

DAFTAR PUSTAKA

- Aadil, K. R. dan H. Jha. 2016. Physico-chemical properties of lignin–alginate based films in the presence of different plasticizers. *Iranian Polymer Journal (English Edition)*. 25(8): 661–670.
- Ahmadi, R., A. Kalbasi-Ashtari, A. Oromiehie, M. S. Yarmand dan F. Jahandideh. 2012. Development and characterization of a novel biodegradable edible film obtained from psyllium seed (*Plantago ovata forsk*). *Journal of Food Engineering*. 109(4): 745–751.
- Aranaz, I., R. Alc dan M. Concepci. 2021. Chitosan: an overview of its properties and applications.
- [ASTM] *American Standard Testing Methods*. 2013. Standard practice conditioning plastics and electrical insulating materials for testing. Philadelphia (US). American National Standards Institute.
- Astuti, K. W., V. F. Rizqiyah dan T. Adiarto. 2022. Pengaruh derajat deasetilisasi kitosan pada *coating nata de coco* sebagai bahan perban antibakteri penutup luka. *Warta Akab*. 46(2): 23–30.
- Ballesteros-mártinez, L., C. Pérez-cervera dan R. Andrade-pizarro. 2020. Original article Effect of glycerol and sorbitol concentrations on mechanical, optical, and barrier properties of sweet potato starch film. *NFS Journal*. 20: 1–9.
- Cherlina, D. I., S. Gea dan H. Nainggolan. 2017. Pembuatan nanokomposit polivinil alkohol / nanoserat selulosa yang diisolasi dari tandan kosong kelapa (*elaeis guineensis jack*) dengan metode. *kimia mulawarman*. 14: 120–126.
- Choudhury, N. A., P. W. C. Northrop, A. C. Crothers, S. Jain dan V. R. Subramanian. 2012. Chitosan hydrogel-based electrode binder and electrolyte membrane for EDLCs: Experimental studies and model validation. *Journal of Applied Electrochemistry*. 42(11): 935–943.
- Dewi, I. G. A. A. M. P., B. A. Harsoyuono dan I. W. Arnata. 2015. Pengaruh campuran bahan

komposit dan konsentrasi gliserol terhadap karakteristik bioplastik dari pati kulit singkong dan kitosan. *Rekayasa dan Manajemen Agroindustri*. 3(3): 41–50.

- Dias *et al.* 2012. phosphonium-based ionic liquids as modifiers for biomedical grade poly (vinyl chloride). *Acta Biomaterialia*. 8: 1366-1379.
- Donkin, S. S. 2008. Glycerol from Biodiesel Production: The New Corn for Dairy Cattle. *R. Bras. Zootec.* 37: 280-286.
- Farhan, A. dan N. Mohd. 2017. Food hydrocolloids characterization of edible packaging films based on semi-refined kappa-carrageenan plasticized with glycerol and sorbitol. *Food hydrocolloids*. 64: 48–58.
- Farrag, Y., L. Barral, O. Gualillo, D. Moncada, M. Rico dan R. Bouza. 2022. Effect of different plasticizers on thermal, crystalline, and permeability properties. *Polymers*. 14(3503): 3-14.
- Fazli, Y. dan Z. Shariatnia. 2017. Controlled release of cefazolin sodium antibiotic drug from electrospun chitosan-polyethylene oxide nano fibrous mats. *Materials Science & Engineering C*. 71: 641–652.
- Fitria, F. R. 2022. Optimasi rasio formulasi bioplastik dengan sumber biomassa kitosan-cmc (carboxymethyl cellulose). *Fakultas Pertanian. Universitas Gadjah Mada. Skripsi*.
- Giyatmi, T. A. E. Poetri, H. E. Irianto, D. Fransiska dan Agusman. 2020. Effect of alginate and polyethylene glycol addition on physical and mechanical characteristics of kappa-carrageenan-based edible film. *Squalen Bulletin of Marine and Fisheries Postharvest and Biotechnology*. 15(1): 41–51.
- Gozali, T. dan W. P. Wijaya. 2020. Pengaruh konsentrasi cmc dan konsentrasi gliserol terhadap karakteristik *edible packaging* kopi instan dari pati kacang hijau (*Vigna radiata L.*). *Pasundan Food Technology Journal*. 7(1): 1–9.
- Hendra, A. A., R. A. Utomo dan E. Setijawati. 2015. Kajian Karakteristik *Edible Film* dari Tapioka dan Gelatin dengan Perlakuan Penambahan Gliserol. *Jurnal Teknologi*

Pangan dan Gizi (Journal of Food Technology and Nutrition). 14(2): 95–100.

- Janik, W., K. Ledniowska, J. Knapczyk-korczak, U. Stachewicz, E. Nowakowska-bogdan, E. Sabura, H. Nosal-kovalenko, R. Turczyn dan G. Dudek. 2023. Chitosan-based films with alternative eco-friendly plasticizers: Preparation, physicochemical properties and stability. *Carbohydrate Polymer*. 301: 1-20.
- Jiang, S., C. Qiao, R. Liu, Q. Liu, J. Xu dan J. Yao. 2023. Structure and properties of citric acid cross-linked chitosan / poly (vinyl alcohol) composite films for food packaging applications. *Carbohydrate Polymers*. 312: 1-13.
- Kaya, M., T. Baran, M. Asan-ozusaglam, Y. S. Cakmak, K. O. Tozak dan A. Mol. 2015. Extraction and Characterization of Chitin and Chitosan with Antimicrobial and Antioxidant Activities from Cosmopolitan Orthoptera Species (Insecta). *Biotechnology and Bioprocess Engineering* 20: 168-179.
- Kurniasih, D., Atikah dan H. Sulistyarti. 2013. Karakterisasi Elektroda Selektif Ion (Esi) Kromat Tipe Kawat Terlapis Berbasis Kitosan *Characterization*. *Sains dan Terapan Kimia*. 7(1):10–18.
- Kusumaningtyas, R. D., R. D. A. Putri, N. Badriah Dan F. E. N. Faizah. 2018. Preparation and Characterization of Edible Film from Sorghum Starch with Glycerol and Sorbitol As Plasticizers. *Journal of Engineering Science and Technology*. 47–55.
- Lau, A. Y. dan N. M. Sarbon. 2022. Effect of glycerol concentrations on the mechanical and physical properties of chicken skin gelatin-tapioca starch composite films. *Food Research*. 6(4): 428–436.
- Lintang, M., O. Tandil, P. Layuk, S. Karouw dan A. Dirpan. 2021. Characterization edible films of sago with glycerol as a plasticizer. *IOP Conference Series: Earth and Environmental Science*. 807(2): 1-7.
- Lusiana, S., Putri, Nurazizah, Ida dan Bahrudin. 2019. Bioplastic Properties of Sago-PVA Starch with Glycerol and Sorbitol Plasticizers. *Journal of Physics: Conference Series*. 1351: 1-8.

- Mahardika, Y. Y. 2019. Optimasi Tween 80 Dan PEG 400 Dalam Nanoemulsi Natrium Diklofenak. Fakultas Farmasi: Universitas jember. Skripsi.
- Mappamadeng, A. H. dan R. Amalia. 2022. Optimization and Characterization of Physical–Mechanical Properties of Biodegradable Edible Films Based on Pectin from Breadfruit Peel for Food Packaging. *Journal of Vocational Studies on Applied Research*. 4(1): 1–6.
- Marpongahtun, C. F. Z. 2016. Physical-Mechanical Properties and Microstructure of Breadfruit Starch Edible Films with Various Plasticizer. *Eksakta*. 13(1–2): 56–62.
- Melchor-Martínez, E. M., R. Macías-Garbett, L. Alvarado-Ramírez, R. G. Araújo, J. E. Sosa-Hernández, D. Ramírez-Gamboa, L. Parra-Arroyo, A. G. Alvarez, R. P. B. Monteverde, K. A. S. Cazares, A. Reyes-Mayer, M. Y. Lino, H. M. N. Iqbal dan R. Parra-Saldívar. 2022. Review: Towards a Circular Economy of Plastics: An Evaluation of the Systematic Transition to a New Generation of Bioplastics. *Polymers*. 14(6): 1–32.
- Muhammad, H. 2018. Pengaruh Komposisi Berat Kitosan dan Volume Asam Asetat terhadap Kualitas Bioplastik dari Pati Umbi Singkong Karet (*Manihot glaziovii*). Fakultas Teknik: Universitas Muhammadiyah Surakarta. Skripsi
- Nayanathara Thathsarani Pilapitiya, P. G. C. dan A. S. Ratnayake. 2024. The world of plastic waste: A review. *Cleaner Materials*. 11:1-23.
- Paudel, Sandeep, Regmi, Sumi, Janaswamy, Srinivas. 2023. Effect of glycerol and sorbitol on cellulose-based biodegradable films. *Food Packaging and Shelf Life*. 37: 1-14.
- Piluharto, B., A. Sjaifullah, R. Istiqomah dan E. Nurhianto. 2017. Membran *Blend* Kitosan/Poli Vinil Alkohol (PVA): Pengaruh Komposisi *Material Blend*, Ph, dan Konsentrasi Bahan Pengikat Silang. *Jurnal Kimia Riset*. 2(2): 7–85.
- Priyadarshi, R. dan J. Rhim. 2020. Chitosan-based biodegradable functional films for food packaging applications. *Innovative Food Science and Emerging Technologies*. 62: 1-20.

- Putranti, L. N. 2021. Pengaruh Konsentrasi Karboksimetil Selulosa terhadap Karakteristik Bioplastik Kitosan Sebagai Biopolimer Penyusun Plastik Ramah Lingkungan. Fakultas Pertanian: Universitas Gadjah Mada. Skripsi.
- Rahmatullah, R. W. Putri, E. Nurisman, P. Susmanto, S. Haryati, H. Waristian, M. Zulkifli, T. S. P. Minata dan S. Meidina. 2023. Effects of Chitosan on the Characteristics of Sorbitol Plasticised Cellulose Acetate/Starch Bioplastics. Chemical Engineering Transactions. 106: 259–264.
- Rahmawati, M., M. Arief dan W. H. Satyantini. 2019. The Effect of Sorbitol Addition on the Characteristic of Carrageenan Edible Film. IOP Conference Series: Earth and Environmental Science. 236(1): 1-8.
- Rangel-Marrón, M.-P. C, P. E. dan L.-M. A. 2013. Optimization of The Moisture Content, Thickness, Water Solubility, and Water Vapor Permeability of Sodium Alginate Edible Films. Biochemistry and Computational Chemistry. 72–78.
- Rivero, S., L. Damonte, M. A. García dan A. Pinotti. 2016. An Insight into the Role of Glycerol in Chitosan Films. Food Biophysics. 11(2): 117–127.
- Román-doal, R., S. P. Torres-arellanes, A. Y. Tenorio-barajas, A. Gómez-sánchez dan A. A. Valencia-lazcano. 2023. Chitosan: Properties and Its Application in Agriculture in Context of Molecular Weight. Polymer. 15: 1–26.
- Salsabila, A., W. Tona Revilia dan M. Hasan Anwar. 2017. Characteristics of Thickness and Permeability of Water Vapour on Edible Film Made from Banana Peels Kepok Pectin with the Addition of Sorbitol. International Conference on Education and Science. 1: 286-291.
- Santacruz, S., C. Rivadeneira dan M. Castro. 2015. Edible films based on starch and chitosan. Effect of starch source and concentration, plasticizer, surfactant's hydrophobic tail and mechanical treatment. Food Hydrocolloids. 49: 89–94.
- Shariatinia, Z. 2018. International Journal of Biological Macromolecules Carboxymethyl chitosan: Properties and biomedical applications. International Journal of Biological Macromolecules. 120: 1406–1419.

- Skurtys O, Acevedo C, Pedreschi F, Enrione J, Osorio F, Aguilera JM. 2009. Food Hydrocolloid Edible Films and Coatings. Department of Food Science and Technology, Universidad de Santiago de Chile.
- Supeni, G., A. A. Cahyaningtyas dan A. Fitriana. 2015. Karakterisasi Sifat Fisik dan Mekanik Penambahan Kitosan pada Edible Film Karagenan dan Tapioka Termodifikasi. *Jurnal Kimia dan Kemasan*. 37(2): 103-110.
- Syamsu, K., L. Hartoto, A. M. Fauzi, A. Suryani dan D. Rais. 2013. Peran PEG 400 dalam pembuatan lembaran bioplastik polohidroksialkanoat yang dihasilkan oleh *Ralstonia eutropha* dari Substrat Hidrolisat Pati Sagu. *Jurnal Ilmu Pertanian Indonesia*. 12(2): 63–68.
- Tan, H. W., A. R. A. Aziz dan M. K. Aroua. 2013. Glycerol production and its applications as a raw material: A review. *Renewable and Sustainable Energy Reviews*. 27:118–127
- Utami, I., A. Nurmawati, E. B. Prasyanti dan J. Andrianto. 2021. The Effect of Chitosan and Sorbitol Addition in The Bioplastics Production from Mung Bean Starch. 2nd International Conference Eco-Innovation in Science, Engineering, and Technology. 2021: 14–19.
- Wahab, N. I. F., F. Y. P. Tyassena dan F. Junianti. 2023. Pembuatan *Edible Film* Berbahan Baku Karagenan dengan Variasi Suhu Pemanasan dan Konsentrasi Gliserol. *Jurnal Teknologi Kimia Material (JTKM)*. 2(2): 98–102.
- Wan, Q. dan B. C. Thompson. 2024. Control of Properties through Hydrogen Bonding Interactions in Conjugated Polymers. *Advanced Science*. 11(8): 1–26.
- Wang, H., J. Qian dan F. Ding. 2018. Emerging Chitosan-Based Films for Food Packaging Applications. *J. Agric. Food Chem*. 66: 395–413.
- Wisnawa P, Cahya, Harsojuwono, dan Bambang Admadi. 2021. Karakteristik Komposit Bioplastik dalam Variasi Rasio Maizena-Glukomanan dan Jenis Pemplastis. *Jurnal Rekayasa dan Manajemen Industri*. 9(1): 99-108.

- Yuniastuti, R. T., Muryeti dan S. Imam. 2021. Synthesis of Bioplastic with Avocado Seed Starch, Coconut Fiber Cellulose, Sorbitol, and CMC and the Addition of Chitosan. Prosiding Seminar Nasional Tetamekraf.
- Z. Muchtar, Z. M., S. A. Sari, S. Rahmah, M. Z. M. Zubir dan G. E. Sarumaha. 2023. The Effect of Chitosan and Glycerol Mixture on Improving Biodegradable Plastic Properties of Young Coconut Husk (*Cocos nucifera L.*). Oriental Journal Of Chemistry. 39(1): 95–101.
- Zakaria, N. H., N. Muhammad dan M. M. A. B. Abdullah. 2018. Effect of glycerol content on mechanical, microstructure and physical properties of thermoplastic potato starch film. AIP Conference Proceedings. 2030: 1-5.