berbahan Dasar Tapioka-Mocaf dengan Penambahan Maltodekstrin Sebagai Tepung Pelapis Keripik Bayam. *Jurnal Teknologi Pertanian*, 3(1), 15–27.
- Rianto, J., Handoko, W., & Novianry, V. (2018). Pengaruh Konsumsi Produk yang Mengandung Pemanis Buatan Rendah Kalori terhadap Kadar Glukosa Darah Puasa dan Gangguan Toleransi Glukosa pada Tikus Galur Wistar. *Jurnal Kesehatan Khatulistiwa*, 4(1), 556–569.
- Riset Kesehatan Dasar. (2018). *Laporan Nasional Riskesdas 2018*.
- Rismaya, R., Syamsir, E., & Nurtama, B. (2018). Pengaruh Penambahan Tepung Labu Kuning Terhadap Serat Pangan, Karakteristik Fisikokimia Dan Sensori Muffin. *Jurnal Teknologi*

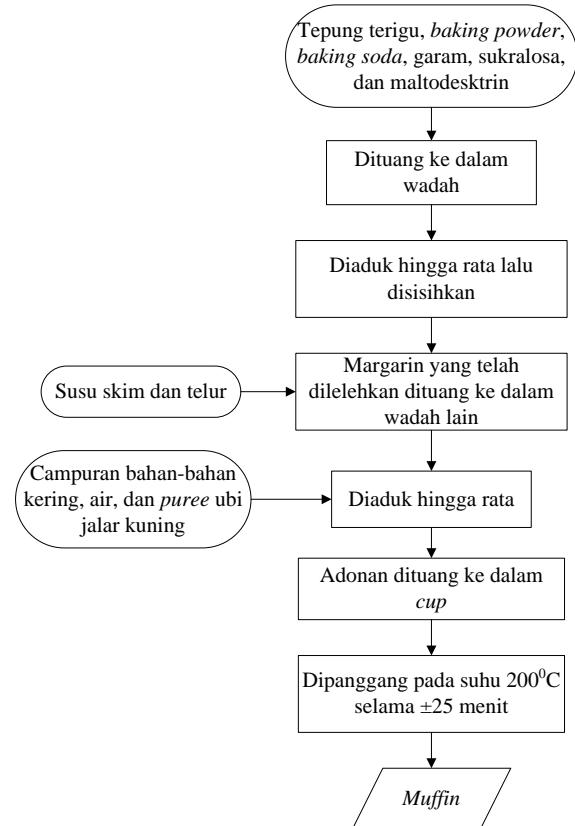
- Dan Industri Pangan*, 29(1), 58–68. <https://doi.org/10.6066/jtip.2018.29.1.58>
- Rosida, D. F. (2020). Aktivitas Antioksidan Serbuk Mengkudu (Morinda citrifolia L) dengan Bahan Pengisi Maltodekstrin Kimpul (Xanthosoma sagittifolium). *Jurnal Teknologi Pangan*, 14(2), 88–104.
- Saloko, S., & Mataram, U. (2022). Potensi Ubi Jalar Kuning dan Sorgum Sebagai Sumber Protein dan Antioksidan Pada Kue Lumpur. *Prosiding SAINTEK*, 4, 23–24.
- Santoso, B. D., Ananingsih, V. K., Soedarini, B., & Stephanie, J. (2020). Pengaruh Variasi Maltodekstrin dan Kecepatan Homogenisasi Terhadap Karakteristik Fisikokimia Enkapsulat Butter Pala (Myristica fragrans Houtt) dengan Metode Vacuum Drying. *Jurnal Teknologi Hasil Pertanian*, 13(2), 94. <https://doi.org/10.20961/jthp.v13i2.43576>
- Sari Putri, R. M., & Mardesci, H. (2018). Uji Hedonik Biskuit Cangkang Kerang Simping (Placuna placenta) Dari Perairan Indragiri Hilir. *Jurnal Teknologi Pertanian*, 7(2), 19–29. <https://doi.org/10.32520/jtp.v7i2.279>
- Siagian, I. D. N., Bintoro, V. P., & Nurwantoro. (2020). Karakteristik Fisik , Kimia dan Organoleptik Teh Celup Daun Tin dengan Penambahan Daun Stevia ( Stevia Rbaudiana Bertoni ) sebagai Pemanis. *Jurnal Teknologi Pangan*, 4(1), 23–29.
- Subarna, Hakim, M. I., & Muhandri, T. (2018). Karakteristik Mutu Pancake Amerika Berbahan Dasar Mocaf dengan Penggunaan Proporsi Gula Pasir dan Baking. *Jurnal Mutu Pangan*, 5(2), 73–79.
- Suryani, A. D., & Ardian, Q. J. (2020). Rancang Bangun Identifikasi Kebutuhan Kalori dengan Aplikasi Go Healthy Life. *Jurnal Teknologi Dan Sistem Informasi (JTSI)*, 1(1), 47–56.
- Tarigan, W., Hamzah, F., Program, R., Teknologi, S., Pertanian, H., Pertanian, J. T., & Pertanian, F. (2019). Karakteristik Bika Ambon Tapioka Dengan Puree Ubi Jalar Ungu. *Sagu*, 18(1), 2019.
- Tuhumury, H. C. D., Souripet, A., & Warlauw, M. (2020). Karakteristik Mufffin dengan Penambahan Puree Pisang Tongka Langit (Musa troglodytarum). *AGRITEKNO: Jurnal Teknologi Pertanian*, 9(2), 48–57. <https://doi.org/10.30598/jagritekno.2020.9.2.48>
- Wanti, T., Herawati, N., & Fitriani, S. (2019). Pemanfaatan Pure Ubi Jalar Kuning Dan Ampas Kelapa Kering Dalam Pembuatan Kukis. *Sagu*, 18(2), 19–26.
- Wijayanti, I., Santoso, J., & Jacob, A. M. (2015). Karakteristik Tekstur dan Daya Ikat Air Gel Surimi Ikan Lele dengan Penambahan Asam Tanat dan Ekstrak Fenol Teh Teroksidas. *Indonesian Journal of Fisheries Science and Technology (IJFST)*, 10(2), 84–90.
- Wijayanti, N. S., & Lukitasari, M. (2016). Analisis Kandungan Formalin Dan Uji Organoleptik Ikan Asin Yang Beredar Di Pasar Besar Madiun. *Florea : Jurnal Biologi Dan Pembelajarannya*, 3(1), 59. <https://doi.org/10.25273/florea.v3i1.789>

## LAMPIRAN

Lampiran 1. Diagram Alir Prosedur Pembuatan *Puree Ubi Jalar Kuning*



Lampiran 2. Diagram Alir Prosedur Prosedur Pembuatan *Muffin*



Lampiran 3. Hasil Rata-rata Pengujian Organoleptik Warna Muffin

Responden	Perlakuan																																			
	M0K1			M0K2			M0K3			MK1			MK2			MIK3			M2K1			M2K2			M2K3			M3K1			M3K2			M3K3		
	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3			
1	4	4	5	4	3	4	4	3	4	3	3	4	4	4	4	4	3	4	3	4	4	3	5	5	4	4	4	4	4	4	4	4				
2	4	5	2	4	3	4	3	3	5	4	5	5	4	3	4	3	4	5	5	5	4	5	3	4	5	5	4	4	4	4	4					
3	4	4	4	4	4	5	3	4	4	4	4	5	3	5	5	4	5	5	4	5	4	5	5	4	5	5	4	4	5	5						
4	3	4	4	3	3	4	3	4	3	3	3	3	5	4	5	5	3	5	4	4	4	5	4	3	4	4	5	4	4	4						
5	3	4	3	3	4	3	3	3	2	3	3	4	2	2	3	3	3	5	4	3	2	3	3	4	3	5	5	4	5	5						
6	3	4	2	4	3	3	4	4	2	4	3	5	3	4	4	4	3	4	2	4	4	4	4	4	5	3	3	4	5	4	3					
7	3	4	4	3	4	4	2	2	3	3	3	3	2	4	3	2	4	2	4	3	3	3	4	2	4	4	4	4	3	4	4	2	3			
8	4	4	3	3	4	4	4	3	3	4	4	4	3	3	4	4	4	5	3	4	4	5	4	5	5	4	5	5	4	5	5	4	4			
9	2	4	2	2	4	3	2	3	3	3	3	2	3	3	2	3	3	3	4	4	3	3	4	2	3	4	3	1	3	4	3	2	4	4		
10	2	3	5	3	3	5	2	4	5	3	3	5	3	4	5	3	4	5	2	5	4	4	3	4	2	5	4	4	5	3	4	5				
11	2	3	3	5	2	1	5	3	4	5	4	1	1	2	2	3	2	3	4	4	4	4	2	2	2	3	4	4	2	1	3	4	3	2		
12	3	4	3	2	4	4	3	4	3	2	3	3	2	4	4	5	3	4	4	4	3	3	3	3	4	5	3	2	4	4	2	3	4	3		
13	3	2	2	3	3	2	2	4	4	4	3	4	3	3	2	4	4	3	4	3	5	3	4	2	4	4	4	5	4	4	2	3	2	3		
14	4	4	5	3	4	3	4	4	5	3	4	5	2	5	5	4	4	5	4	4	4	4	3	2	5	5	4	4	4	3	5	4	4	5		
15	4	4	4	2	4	4	4	4	4	3	4	4	5	2	4	3	2	4	5	5	4	2	4	4	5	4	3	5	4	4	4	3				
16	3	3	4	3	3	3	2	3	2	2	3	2	4	4	3	3	4	3	2	4	4	3	4	2	4	4	3	4	3	4	4	3	2			
17	3	4	3	4	4	2	4	4	1	3	4	1	3	5	2	5	5	4	4	5	5	4	5	4	3	2	3	4	4	5	3	4	4			
18	4	4	1	4	3	1	3	3	5	4	3	2	4	4	3	3	3	3	4	4	5	3	2	3	4	3	3	2	4	2	3	4	2	2		
19	3	4	3	4	3	5	3	4	4	2	3	4	3	5	5	4	5	5	3	4	5	3	4	3	4	4	3	5	3	4	3	5	4	3		
20	3	2	4	2	2	3	3	3	1	2	2	4	2	1	2	3	2	3	4	5	5	4	3	4	2	2	3	1	5	3	3	4	5			
21	5	4	3	3	3	3	3	3	4	2	5	3	2	4	3	3	3	3	5	4	4	5	4	2	4	5	3	3	5	2	4	5	5	3		
22	3	4	4	2	4	5	3	3	5	3	4	4	4	3	4	2	4	4	4	5	5	4	4	4	3	4	5	4	3	3	5	4	4	5		
23	4	3	3	2	4	4	4	5	3	3	4	2	3	4	4	5	4	2	5	4	4	5	4	3	4	3	5	5	4	5	3	3	4			
24	4	4	4	4	4	3	4	5	2	3	4	2	3	2	4	2	3	4	2	4	5	3	5	4	4	3	5	5	4	5	5	3	4			
25	4	4	4	3	4	4	4	4	4	2	3	3	4	4	3	4	4	4	4	4	2	4	4	4	2	4	4	4	4	4	3	4	4			
26	3	4	2	2	4	3	2	4	2	2	4	4	2	3	4	3	2	4	2	5	2	4	4	3	3	3	4	2	4	4	3	3	4			
27	4	3	4	4	3	5	5	4	4	4	4	5	4	5	5	4	4	4	3	4	5	5	4	4	5	5	4	4	3	4	4	5	5			
28	2	5	5	3	3	5	1	2	3	3	3	4	2	2	4	3	4	3	2	2	1	5	4	2	3	2	2	5	4	2	4	3	3			
29	2	4	4	1	4	2	1	4	2	2	3	3	2	4	4	2	4	5	3	4	4	4	4	3	3	4	4	5	4	3	5	3	4			
30	1	3	3	4	2	3	1	2	4	3	2	4	2	3	4	3	4	4	2	3	5	4	4	5	2	4	3	3	5	4	4	5	4	2		
Jumlah	96	112	102	93	102	104	91	105	97	92	102	109	82	103	110	103	109	122	97	125	113	120	114	113	103	98	116	117	111	115	112	120	123	117	110	107
Rata-rata	3.20	3.73	3.40	3.10	3.40	3.47	3.03	3.50	3.23	3.07	3.40	3.63	2.73	3.43	3.67	3.43	3.63	4.07	3.23	4.17	3.77	4.00	3.80	3.77	3.43	3.27	3.87	3.90	3.70	3.83	3.73	4.00	4.10	3.90	3.67	3.57
Rata-rata Keseluruhan	3.44			3.32			3.26			3.37			3.28			3.71			3.72			3.86			3.52			3.81			3.94			3.71		

Lampiran 4. Hasil Analisis Sidik Ragam Warna *Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable: Warna

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	462.978 <sup>a</sup>	12	38.582	462.454	.000
Maltodekstrin	1.328	3	.443	5.306	.006
Puree_ubi_jalar_kuning	.016	2	.008	.096	.909
Maltodekstrin	* .602	6	.100	1.203	.339
Error	2.002	24	.083		
Total	464.981	36			

a. R Squared = .996 (Adjusted R Squared = .994)

**Estimated Marginal Means**

**1. Maltodekstrin**

Dependent Variable: Warna

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M0 (Kontrol)	3.340	.096	3.141	3.539
M1 (5% maltodekstrin)	3.451	.096	3.252	3.650
M2 (9% maltodekstrin)	3.701	.096	3.502	3.900
M3 (14% maltodekstrin)	3.822	.096	3.624	4.021

**2. Puree\_ubi\_jalar\_kuning**

Dependent Variable: Warna

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K1 (7% puree ubi jalar kuning)	3.586	.083	3.414	3.758
K2 (11% puree ubi jalar kuning)	3.600	.083	3.428	3.772
K3 (16% puree ubi jalar kuning)	3.550	.083	3.378	3.722

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable: Warna

Maltodekstrin	Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M0 (Kontrol)	K1 (7% puree ubi jalar kuning)	3.443	.167	3.099	3.788
	K2 (11% puree ubi jalar kuning)	3.323	.167	2.979	3.668
	K3 (16% puree ubi jalar kuning)	3.253	.167	2.909	3.598
M1 maltodekstrin)	(5% K1 (7% puree ubi jalar kuning)	3.367	.167	3.022	3.711
	K2 (11% puree ubi jalar kuning)	3.277	.167	2.932	3.621
	K3 (16% puree ubi jalar kuning)	3.710	.167	3.366	4.054
M2 maltodekstrin)	(9% K1 (7% puree ubi jalar kuning)	3.723	.167	3.379	4.068
	K2 (11% puree ubi jalar kuning)	3.857	.167	3.512	4.201
	K3 (16% puree ubi jalar kuning)	3.523	.167	3.179	3.868
M3 maltodekstrin)	(14% K1 (7% puree ubi jalar kuning)	3.810	.167	3.466	4.154
	K2 (11% puree ubi jalar kuning)	3.943	.167	3.599	4.288
	K3 (16% puree ubi jalar kuning)	3.713	.167	3.369	4.058

#### Post Hoc Tests

##### Maltodekstrin

##### Homogeneous Subsets

#### Warna

Duncan

Maltodekstrin	N	Subset		
		1	2	3
M0	9	3.3400		
M1	9	3.4511	3.4511	
M2	9		3.7011	3.7011
M3	9			3.8222
Sig.		.423	.079	.383

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .083.

Lampiran 5. Hasil Rata-rata Pengujian Organoleptik Aroma *Muffin*

Responden	Perlakuan																																			
	M0K1			M0K2			M0K3			M1K1			M1K2			M1K3			M2K1			M2K2			M2K3			M3K1			M3K2			M3K3		
	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3			
1	4	4	4	3	3	4	4	3	4	3	5	4	4	4	4	3	3	3	4	4	3	3	4	4	5	3	4	5	4	4	4	3	4			
2	3	4	2	3	3	2	2	3	3	3	4	4	3	4	3	3	3	4	2	3	4	3	2	4	3	4	3	2	4	4	3	2				
3	4	4	4	3	4	4	3	4	4	3	4	4	3	4	4	3	4	5	4	4	4	4	3	3	4	4	4	4	3	3	5					
4	2	2	3	2	3	2	4	2	3	3	2	3	2	2	4	2	4	4	3	4	4	4	4	3	3	2	2	3	4	4	2	3				
5	3	2	3	3	4	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	2	3	3	3	3	3	3	2	4	3	3				
6	5	3	3	4	3	3	3	3	3	5	4	3	4	4	3	5	2	4	3	4	5	4	4	4	5	3	4	3	4	5	4	3	5			
7	3	2	4	3	2	3	3	3	4	3	3	3	3	3	2	4	3	3	4	3	3	5	3	3	4	3	3	5	3	3	4	3	5			
8	4	4	5	4	4	4	5	4	4	4	4	4	4	4	4	5	5	4	4	4	4	5	5	4	4	5	5	4	4	5	4	4	4			
9	4	3	2	3	3	3	3	4	3	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	3	3	3	2	4	4				
10	4	4	2	3	3	3	4	3	3	4	3	2	4	3	3	3	4	3	3	3	3	4	3	4	4	3	2	4	4	2	3	4	4			
11	1	3	3	3	2	1	5	3	2	2	2	3	5	2	3	2	2	2	5	3	3	3	2	3	2	3	2	4	2	4	5	3	3	4	4	2
12	2	4	3	3	3	2	3	2	3	3	3	3	4	2	4	3	4	4	3	3	4	4	3	3	4	3	3	4	4	4	4	4	3			
13	3	3	4	3	2	2	2	2	4	4	2	4	3	1	2	2	2	3	2	2	4	4	2	4	4	3	3	4	3	4	4	3	2			
14	3	3	2	2	3	2	2	3	5	3	3	3	3	3	4	3	2	2	3	4	4	2	2	5	4	2	4	4	2	2	3	4	2			
15	4	3	3	3	3	3	3	4	3	2	3	4	2	3	3	3	3	5	5	3	4	4	3	4	4	3	3	3	2	4	4	3	4	2		
16	3	3	4	3	3	3	2	3	3	3	3	3	4	2	4	2	2	3	4	4	3	4	4	3	3	3	4	4	3	3	4	3				
17	4	3	2	3	5	3	5	4	2	4	3	3	5	5	2	4	4	3	5	5	4	4	4	5	5	3	5	4	4	3	4	2				
18	3	3	1	3	2	1	4	3	3	3	3	2	3	7	3	2	3	3	3	5	3	3	3	4	2	2	2	3	3	3	4	4	2			
19	2	3	3	3	3	4	2	4	3	3	3	4	3	3	4	3	3	3	4	4	3	3	3	4	4	4	4	3	3	3	3	4	4			
20	2	3	1	4	3	2	2	4	3	4	4	3	4	2	3	5	5	1	3	4	5	2	2	3	3	2	3	4	3	3	3	2	3			
21	2	3	2	4	3	2	2	3	4	3	4	2	2	2	3	2	3	4	2	3	3	4	3	3	4	5	3	4	5	5	4	2				
22	4	3	3	4	3	2	4	4	4	5	3	3	5	2	3	5	4	3	5	4	5	4	5	3	4	3	4	5	4	5	5	3	4	4		
23	3	4	2	3	3	3	3	4	3	3	4	5	3	4	5	4	3	4	4	4	4	5	4	5	4	3	5	5	4	4	4	3	3			
24	4	3	3	3	3	2	4	4	4	2	2	5	2	3	5	3	3	3	2	3	3	3	2	4	3	3	3	4	3	4	5	4	3			
25	4	4	4	3	4	4	3	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4			
26	3	3	3	3	4	3	3	4	3	4	3	3	2	3	4	4	3	3	3	3	4	4	4	3	3	4	3	3	3	4	4	4	4			
27	2	3	3	2	3	4	4	4	3	5	3	5	4	5	3	3	3	3	4	5	4	3	4	5	4	4	3	4	5	4	3	5	3			
28	2	4	4	3	3	2	2	2	3	3	3	2	3	4	3	4	3	3	4	4	4	3	3	3	3	4	4	4	3	3	3	4	3			
29	1	3	3	4	3	2	2	3	2	4	3	2	2	3	2	2	3	3	2	4	4	2	3	4	4	3	2	5	3	4	5	3	3			
30	1	1	3	1	1	3	2	3	3	1	3	3	3	3	4	2	4	3	1	4	4	2	4	4	5	4	3	2	3	5	3	2	4	4		
Jumlah	89	94	88	91	91	81	93	98	99	96	96	98	100	91	106	100	99	93	100	107	118	104	101	110	112	98	102	106	102	111	107	103	111	108	101	95
Rata-rata	2,97	3,13	2,93	3,03	3,03	2,70	3,10	3,27	3,30	3,20	3,20	3,27	3,33	3,03	3,53	3,33	3,30	3,10	3,33	3,57	3,93	3,47	3,37	3,67	3,73	3,27	3,40	3,53	3,40	3,70	3,57	3,43	3,70	3,60	3,37	3,17
Rata-rata Keseluruhan	3,01		2,92			3,22			3,22			3,30			3,24			3,61			3,50			3,47			3,54			3,57			3,38			

Lampiran 6. Hasil Analisis Sidik Ragam Aroma *Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable:Aroma

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	401.332 <sup>a</sup>	12	33.444	1.009E3	.000
Maltodekstrin	1.349	3	.450	13.572	.000
Puree_ubi_jalar_kuning	.004	2	.002	.061	.941
Maltodekstrin	* .246	6	.041	1.235	.324
Error	.795	24	.033		
Total	402.128	36			

a. R Squared = .998 (Adjusted R Squared = .997)

**Estimated Marginal Means**

**1. Maltodekstrin**

Dependent Variable:Aroma

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M0 (Kontrol)	3.051	.061	2.926	3.176
M1 (5% maltodekstrin)	3.254	.061	3.129	3.380
M2 (9% maltodekstrin)	3.527	.061	3.401	3.652
M3 (14% maltodekstrin)	3.497	.061	3.371	3.622

**2. Puree\_ubi\_jalar\_kuning**

Dependent Variable:Aroma

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K1 (7% puree ubi jalar kuning)	3.347	.053	3.238	3.455
K2 (11% puree ubi jalar kuning)	3.322	.053	3.213	3.430
K3 (16% puree ubi jalar kuning)	3.328	.053	3.220	3.437

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable:Aroma

Maltodekstrin	Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M0 (Kontrol)	K1 (7% puree ubi jalar kuning)	3.010	.105	2.793	3.227
	K2 (11% puree ubi jalar kuning)	2.920	.105	2.703	3.137
	K3 (16% puree ubi jalar kuning)	3.223	.105	3.006	3.440
M1 maltodekstrin)	(5% K1 (7% puree ubi jalar kuning)	3.223	.105	3.006	3.440
	K2 (11% puree ubi jalar kuning)	3.297	.105	3.080	3.514
	K3 (16% puree ubi jalar kuning)	3.243	.105	3.026	3.460
M2 maltodekstrin)	(9% K1 (7% puree ubi jalar kuning)	3.610	.105	3.393	3.827
	K2 (11% puree ubi jalar kuning)	3.503	.105	3.286	3.720
	K3 (16% puree ubi jalar kuning)	3.467	.105	3.250	3.684
M3 maltodekstrin)	(14% K1 (7% puree ubi jalar kuning)	3.543	.105	3.326	3.760
	K2 (11% puree ubi jalar kuning)	3.567	.105	3.350	3.784
	K3 (16% puree ubi jalar kuning)	3.380	.105	3.163	3.597

### Post Hoc Tests

#### Maltodekstrin

#### Homogeneous Subsets

#### Aroma

Duncan

Maltodekstrin	N	Subset		
		1	2	3
M0 (Kontrol)	9	3.0511		
M1 (5% maltodekstrin)	9		3.2544	
M3 (14% maltodekstrin)	9			3.4967
M2 (9% maltodekstrin)	9			3.5267
Sig.		1.000	1.000	.730

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .033.

Lampiran 7. Hasil Rata-rata Pengujian Organoleptik Rasa *Muffin*

Responden	Pengujian Organoleptik Rasa <i>Muffin</i>																																			
	MOK1			MOK2			MOK3			MIK1			MIK2			MIK3			MZK1			MZK2			MZK3											
	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3	U1	U2	U3									
1	4	5	4	3	3	3	2	3	5	2	3	4	4	3	3	4	4	3	2	4	5	3	4	4	4	5	4	3	3							
2	3	5	1	3	4	1	4	4	2	3	4	2	3	4	3	4	4	4	4	4	4	5	3	4	4	5	2	4	5	3						
3	5	4	5	4	5	4	3	4	5	3	4	5	5	4	5	4	4	4	4	4	4	4	4	5	4	4	4	4	4	4						
4	2	3	3	2	3	2	4	4	2	3	3	2	2	3	4	2	4	3	3	5	3	4	5	3	4	4	2	4	4	2						
5	5	3	2	1	3	3	5	4	1	1	2	2	4	2	2	4	3	5	4	3	2	4	3	2	4	2	2	4	4	2	2					
6	4	4	3	3	4	1	2	4	4	3	2	3	4	2	4	4	3	5	2	5	4	4	5	3	5	5	4	5	5	3	5					
7	3	4	5	3	2	3	2	4	3	4	3	3	5	1	2	3	2	3	4	4	3	5	3	4	5	4	3	4	3	2	4					
8	3	2	4	2	2	3	1	4	3	2	1	5	3	2	4	3	4	4	2	4	4	3	5	4	4	2	5	4	3	5	3					
9	4	2	2	3	2	3	3	3	2	4	4	2	4	3	3	4	3	2	3	3	3	4	4	2	4	3	3	3	4	4	3					
10	2	3	5	2	3	3	2	4	4	3	3	3	2	2	4	4	4	4	3	4	4	5	3	4	4	4	4	4	3	3	5					
11	3	3	4	4	2	3	1	4	5	1	3	3	3	3	4	2	3	4	3	3	4	3	4	2	3	4	3	2	5	4	1	3				
12	3	3	3	2	3	2	1	3	3	2	2	3	4	3	4	3	2	4	3	3	4	4	3	2	4	3	4	4	3	4	3					
13	2	2	2	1	3	2	1	4	4	1	2	4	3	1	5	3	3	4	2	3	3	3	5	4	4	3	3	4	5	4	2	3				
14	2	3	2	3	2	3	2	3	4	3	5	3	4	3	4	2	4	4	4	2	3	3	3	5	4	3	3	2	3	4	4					
15	4	4	2	4	3	2	1	3	2	1	3	2	4	2	2	2	3	4	2	4	4	3	4	4	1	3	4	3	4	4	2	4				
16	4	3	3	2	2	3	2	3	3	2	2	3	3	4	3	5	2	4	3	4	4	5	3	4	4	3	4	5	4	4	3	2				
17	4	3	2	5	3	3	3	4	4	3	4	3	5	4	2	5	4	5	4	4	4	5	5	4	2	4	5	4	4	3	5	4				
18	3	3	4	2	2	1	2	4	2	2	2	5	4	1	2	2	3	4	3	3	5	3	2	4	2	4	3	3	4	4	2	3				
19	2	2	4	4	2	4	2	5	3	3	3	3	4	3	3	3	4	4	3	3	4	5	4	4	5	3	4	4	4	4	3	2				
20	2	3	4	3	3	3	2	4	2	2	1	4	4	1	3	3	3	2	5	4	3	4	5	5	2	4	4	4	4	3	3	1				
21	2	3	3	3	2	3	3	4	5	3	5	3	3	4	3	3	4	3	2	4	4	5	4	4	5	2	5	5	4	3	3					
22	4	2	5	3	2	4	3	3	5	4	3	3	5	2	2	5	3	5	5	4	5	4	4	4	3	4	4	5	3	3	1					
23	3	3	2	2	3	2	1	3	3	2	4	3	5	2	5	4	2	4	2	2	3	3	3	4	4	4	4	2	3	5	3	3				
24	5	3	5	3	2	2	2	4	3	1	2	5	4	2	5	3	3	3	3	3	3	5	2	5	5	3	5	5	3	4	2	4				
25	4	3	3	2	3	2	2	5	3	3	3	3	4	2	2	4	4	4	3	3	3	4	4	4	4	3	4	4	3	3	3					
26	2	4	3	4	4	3	2	5	4	3	4	3	3	4	3	4	4	4	3	5	4	3	4	4	4	3	5	4	4	3	5					
27	3	2	4	3	3	4	2	4	5	3	3	4	5	3	5	5	3	4	2	4	4	5	5	4	4	4	5	4	5	4	4	5				
28	2	4	5	3	3	2	2	4	3	2	3	4	4	2	3	4	4	3	2	5	4	4	5	4	4	4	4	5	4	4	3					
29	2	4	2	4	3	1	1	3	2	2	4	2	2	2	1	2	4	2	2	3	3	5	4	3	4	2	4	4	3	5	2	4				
30	2	3	4	3	3	4	2	4	4	3	3	5	3	2	4	2	4	4	1	4	5	3	3	5	4	3	3	5	4	3	5					
Jumlah	93	95	100	86	84	79	65	114	100	74	90	99	112	76	99	101	102	112	84	113	110	106	119	118	117	113	100	114	110	113	115	113	121	112	94	100
Rata-rata	3.10	3.17	3.33	2.87	2.80	2.63	2.17	3.80	3.33	2.47	3.00	3.30	3.73	2.53	3.30	3.37	3.40	3.73	2.80	3.77	3.67	3.53	3.97	3.93	3.90	3.77	3.33	3.80	3.67	3.77	3.83	3.77	4.03	3.73	3.13	3.33
Keseluruhan	3.20			2.77			3.10			2.92			3.19			3.50			3.41			3.81			3.67			3.74			3.88			3.40		

Lampiran 8. Hasil Analisis Sidik Ragam Rasa *Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable:Rasa

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	416.010 <sup>a</sup>	12	34.667	222.612	.000
Maltodekstrin	2.770	3	.923	5.928	.004
Puree_ubi_jalar_kuning	.068	2	.034	.218	.805
Maltodekstrin	* 1.353	6	.225	1.448	.238
Error	3.738	24	.156		
Total	419.747	36			

a. R Squared = .991 (Adjusted R Squared = .987)

**Estimated Marginal Means**

**1. Maltodekstrin**

Dependent Variable:Rasa

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M0 (Kontrol)	3.022	.132	2.751	3.294
M1 (5% maltodekstrin)	3.203	.132	2.932	3.475
M2 (9% maltodekstrin)	3.630	.132	3.359	3.901
M3 (14% maltodekstrin)	3.673	.132	3.402	3.945

**2. Puree\_ubi\_jalar\_kuning**

Dependent Variable:Rasa

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K1 (7% puree ubi jalar kuning)	3.321	.114	3.086	3.556
K2 (11% puree ubi jalar kuning)	3.410	.114	3.175	3.645
K3 (16% puree ubi jalar kuning)	3.416	.114	3.181	3.651

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable: Rasa

Maltodekstrin	Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M0 (Kontrol)	K1 (7% puree ubi jalar kuning)	3.200	.228	2.730	3.670
	K2 (11% puree ubi jalar kuning)	2.767	.228	2.296	3.237
	K3 (16% puree ubi jalar kuning)	3.100	.228	2.630	3.570
M1 (5% K1 (7% puree ubi jalar kuning) maltodekstrin)	K1 (7% puree ubi jalar kuning)	2.923	.228	2.453	3.394
	K2 (11% puree ubi jalar kuning)	3.187	.228	2.716	3.657
	K3 (16% puree ubi jalar kuning)	3.500	.228	3.030	3.970
M2 (9% K1 (7% puree ubi jalar kuning) maltodekstrin)	K1 (7% puree ubi jalar kuning)	3.413	.228	2.943	3.884
	K2 (11% puree ubi jalar kuning)	3.810	.228	3.340	4.280
	K3 (16% puree ubi jalar kuning)	3.667	.228	3.196	4.137
M3 (14% K1 (7% puree ubi jalar kuning) maltodekstrin)	K1 (7% puree ubi jalar kuning)	3.747	.228	3.276	4.217
	K2 (11% puree ubi jalar kuning)	3.877	.228	3.406	4.347
	K3 (16% puree ubi jalar kuning)	3.397	.228	2.926	3.867

### Post Hoc Tests

#### Maltodekstrin

#### Homogeneous Subsets

#### Rasa

Duncan

Maltodekstrin	N	Subset	
		1	2
M0 (Kontrol)	9	3.0222	
M1 (5% maltodekstrin)	9	3.2033	
M2 (9% maltodekstrin)	9		3.6300
M3 (14% maltodekstrin)	9		3.6733
Sig.		.340	.818

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .156.

#### Lampiran 9. Hasil Rata-rata Pengujian Organoleptik Tekstur *Muffin*

Lampiran 10. Hasil Analisis Sidik Ragam Tekstur *Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable:Tekstur

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	425.351 <sup>a</sup>	12	35.446	959.149	.000
Maltodekstrin	1.885	3	.628	17.001	.000
Puree_ubi_jalar_kuning	.139	2	.069	1.876	.175
Maltodekstrin	* .477	6	.079	2.149	.085
Error	.887	24	.037		
Total	426.238	36			

a. R Squared = .998 (Adjusted R Squared = .997)

**Estimated Marginal Means**

**1. Maltodekstrin**

Dependent Variable:Tekstur

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M0 (Kontrol)	3.108	.064	2.976	3.240
M1 (5% maltodekstrin)	3.313	.064	3.181	3.446
M2 (9% maltodekstrin)	3.660	.064	3.528	3.792
M3 (14% maltodekstrin)	3.628	.064	3.496	3.760

**2. Puree\_ubi\_jalar\_kuning**

Dependent Variable:Tekstur

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K1 (7% puree ubi jalar kuning)	3.344	.055	3.230	3.459
K2 (11% puree ubi jalar kuning)	3.444	.055	3.330	3.559
K3 (16% puree ubi jalar kuning)	3.493	.055	3.379	3.608

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable:Tekstur

Maltodekstrin	Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M0 (Kontrol)	K1 (7% puree ubi jalar kuning)	3.133	.111	2.904	3.362
	K2 (11% puree ubi jalar kuning)	3.033	.111	2.804	3.262
	K3 (16% puree ubi jalar kuning)	3.157	.111	2.928	3.386
M1 maltodekstrin)	(5% K1 (7% puree ubi jalar kuning)	3.153	.111	2.924	3.382
	K2 (11% puree ubi jalar kuning)	3.243	.111	3.014	3.472
	K3 (16% puree ubi jalar kuning)	3.543	.111	3.314	3.772
M2 maltodekstrin)	(9% K1 (7% puree ubi jalar kuning)	3.413	.111	3.184	3.642
	K2 (11% puree ubi jalar kuning)	3.803	.111	3.574	4.032
	K3 (16% puree ubi jalar kuning)	3.763	.111	3.534	3.992
M3 maltodekstrin)	(14% K1 (7% puree ubi jalar kuning)	3.677	.111	3.448	3.906
	K2 (11% puree ubi jalar kuning)	3.697	.111	3.468	3.926
	K3 (16% puree ubi jalar kuning)	3.510	.111	3.281	3.739

### Post Hoc Tests

#### Maltodekstrin

#### Homogeneous Subsets

#### Tekstur

Duncan

Maltodekstrin	N	Subset		
		1	2	3
M0 (Kontrol)	9	3.1078		
M1 (5% maltodekstrin)	9		3.3133	
M3 (14% maltodekstrin)	9			3.6278
M2 (9% maltodekstrin)	9			3.6600
Sig.		1.000	1.000	.725

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .037.

Lampiran 11. Data Hasil Pengujian Kadar Lemak *Muffin*

Sampel	Ulangan	Kertas saring	Kertas saring + sampel	Kertas saring + sampel (setelah oven)	Berat akhir setelah soxhlet	Kadar lemak	Rata-rata
M1K2	1	1.54	3.54	2.69	2.30	19.78	20.10
	2	1.53	3.53	2.58	2.19	19.14	
	3	1.54	3.54	2.71	2.28	21.37	
M1K3	1	1.53	3.54	2.64	2.13	25.07	27.99
	2	1.55	3.53	2.77	2.19	29.77	
	3	1.55	3.54	2.77	2.18	29.13	
M2K2	1	1.22	3.26	2.77	2.49	13.52	13.58
	2	1.22	3.26	2.77	2.49	13.62	
	3	1.22	3.23	2.75	2.48	13.62	
M2K3	1	1.22	3.27	2.79	2.39	19.47	19.90
	2	1.22	3.28	2.83	2.41	20.45	
	3	1.20	3.22	2.77	2.37	19.79	
M3K2	1	1.57	3.51	2.60	2.42	9.29	8.90
	2	1.53	3.55	2.57	2.40	8.49	
	3	1.56	3.54	2.59	2.42	8.93	
M3K3	1	1.23	3.27	2.77	2.56	10.20	10.16
	2	1.23	3.26	2.76	2.55	10.47	
	3	1.22	3.26	2.72	2.52	9.80	

Lampiran 12. Hasil Analisis Sidik Ragam Kadar Lemak *Muffin***Tests of Between-Subjects Effects**

Dependent Variable: Kadar\_lemak

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	5851.451 <sup>a</sup>	6	975.242	701.372	.000
Maltodekstrin	631.917	2	315.959	227.230	.000
Puree_ubi_jalar_kuning	119.557	1	119.557	85.983	.000
Maltodekstrin	*	36.106	18.053	12.983	.001
Puree_ubi_jalar_kuning					
Error	16.686	12	1.390		
Total	5868.136	18			

a. R Squared = .997 (Adjusted R Squared = .996)

## Estimated Marginal Means

### 1. Maltodekstrin

Dependent Variable: Kadar\_lemak

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M1	24.043	.481	22.994	25.092
M2	16.745	.481	15.696	17.794
M3	9.530	.481	8.481	10.579

### 2. Puree\_ubi\_jalar\_kuning

Dependent Variable: Kadar\_lemak

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K2	14.196	.393	13.339	15.052
K3	19.350	.393	18.494	20.206

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable: Kadar\_lemak

Maltodekstrin	Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M1	K2	20.097	.681	18.613	21.580
	K3	27.990	.681	26.507	29.473
M2	K2	13.587	.681	12.103	15.070
	K3	19.903	.681	18.420	21.387
M3	K2	8.903	.681	7.420	10.387
	K3	10.157	.681	8.673	11.640

## Post Hoc Tests

### Maltodekstrin

#### Homogeneous Subsets

Kadar\_lemak

Duncan

Maltodekstrin	N	Subset		
		1	2	3
M3	6	9.5300		
M2	6		16.7450	
M1	6			24.0433
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.390.

Kadar\_lemak

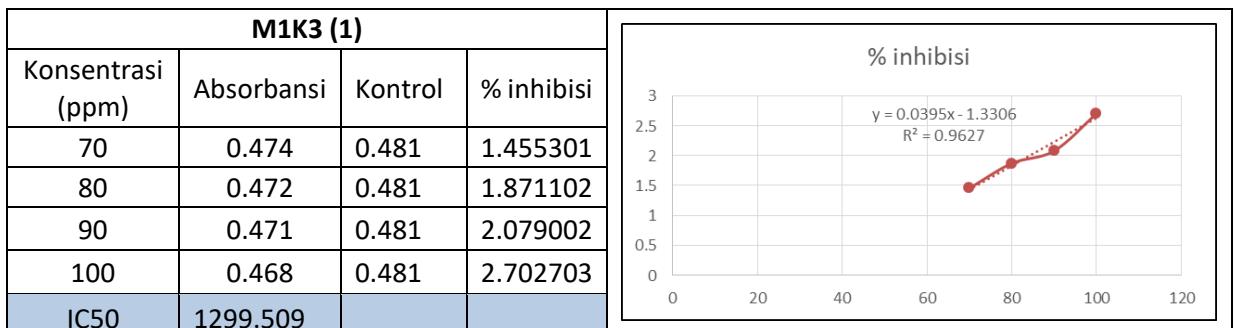
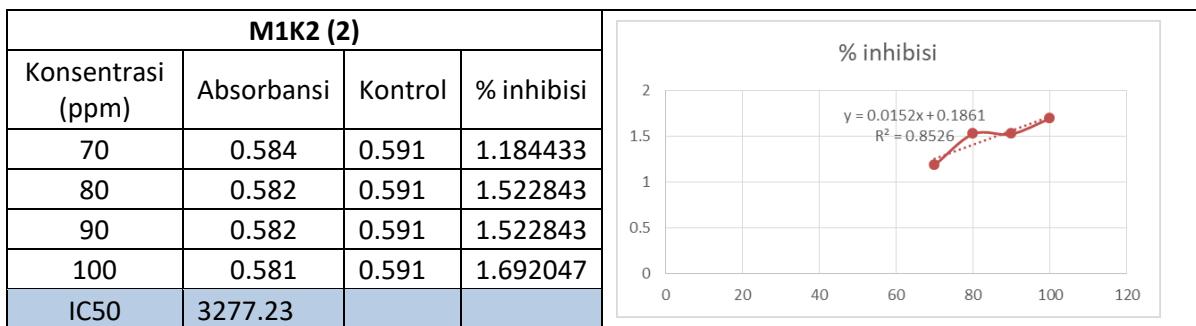
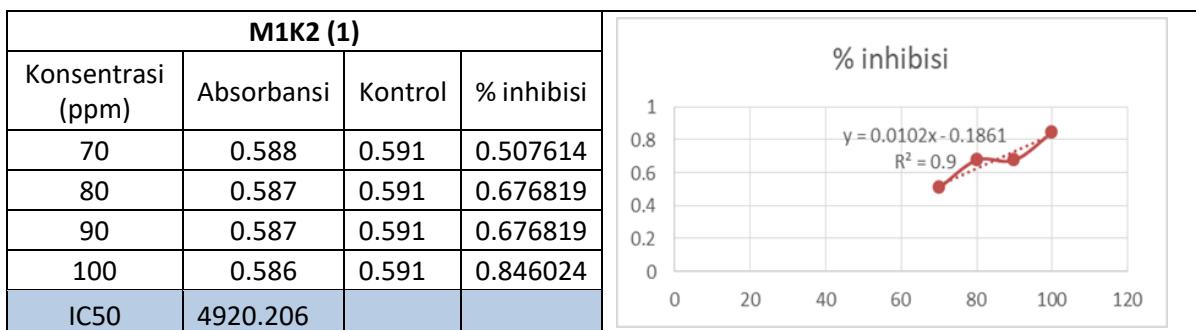
Duncan

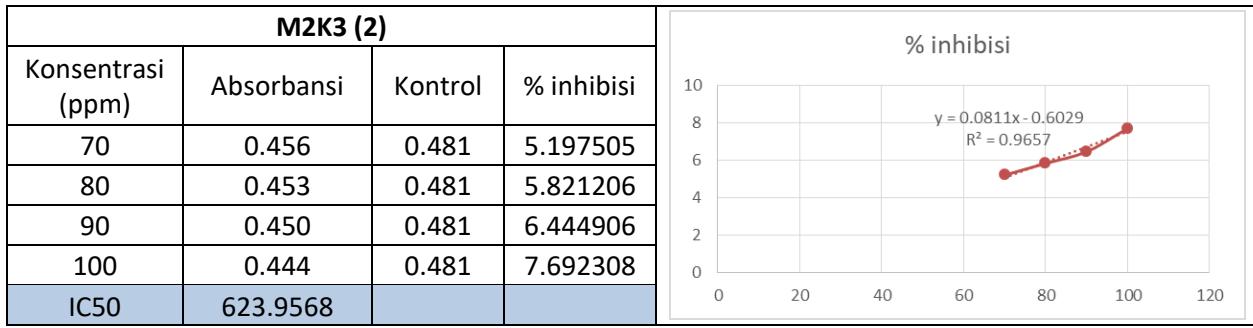
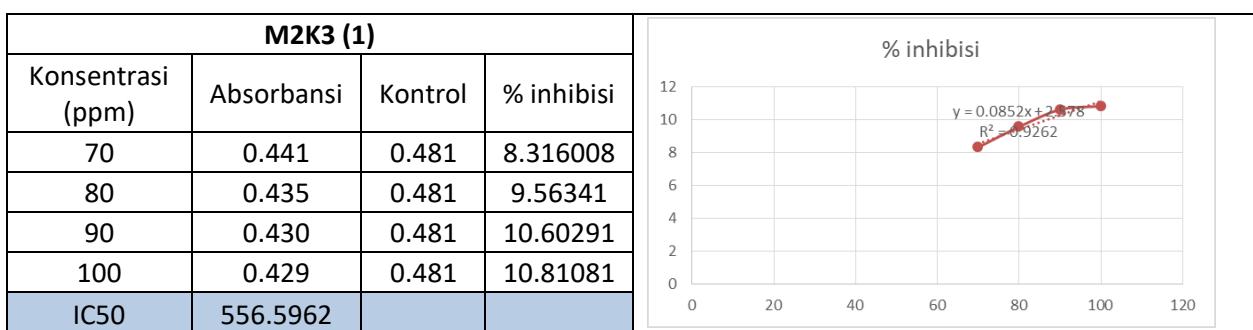
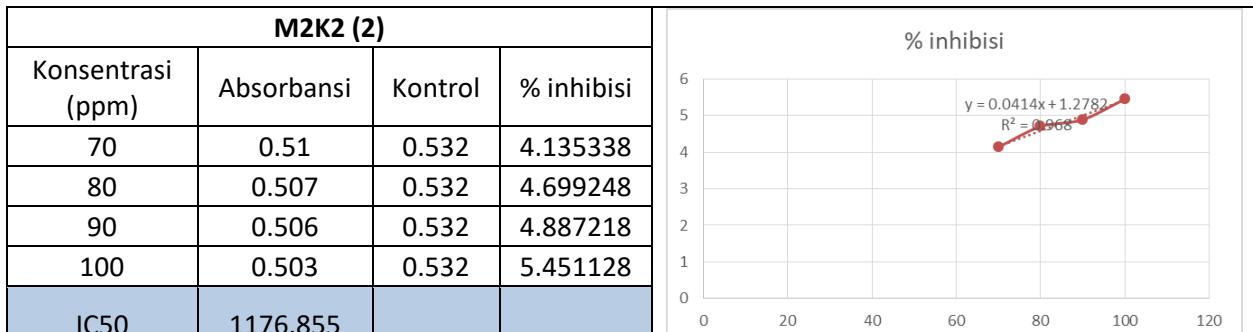
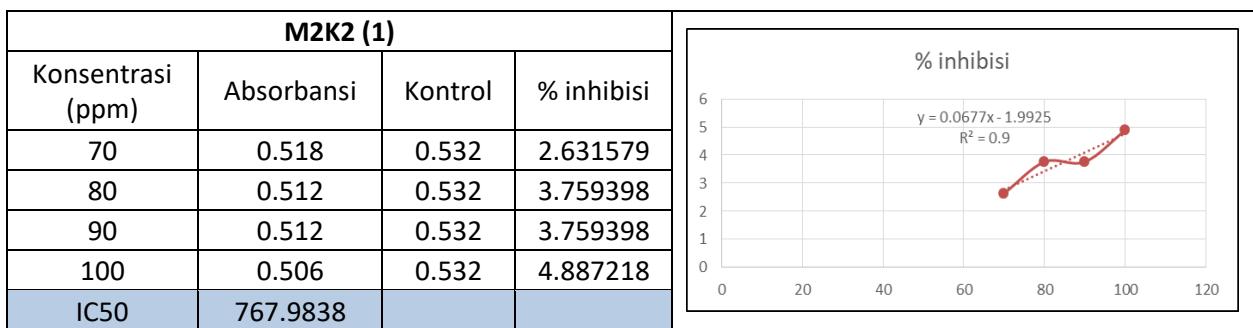
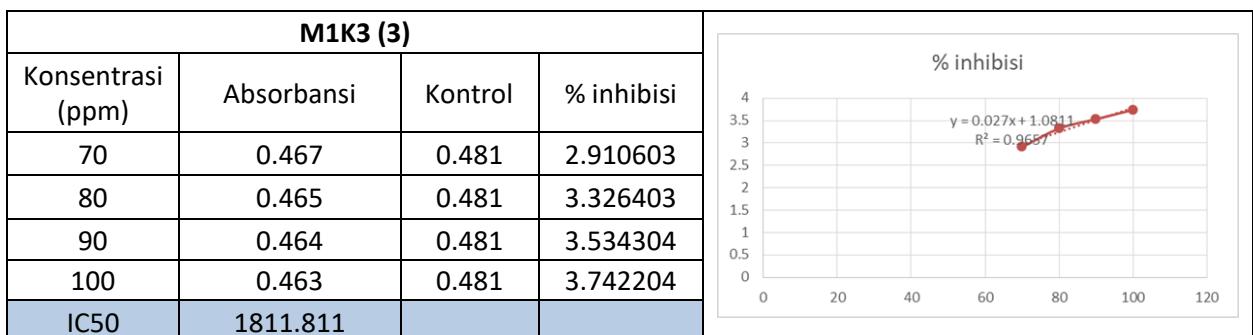
MaltodekstrinxPurée_ubi_jalar_kuning	N	Subset for alpha = 0.05			
		1	2	3	4
M3K2	3	8.9033			
M3K3	3	10.1567			
M2K2	3		13.5867		
M2K3	3			19.9033	
M1K2	3			20.0967	
M1K3	3	.217	1.000	.844	27.9900
Sig.					1.000

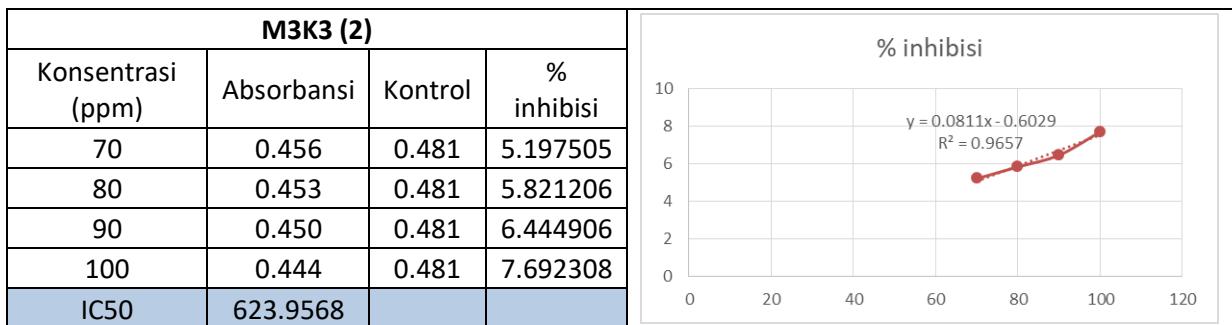
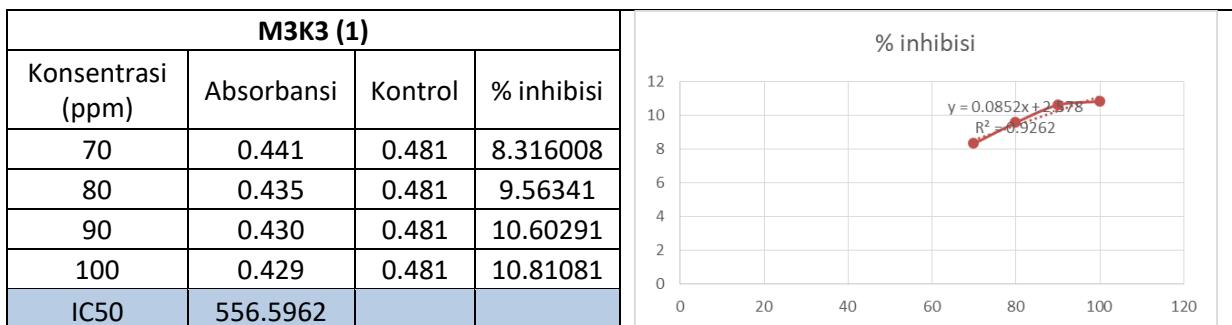
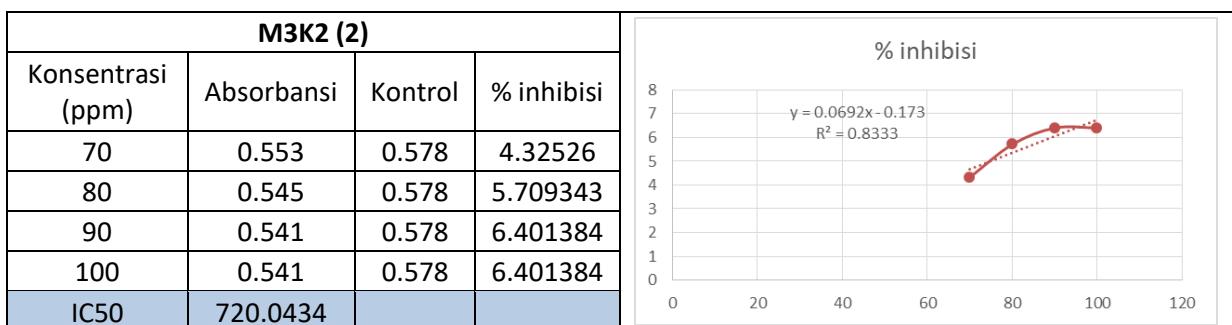
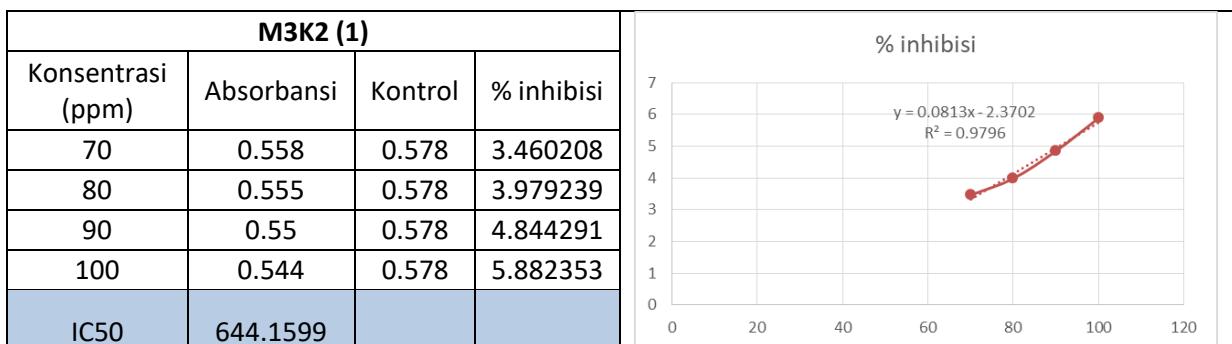
Means for groups in homogeneous subsets are displayed.

Lampiran 13. Data Hasil Pengujian Aktivitas Antioksidan Muffin

Perlakuan	Ulangan	IC50	Rata-rata
M1K2	1	4920.206	4098.72
	2	3277.23	
M1K3	1	1299.509	1555.66
	2	1811.811	
M2K2	1	767.9838	972.4194
	2	1176.855	
M2K3	1	556.5962	590.2765
	2	623.9568	
M3K2	1	644.1599	682.1016
	2	720.0434	
M3K3	1	556.5962	590.2765
	2	623.9568	







Lampiran 14. Hasil Analisis Sidik Ragam Aktivitas Antioksidan *Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable:Antioksidan

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	4.273E7 <sup>a</sup>	6	7122496.770	26.910	.000
Maltodekstrin	1.204E7	2	6018532.206	22.739	.002
Puree_ubi_jalar_kuning	3044016.277	1	3044016.277	11.501	.015
Maltodekstrin	* 3602549.144	2	1801274.572	6.806	.029
Error	1588071.381	6	264678.563		
Total	4.432E7	12			

a. R Squared = .964 (Adjusted R Squared = .928)

## Estimated Marginal Means

### 1. Maltodekstrin

Dependent Variable:Antioksidan

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M1	2.830E3	257.235	2200.210	3459.070
M2	781.348	257.235	151.918	1410.778
M3	636.189	257.235	6.759	1265.619

### 2. Puree\_ubi\_jalar\_kuning

Dependent Variable:Antioksidan

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K2	1.919E3	210.031	1405.453	2433.308
K3	912.071	210.031	398.143	1425.999

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable:Antioksidan

Puree_u Maltodek bi_jalar_ strin	Mean	Std. Error	95% Confidence Interval		
			Lower Bound	Upper Bound	
M1	4.104E3	363.785	3213.471	4993.769	
	K3	1.556E3	363.785	665.511	2445.809
M2	K2	972.419	363.785	82.270	1862.568
	K3	590.277	363.785	-299.872	1480.426
M3	K2	682.102	363.785	-208.047	1572.251
	K3	590.277	363.785	-299.872	1480.426

## Post Hoc Tests

### Maltodekstrin

### Homogeneous Subsets

#### Antioksidan

Duncan

Maltode kstrin	N	Subset	
		1	2
M3	4	6.3619E2	
M2	4	7.8135E2	
M1	4		2.8296E3
Sig.		.704	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 264678.563.

Lampiran 15. Data Hasil Pengujian Total Kalori *Muffin*

<b>Sampel</b>	<b>Ulangan</b>	<b>Hasil Uji (Kalori)</b>	<b>Rata-rata</b>
		<b>Kkal/g</b>	
M1K2	1	3.02	2.96
	2	3.03	
	3	2.82	
M1K3	1	3.24	3.22
	2	3.35	
	3	3.08	
M2K2	1	2.73	2.74
	2	2.72	
	3	2.76	
M2K3	1	2.81	2.59
	2	2.40	
	3	2.57	
M3K2	1	2.50	2.43
	2	2.23	
	3	2.57	
M3K3	1	2.53	2.44
	2	2.39	
	3	2.41	

Lampiran 16. Hasil Analisis Sidik Ragam Total Kalori *Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable:Kalori

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	135.712 <sup>a</sup>	6	22.619	1.198E3	.000
Maltodekstrin	1.313	2	.657	34.775	.000
Puree_ubi_jalar_kuning	.009	1	.009	.471	.506
Maltodekstrin	*	2	.064	3.409	.067
Puree_ubi_jalar_kuning	.129				
Error	.227	12	.019		
Total	135.939	18			

a. R Squared = .998 (Adjusted R Squared = .997)

## Estimated Marginal Means

### 1. Maltodekstrin

Dependent Variable: Kalori

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M1	3.090	.056	2.968	3.212
M2	2.665	.056	2.543	2.787
M3	2.438	.056	2.316	2.561

### 2. Puree\_ubi\_jalar\_kuning

Dependent Variable: Kalori

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K2	2.709	.046	2.609	2.809
K3	2.753	.046	2.654	2.853

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable: Kalori

Maltodekstrin	Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M1	K2	2.957	.079	2.784	3.130
	K3	3.223	.079	3.050	3.396
M2	K2	2.737	.079	2.564	2.910
	K3	2.593	.079	2.420	2.766
M3	K2	2.433	.079	2.260	2.606
	K3	2.443	.079	2.270	2.616

## Post Hoc Tests

### Maltodekstrin

#### Homogeneous Subsets

Kalori					
Duncan		N	Subset		
			1	2	3
M3	6	2.4383			
M2	6		2.6650		
M1	6			3.0900	
Sig.		1.000	1.000	1.000	

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .019.

Lampiran 17. Data Hasil Pengujian Profil Tekstur *Muffin*

Sampel	Ulangan	Parameter			Rata-rata		
		Hardness	Cohesiveness	Springiness	Hardness	Cohesiveness	Springiness
M1K2	1	73	0.56	2.8	88.67	0.56	2.57
	2	96	0.59	2.5			
	3	97	0.54	2.4			
M1K3	1	89	0.49	2.7	112.33	0.49	2.63
	2	123	0.42	2.4			
	3	125	0.57	2.8			
M2K2	1	131	0.55	3	108.67	0.54	2.50
	2	103	0.58	2.4			
	3	92	0.5	2.1			
M2K3	1	61	0.53	2.3	61.67	0.49	2.03
	2	66.5	0.48	2.4			
	3	57.5	0.46	1.4			
M3K2	1	91.5	0.47	2.5	86.50	0.46	2.33
	2	74.5	0.46	2.4			
	3	93.5	0.45	2.1			
M3K3	1	72	0.43	1.5	82.00	0.46	1.63
	2	84	0.47	1.6			
	3	90	0.48	1.8			

Lampiran 18. Hasil Analisis Sidik Ragam *Hardness Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable:Tekstur\_Hardness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	150894.083 <sup>a</sup>	6	25149.014	124.543	.000
Maltodekstrin	1000.028	2	500.014	2.476	.126
Puree_ubi_jalar_kuning	387.347	1	387.347	1.918	.191
Maltodekstrin *	3796.694	2	1898.347	9.401	.003
Error	2423.167	12	201.931		
Total	153317.250	18			

a. R Squared = .984 (Adjusted R Squared = .976)

## Estimated Marginal Means

### 1. Maltodekstrin

Dependent Variable:Tekstur\_Hardness

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M1	100.500	5.801	87.860	113.140
M2	85.167	5.801	72.527	97.807
M3	84.250	5.801	71.610	96.890

### 2. Puree\_ubi\_jalar\_kuning

Dependent Variable:Tekstur\_Hardness

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K2	94.611	4.737	84.291	104.932
K3	85.333	4.737	75.013	95.654

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable: Tekstur\_Hardness

Puree_u Maltodek bi_jalar_ strin	Puree_u Maltodek bi_jalar_ strin	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M1	K2	88.667	8.204	70.791	106.542
	K3	112.333	8.204	94.458	130.209
M2	K2	108.667	8.204	90.791	126.542
	K3	61.667	8.204	43.791	79.542
M3	K2	86.500	8.204	68.624	104.376
	K3	82.000	8.204	64.124	99.876

### Post Hoc Tests

#### Maltodekstrin

#### Homogeneous Subsets

##### Hardness

Duncan

Maltode kstrinxP uree_ub i_jalar_k uning	N	Subset for alpha = 0.05		
		1	2	3
M2K3	3	61.6667		
M3K3	3	82.0000	82.0000	
M3K2	3	86.5000	86.5000	86.5000
M1K2	3	88.6667	88.6667	88.6667
M2K2	3		1.0867E2	1.0867E2
M1K3	3	.051	.054	.061
Sig.				

Means for groups in homogeneous subsets are displayed.

Lampiran 19. Hasil Analisis Sidik Ragam *Cohesiveness Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable:Tekstur\_Cohesiveness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	4.558 <sup>a</sup>	6	.760	455.770	.000
Maltodekstrin	.016	2	.008	4.810	.029
Puree_ubi_jalar_kuning	.008	1	.008	4.563	.054
Maltodekstrin	*	2	.002	1.203	.334
Puree_ubi_jalar_kuning	.004				
Error	.020	12	.002		
Total	4.578	18			

a. R Squared = .996 (Adjusted R Squared = .993)

## Estimated Marginal Means

### 1. Maltodekstrin

Dependent Variable:Tekstur\_Cohesiveness

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M1	.528	.017	.492	.565
M2	.517	.017	.480	.553
M3	.460	.017	.424	.496

### 2. Puree\_ubi\_jalar\_kuning

Dependent Variable:Tekstur\_Cohesiveness

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K2	.522	.014	.493	.552
K3	.481	.014	.451	.511

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable: Tekstur\_Cohesiveness

Maltodekstrin	Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M1	K2	.563	.024	.512	.615
	K3	.493	.024	.442	.545
M2	K2	.543	.024	.492	.595
	K3	.490	.024	.439	.541
M3	K2	.460	.024	.409	.511
	K3	.460	.024	.409	.511

## Post Hoc Tests

### Maltodekstrin

### Homogeneous Subsets

#### Tekstur\_Cohesiveness

Duncan

Maltodekstrin	N	Subset	
		1	2
M3	6	.4600	
M2	6		.5167
M1	6		.5283
Sig.		1.000	.630

Lampiran 20. Hasil Analisis Sidik Ragam *Springiness Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable:Tekstur\_Springiness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	96.057 <sup>a</sup>	6	16.009	144.085	.000
Maltodekstrin	1.143	2	.572	5.145	.024
Puree_ubi_jalar_kuning	.605	1	.605	5.445	.038
Maltodekstrin *	.463	2	.232	2.085	.167
Puree_ubi_jalar_kuning					
Error	1.333	12	.111		
Total	97.390	18			

a. R Squared = .986 (Adjusted R Squared = .979)

## Estimated Marginal Means

### 1. Maltodekstrin

Dependent Variable:Tekstur\_Springiness

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M1	2.600	.136	2.304	2.896
M2	2.267	.136	1.970	2.563
M3	1.983	.136	1.687	2.280

### 2. Puree\_ubi\_jalar\_kuning

Dependent Variable:Tekstur\_Springiness

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K2	2.467	.111	2.225	2.709
K3	2.100	.111	1.858	2.342

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable: Tekstur\_Springiness

Puree_u Maltodek bi_jalar_ strin	Puree_u Maltodek bi_jalar_ strin	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M1	K2	2.567	.192	2.147	2.986
	K3	2.633	.192	2.214	3.053
M2	K2	2.500	.192	2.081	2.919
	K3	2.033	.192	1.614	2.453
M3	K2	2.333	.192	1.914	2.753
	K3	1.633	.192	1.214	2.053

## Post Hoc Tests

### Maltodekstrin

### Homogeneous Subsets

#### Tekstur\_Springiness

Duncan

Maltodekstrin	N	Subset	
		1	2
M3	6	1.9833	
M2	6	2.2667	2.2667
M1	6		2.6000
Sig.		.167	.109

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .111.

Lampiran 21. Data Hasil Pengujian Volume Pengembangan *Muffin*

Sampel	Ulangan	Berat <i>muffin</i> (g)	Volume <i>muffin</i> (ml)	Volume pengembangan (ml/g)	Rata-rata
M1K2	1	64.02	77	1.20	1.18
	2	63.05	79	1.25	
	3	64.08	70	1.09	
M1K3	1	67.32	81	1.20	1.17
	2	64.87	77	1.19	
	3	66.30	75	1.13	
M2K2	1	60.72	67	1.10	1.18
	2	59.33	74	1.25	
	3	59.92	71	1.18	
M2K3	1	63.66	77	1.21	1.21
	2	64.30	73	1.14	
	3	63.66	82	1.29	
M3K2	1	66.25	93	1.40	1.35
	2	66.65	83	1.25	
	3	64.31	90	1.40	
M3K3	1	60.25	73	1.21	1.28
	2	60.64	81	1.34	
	3	60.42	78	1.29	

Lampiran 22. Hasil Analisis Sidik Ragam Volume Pengembangan *Muffin*

**Tests of Between-Subjects Effects**

Dependent Variable: Volume\_pengembangan

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	27.260 <sup>a</sup>	6	4.543	873.724	.000
Maltodekstrin	.068	2	.034	6.514	.012
Puree_ubi_jalar_kuning	.001	1	.001	.154	.702
Maltodekstrin	* .009	2	.004	.830	.460
Puree_ubi_jalar_kuning					
Error	.062	12	.005		
Total	27.323	18			

a. R Squared = .998 (Adjusted R Squared = .997)

## Estimated Marginal Means

### 1. Maltodekstrin

Dependent Variable: Volume\_pengembangan

Maltodekstrin	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
M1	1.177	.029	1.113	1.241
M2	1.195	.029	1.131	1.259
M3	1.315	.029	1.251	1.379

### 2. Puree\_ubi\_jalar\_kuning

Dependent Variable: Volume\_pengembangan

Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
K2	1.236	.024	1.183	1.288
K3	1.222	.024	1.170	1.275

### 3. Maltodekstrin \* Puree\_ubi\_jalar\_kuning

Dependent Variable: Volume\_pengembangan

Maltodekstrin	Puree_ubi_jalar_kuning	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
M1	K2	1.180	.042	1.089	1.271
	K3	1.173	.042	1.083	1.264
M2	K2	1.177	.042	1.086	1.267
	K3	1.213	.042	1.123	1.304
M3	K2	1.350	.042	1.259	1.441
	K3	1.280	.042	1.189	1.371

## Post Hoc Tests

### Maltodekstrin

#### Homogeneous Subsets

Volume\_pengembangan

Duncan

Maltodekstrin	N	Subset	
		1	2
M1	6	1.1767	
M2	6	1.1950	
M3	6		1.3150
Sig.		.668	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .005.

### Lampiran 23. Dokumentasi Kegiatan

- Pembuatan *puree* ubi jalar kuning



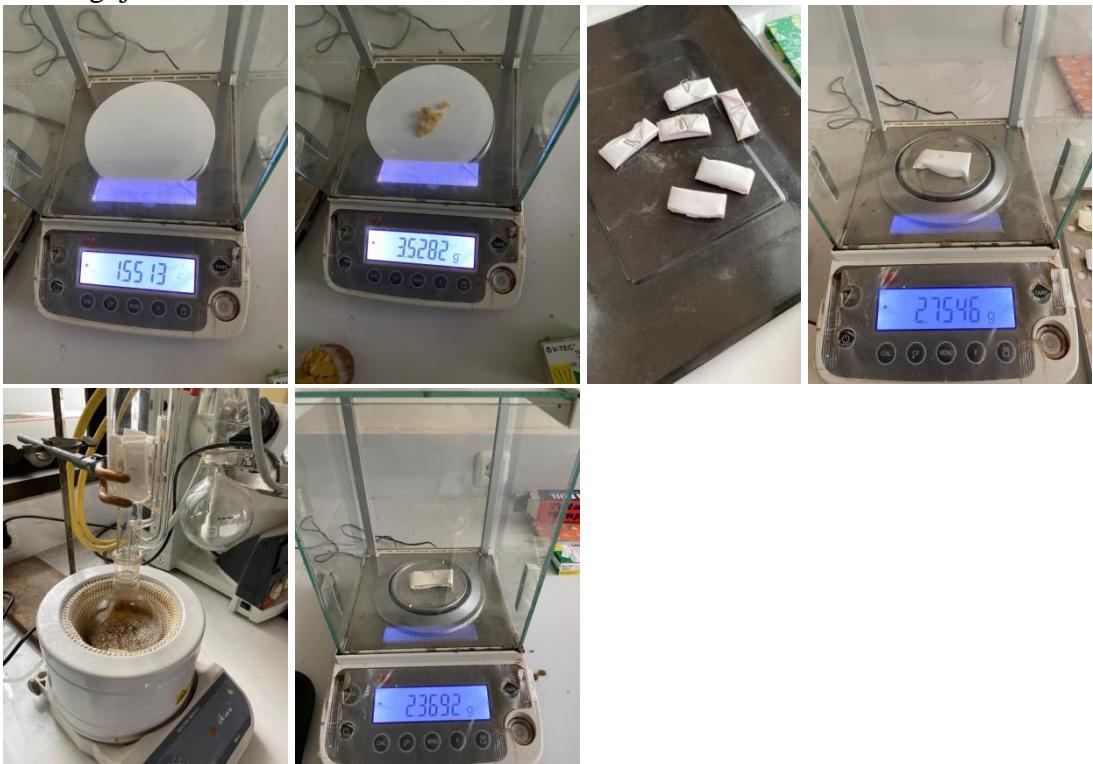
- Pembuatan muffin



- Pengujian organoleptik



- Pengujian kadar lemak



- Pengujian antioksidan



- Pengujian nilai kalori



- Pengujian profil tekstur



- Pengujian volume pengembangan

