

## DAFTAR PUSTAKA

- Agustien A, Hakam AD. Produksi bioplastik poli(3-hidroksibutirat) dari bakteri rekombinan Escherichia coli. *Jurnal Kimia Andalas*, 2002;8(2):38-41.
- Bayari S, Severcan F. FT-IR Study of biodegradable biopolymers: P(3HB), P(3HB-co-4HB) and P(3HB-co-3HV). *Journal of Molecular Structure*. 2005;744:529-534.
- Carraher CE Jr. *Polymer chemistry* sixth edition revised and expanded. New York: Marcel Dekker Inc; 2003.
- Chen L, Xie Z, Zhuang X, Chen X, Jing X. Controlled release of urea encapsulated by starch-g-poly(l-lactide). *Carbohydrate Polymers*. 2008;72(2):342–348.
- Costa P, Lobo J. Modeling and comparison of dissolution profiles. *European Journal of Pharmaceutical Sciences*. 2001;13(2):123-133.
- Djamaan, A., Konsep produksi biopolimer P(3HB) dan P(3HB-Ko-3HV) secara fermentasi. Padang: Universitas Andalas Press; 2011.
- Djamaan A, Monica R, Asiska PD, Muslim, S, Ben ES, Erizal, Z. The use of biopolymer of poly(3-hydroxybutyrate) as matrix of urea slow release fertilizer. *Journal of Chemical and Pharmaceutical Research*. 2015;7(7):558-563.
- Doi Y. *Microbial polyester*. New York: VCH Publisher Inc; 1990.
- Dubey TC, Rama, and Rao KU, Bhasker. Microencapsulation technology and applications. *Defence Science Journal*. 2009;59(1):82-95.
- Fessenden, Fessenden. *Kimia organik* edisi ketiga. Jakarta: Erlangga; 1982.
- Garcia MT, Gracia I, Duque G, de Lucas A, Rodríguez JF. Study of the solubility and stability of polystyrene wastes in a dissolution recycling process. *Waste Management*. 2009;29(6):1814-1818.
- Hill, Robert G. *Biomedical polymers*. London: Imperial College; 2015.
- Hussain MR, Devi RR, Maji TK. Controlled release of urea from chitosan microspheres prepared by emulsification and cross-linking method. *Iranian Polymer Journal*. 2012;21(8):473-479.
- Gardinier A, Ketterings, Verbeten, Hunter. *Urea fertilizer*. New York: Cornell University; 2013.
- Lafferty RM, Karsatko B, Karsatko W. *Microbial production of poly-β-hydroxybutyric acid*. New York: VCH Publication; 1998.
- Liu G, et al. Controlled-release and Slow-release fertilizers as nutrient management tools. *Horticultural Sciences Department*. 2014;1225:1-3.

- Kurniawan C, Waluyo, Thomas B, Sebayang P. Analisis ukuran partikel menggunakan free software Image-J. 2011;2:1-6.
- Majid MIA, Hori K, Aklyama M, Doi Y. Production of poly(3-hydroxybutyrate) from plant oil by Alcaligenes sp. Biodegradable Plastics and Polymers, 1994;5:417-424.
- Mawaddah A, Roto, Suratman A. Pengaruh penambahan urea terhadap peningkatan pencemaran nitrit dan nitrat dalam tanah. Jurnal Manusia dan Lingkungan. 2016;23(3):361.
- Maxwell, Gary R. Synthetic nitrogen products : a practical guide to the products and processes. London: Kluwer Academic Publishers. 2005;3:23-29.
- Mazoli A, Favoni, Orlando. Particle size, size distribution and morphological evaluation of airborne dust particles of diverse woods by scanning electron microscopy and image processing program. 2012;4:1-8.
- Murtaza G, et al. A comparative study of various microencapsulation techniques: effect of polymer viscosity on microcapsule characteristic. Pak. J. Pharm. Sci. 2009;7:123-128.
- Nainggolan, Ganda D, Suwardi, Darmawan. Pola pelepasan nitrogen dari pupuk tersedia lambat (slow release fertilizer) urea-zeolit asam humat. Jurnal Zeolit Indonesia. 2009;8(3):3-6.
- Nireesha GR, et al. Lyophilization/Freeze Drying - an review. International Journal Of Novel Trends In Pharmaceutical Sciences. 2013;15:1-4.
- Nubia M, Ivonne M, Dionisio M, Victoria G, Dolly R, Diego S, Juan G, Fabio A, Armando E, Dolly M. Bioprospecting and characterization of poly-hydroxyalkanoate (phas) producing bacteria isolated from colombian sugarcane producing areas. African Journal of Biotechnology. 2007;6(13):1536-1543.
- Oktavia, VS. Formulasi sediaan pupuk urea lepas lambat “slow release fertilizer” dengan teknik mikroenkapsulasi menggunakan biopolimer polikaprolakton. [Skripsi]. Padang: Universitas Andalas; 2016.
- Dewi AP, Erizal, Rustini, Djamaan A. Kajian biodegradasi filem plastik campuran polistiren dengan poli(3hidroksibutirat-ko-3-hidroksivalerat) dalam tanah secara in-vitro. Jurnal Farmasi Andalas, 2013;1(1):1-7.
- Purwaningsih W, Rochmadi, Prasetya A, Hasokowati, Wahyu. Pembuatan mikrokapsul dari urea-formaldehid : pengaruh waktu dan perbandingan reaktan pada pembuatan resin terhadap proses mikroenkapsulasi. Seminar Rekayasa Kimia Dan Proses; 2010.
- Ramadhani RH, Roviq M, Maghfoer MD. Pengaruh sumber pupuk nitrogen dan waktu pemberian urea pada pertumbuhan dan hasil tanaman jagung

- manis (*Zea mays* Sturt. var. *saccharata*). Jurnal Produksi Tanaman. 2016;4(1):8–15.
- Rezwan K, Chen QZ, Blaker JJ, Boccaccini AR. Biodegradable and bioactive porous polymer/inorganic composite scaffolds for bone tissue engineering. *Biomaterials*. 2006;27(18):3413-3431.
- Rose R. Slow release fertilizers 101. In: Dumroese RK, Riley LE, Landis TD. National proceedings: forest and conservation nursery associations-1999, 2000, and 2001. Proceedings RMRS - P-24. Ogden, UT: USDA Forest Service, Rocky Mountain Research Station. 2002;4:22-24.
- Samsudin SA, Hassan A, Mokhtar M, Jamaluddin SMS. Chemical resistance evaluation of polystyrene/polypropylene blends: effect of blend compositions and sebs content. *Malaysian Polymer Journal*. 2006;1(1):11-24.
- Shargel L, Andrew BCY. Biofarmasetika dan farmakokinetika terapan edisi kedua. Penerjemah: Fasich, Siti Sjamsiah. Surabaya: Airlangga University Press; 1988.
- Shargel L, Wu-Pong S, Andrew BCY. Biofarmasetika dan farmakokinetika terapan edisi kelima. Terjemahan: Budi Suprapti. Surabaya: Airlangga University Press; 2012.
- Sri SJ, Seethadevi A, Prabha KS, Muthuprasanna P, Pavitra P. Microencapsulation: a review. *International Journal of Pharma and Bio Sciences*. 2012;3(1):509-531.
- Swarbrick J, Boylan JC. Encyclopedia of pharmaceutical technology edisi ketiga. USA: Pharmaceu Tech; 2007.
- Sweetman SC. Martindale 36 the complete drug reference. London: The Pharmaceutical Press. 2009.
- Voigt R. Buku pelajaran teknologi farmasi. Terjemahan: Soendani Noerono Soewandh. Yogyakarta: Gadjah Mada University Press; 1994.
- William DH, Fleming I. Metode spektroskopi dalam kimia organik edisi 6. Jakarta: EGC. 2013.
- Williams SF, Martin DP, Horowitz DM, Peoples OP. PHA application: addressing the price performance issue. *International Journal of Biological Macromolecules*, 1999;25(1):111-121.

Yeo Y, Park K. Control of encapsulation efficiency and initial burst in polymeric microparticle systems. Archives of Pharmacal Research; 2004.

Yuzar FR. Formulasi sediaan pupuk urea lepas lambat dengan teknik mikroenkapsulasi menggunakan bioblend polistirena/poli(3-hidroksibutirat). [Skripsi]. Padang: Universitas Andalas; 2016.

