

DAFTAR PUSTAKA

- Abdel-Fattah.Y.R., Saeed., H.M., Gohar., Y.M., Baz., M.A. 2005. Improved production of *Pseudomonas aeruginosa* uricase by optimization of process parameters through statistical experimental designs. *Process Biochemistry Journal*. 40:1707-1714.
- Aiba, S. and Muraki, E. 1999. Preparation of Higher N-Acetylchitooligosaccharides in High Yields. Rita Advertising Co. Ltd. Taiwan.
- Arnold, L.D. and Solomon, N.A. 1986. *Manual of Industrial Microbiology and Biotechnology*. American Society Microbiology Journal.
- Binod, P., Sandhya, C., Suma, P., Szakacs, G., Pandey, A. 2007. Fungal Biosynthesis of Endochitinase and Chitobiase in Solid State Fermentation and Their Application for The Production of N-acetyl-D-glucosamine from Colloidal Chitin. *Bioresource Technology*. 98: 2742-2748.
- Breed, S.R., Murray, D., Nathan, R.S. 1957. *Bergey's Manual of Determinative Bacteriology*. United States : Baltimore The Williams & Wilkins Company.
- Buckle, K., Edwards, F., Wooton, M. 1987. *Ilmu Pangan*. Universitas Indonesia. Jakarta.
- Budianto, A.K. 2009. *Dasar-Dasar Ilmu Gizi*. Cetakan keempat. Penerbit UMM Press. Malang.
- Cabib, E. 1987. The Synthesis and Degradation of Chitin : Advances in Enzymology. Vol. 59, An Interscience Publication John Willey and Sons Inc., New York. pp. 59 – 101.
- Cohen, K.R and Chet, L. 1998. The Molecular Biology of Chitin Digestion. *Curr. Opinion Biotechnology* 9: 270-277.
- D'Ambrosio, E., Casa, B., Bompani, R., Scali, G., Scali, M. 1981. Glucosamine Sulphate: a Controlled Clinical Investigation in Arthrosis. *Pharmatherapeutica*. 1981; 2(8): 504-8.
- De la Cruz, J., Hidalgo-Gallego, A., Lora, J.M., Benitez, T., Pintor-Toro, J.A., Ltobell, A. 1992. Isolation and Characterization of Three Chitinases from *Trichoderma harzianum*. *European Journal Biochemistry* 206: 859-867.
- Desniar. 2004. Pemanfaatan Tetes Tebu (Molases) Dan Urea Sebagai Sumber Karbon dan Nitrogen Dalam Produksi Alginat Yang Dihasilkan Oleh Bakteri. *Buletin Teknologi Hasil Perikanan*. Vol.VII. No.1. hal: 26- 36.
- Durham, N and Dixie, L. 1959. Influence of Extranous Carbon Sources on Biosynthesis De Novo of Bacterial Enzymes. *Journal Bacteriology*. 1960 Jul; 80(1): 7–13.

- Emma, F. 1997. Antifungal Compounds of Chitinolytic Bacteria From Grain Ecosystems. Doctor's Dissertation. University of Edinburgh. ISSN 1401 – 6249.
- Fawzya, Y.N., P.A. Noviani dan L. Nurhidayati. 2010. Perbandingan Aktivitas Enzim Kitinase dari Substrat Koloidal Kitin menggunakan Bahan Kimia Pro Analisis dan Teknis. Prosiding Seminar Nasional Pengolahan Produk dan Bioteknologi Kelautan dan Perikanan. Jakarta.
- Gaman, P. M., K. B. Sherrington. 1994. Pengantar Ilmu Pangan, Nutrisi, dan Mikrobiologi. Gadjah Mada University Press. Yogyakarta.
- Garbutt, J. 1997. Essentials of Food Microbiology. 1st ed. Arnold Press. London.
- Girindra, A. 1993. Biokimia 1. Penerbit PT. Gramedia Pustaka Utama. Jakarta.
- Gooday, G.W. 1994. Physiology of Microbial Degradation of Chitin and Chitosan. Biochemistry of Microbial Degradation. Netherlands: Kluwer Academic Publication. p: 279-312.
- Hargono. 2008. Pembuatan Kitosan dari Limbah Cangkang Udang serta Aplikasinya dalam Meresuksi Kolesterol Lemak Kambing. UNDIP. Semarang.
- Herdyastuti, N., Raharjo, T.J., Mudasir., Matsjeh, S. 2009. Chitinase and Chitinolytic Mikroorganism: Isolation, Characterization and Potential. Journal Chemistry. 9:1, 37-47.
- Hsu, S. and Lockwood, J. L. 1975. Powdered Chitin Agar as a Selective Medium for Enumeration of *Actinomycetes* in Water and Soil. Application Microbiology Journal. 29, (3), 422.
- Jacob, F. dan Monod, J. 1961. Genetic Regulatory Mechanism in The Synthesis of Protein. Journal of Molecular and Biological 3: 318- 356.
- Jami, A. N., M.A. Famarzi., M. Fazeli., M. Tabatabaei., S. Adrangi., K. Tasharofi. Optimization of Cultural Conditions for Production of Chitinase by a Soil Isolate of *Massilia timonae*. Biotechnology, 8 (2009), pp. 93–99.
- Jeen, K.C., Chia, S.R., Chao, L.L. 2010. N-Acetylglucosamine: Production and Applications. Journal Marine Drugs 2493-2516. Taiwan.
- Junianto, J., Wahyuntari, B., Setyahadi, S. 2013. Selection of Method For Microbiological Extraction of Chitin From Shrimp Shells. Microbiology 7:75–83.
- Kholifah, A. 2015. Isolasi dan Identifikasi Bakteri-Bakteri Kitinolitik dari Sedimen Tambak Udang. Skripsi Perikanan UGM. Yogyakarta.
- Kralovec, A and Barrow, C.J. 2008. Glucosamine Production and Health Benefits. Dans: Marine Nutraceuticals and Functional Foods. Colin Barrow and Fereidoon Shahidi, éditeurs, pp198-227. Boca Raton (FL): CRC Press, Taylor and Francis Group.

- Kumar, M. N. V. 2000. A review of chitin and chitosan applications. *Reactive Functional Polymer*, 46,1–27.
- Lalucat, J., Bennasar., Bosch, R., Valdés, E.G., Palleroni, N.J. 2006. Biology of *Pseudomonas stutzeri*. *Microbiol Mol Biol Rev.* 2006 Jun; 70(2): 510–547.
- Lehninger, A.L. 1997. *Dasar-Dasar Biokimia*. Gramedia Pustaka Utama. Jakarta.
- Lim, H.S., Kim, S.D. 1990. The Role of *Pseudomonas stutzeri* YPL-1 in Biocontrol of *Fusarium solani*. *Korean Journal Application Microbiology Biotechnology* 18:188–194.
- Linar, Z., Karossi, A.T., Pudjiraharti, S. 1991. *The Current Status of Industrial Biotechnology in Indonesia*. Lembaga Ilmu Pengetahuan Indonesia. Jakarta.
- Machmud, M. 2001. *Teknik Penyimpanan dan Pemeliharaan Mikroba*. Balai Penelitian Bioteknologi Tanaman Pangan. Bogor.
- Matheis, T., Amos, K., Marsela, S. Laratmase. 2012. Kitosan dari Limbah Kulit Kepiting Rajungan (*Portunus sanguinolentus*) sebagai Adsorben Zat Warna Biru Metilena. *Jurnal Natur Indonesia*. 14(2). Ambon.
- Morgan, W. T. J and L. A. Elson. 1934. A Colorimetric Method for The Determination of N-acetylglucosamine and N-acetylchondrosamine. *Biochemistry Journal*. 28:988-995.
- Murray, K. 2006. *Biokimia Harper*. Penerbit Buku Kedokteran EGC. Jakarta.
- Muzzarelli, R.A.A. 1977. *Chitin*. Pergamon Press, Oxford: vii + 309 hlm.
- Nandakumar, R. S., Babu. T. Raguchander., R. Samiyappan. 2007. Chitinolytic Activity of Native *Pseudomonas fluorescens* strain. *Journal of Agriculture Science Technology* 9:61-68.
- Nasran,S., F. Ariyani dan N. Indriati. 2003. Produksi kitinase dan kitin deasetilase dari *Vibrio Harvey*. *Jurnal Penelitian Perikanan Indonesia* 9(5): 33-38.
- Neuman, D.K., and Hernandez, M.E. 2001. Extracellular Electron Transfer. *Cellular and Molecular Life Sciences*, 58:1562-1571.
- Pandey, A., Azmi, W., Singh, J. and Banerjee, U.C. 1999. Types of Fermentation and Factors Affecting It. In *Biotechnology: Food Fermentation* ed. Joshi, V.K. and Pandey, A. pp. 383–426. New Delhi: Educational Publishers.
- Parisutham, V., M.K. Kim., S.K. Lee., C.M. Ghim. 2012. Rewiring Carbon Catabolite Repression for Microbial Cell Factory. *Korean Society Biochemistry & Molecular Biology*. South Korea.
- Pasaribu, N., 2004. *Berbagai Pemanfaatan Polimer*. Jurusan Kimia. Fakultas MIPA. USU. Medan.
- Patil, R. S., Ghormade V., Despande, M. V. 2000. Chitinolytic Enzymes: An Aploration. *Enzym Microbiology Technology* 26, 473, 2000.

- Pelczar, M.J and Chan, E. C. S. 1986. Dasar-Dasar Mikrobiologi 2. Diterjemahkan oleh Hadioetomo RS, Imas T, Tjitrosomo SS, Angka SL. Penerbit Universitas Indonesia, hal: 489-522. Jakarta.
- Poedjiadi, A dan Supriyanti, F.M. 2009. Dasar-Dasar Biokimia. Penerbit Universitas Indonesia (UI-Press). Jakarta.
- Puspitasari, A. 2007. Pembuatan dan Pemanfaatan Kitosan Sulfat dari Cangkrang Bekicot (*Achatina fullica*) sebagai Adsorben Zat Warna Remazol Yellow FG 6. Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Sebelas Maret. Skripsi.
- Reinhold, B and Fritz, T. 2002. Carbon Catabolite Repression in Bacteria: Choice of The Carbon Source and Autoregulatory Limitation of Sugar Utilization. FEMS Microbiology Letters, 209: 141–148.
- Reissig, J.L., J.L. Strominger., L.F. Leloir. 1955. A Modified Colorimetric Method for The Estimation Of N-Acetylamino Sugars. Journal Biology and Chemistry. 217: 959-966.
- Sahai, A.S. and Manocha, M.S. 1993. Chitinases of Fungi and Plants: Their Involvement in Morphogenesis and Host-Parasite Interaction. FEMS Microbiol Rev 11, 317–338.
- Sarwono, J. 2006. Metode Penelitian Kuantitatif dan Kualitatif. Graha Ilmu. Yogyakarta.
- Sashiwa, H., Fujishima, S., Yamano, N., Kawasaki, N., Nakayama, A., Muraki, E., Hiraga, K., Oda, K., Aiba, S. 2002. Production of N-acetyl- D-glucosamine from α -Chitin by Crude Enzymes from *Aeromonas hydrophila* H-2330. Carbohydrate Research, 337, 761–763.
- Seong, H, and Sang, D.K. 1994. The Production and Enzymatic Properties of Extracellular Chitinase from *Pseudomonas stutzeri* YPL-1, as a Biocontrol Agent. Journal of Microbiology and Biotechnology Vol. 4, No. 2, 134-140. Korea.
- Siegrist, J. 2010. *Pseudomonas* a Communicative Bacteria. Sigma Aldrich. United States.
- Sonil, N., Smiti, S.S., Jayanthi, A. 2010 .Studies on The Biodegradation of Natural and Synthetic Polyethylene by *Pseudomonas* spp. Journal Application Science Environment Management. June. Vol. 14 (2) 57 – 60.
- Stephen, A.M. 1995. Food Polysaccharides and their Applications. Rondebosch : Department of Chemistry, University of Cape Town.
- Sukma, S., S.E. Lusiana, Masruri dan Suratmo. 2014. Kitosan dari Rajungan Lokal *Portunus pelagicus* Asal Probolinggo, Indonesia. Kimia Student Journal 2(2): 506-512.

- Synowiecki, J. and Al-Khateeb, N.A. 2003. Production, Properties, and Some New Applications of Chitin and its Derivatives. *Critical Reviews in Food Science and Nutrition*, vol. 43, no. 2, p. 145-171.
- Taranathan, R.N. and Kittur, F.S. 2003. Chitin - The Undisputed Biomolecule of Great Potential. *Critical Reviews in Food Science and Nutrition*, vol. 43, no. 1, p. 61-87.
- Thamthiankul, S., S. Suan-Ngay., and S. Tantimavanich. 2001. Chitinase from *Bacillus thuringiensis* subsp. Pakistani, *Journal of Application Microbiology Biotechnology*. 56 : 395 - 401
- Thiagarajan, V., R. Revathia., K. Aparanjini., P. Sivamanic., M. Girilala., C. S. Priyad., and P. T. Kalaichelvan. 2011. Extracellular Chitinase Production by *Streptomyces* sp. PTK19 in Submerged Fermentation and Its Lytic Activity on *Fusarium oxysporum* PTK 2 Cell Wall. 2011. *International Journal Current Science*, 1: 30-44. India.
- Tokuyasu, K., Ohnishia, K.M., Hayashi, K. 1996. Purification and characterization of extracellular chitin deacetylase from *Colletotrichum lindemuthianum*. *Bioscience Biotechnology Biochemistry*. (10):1598-603.
- Velusamy., H. S. Ko., K. Y. Kim. 2011. Determination of Antifungal Activity of *Pseudomonas* sp. A3 Against *Fusarium oxysporum* by High Performance Liquid Chromatography (HPLC). *AFAB Journal*. Korea.
- Wahyuni, S. 2011. Pengendalian Serangan *Colletotrichum* sp. pada Tanaman Kakao (*Theobroma cacao* L.) Menggunakan Isolat Bakteri Kitinolitik. USU Press. Medan.
- Wang, S. L., Shih, I. L., Liang, T. W., Wang C. H. 2001. Purification and Characterization of Two Antifungal Chitinases Extracellularly Produced by *Bacillus amyloliquefaciens* V 656 in a Shrimp and Crab Shell Powder Medium. *Journal Agriculture Food Chemistry* 50, 2241.
- Wang, S.L., Chen, S., Wang, C.L. 2010. Purification and Characterization of Chitinase and Chitosanases from A New Species Strain *Pseudomonas* sp. TKU008 Using Shrimp Shell as A Substrate. *Carbohydrate Research* 343, 1171-1179.
- Wang, S.L and Chang, W.T. 1997. Purification and Characterization of Two Bifunctional Chitinases/Lysozyms Extracellularly Produced by *Pseudomonas aeruginosa* K-187 in a Shrimp and Crab Shell Powder Medium. *Application Environment Microbiology*. 63(2): 380-386.
- Wulandari, F. 2009. Optimasi Produksi N-asetilglukosamin dari Kitin Melalui Fermentasi oleh *Aspergillus rugulosus* 501. Skripsi. Institut Pertanian Bogor. Bogor.
- Xing, R., Liu, S., Yu, H., Guo, Z., Li Z., Li, P. 2005. Preparation of High Molecular Weight and High-Sulfate Content Chitosans and Their Potential Antioxidant Activity in Vitro. *Carbohydrate Polymers*, 61. 148- 154.

- Yurnaliza, 2002. Senyawa Kitin dan Kitosan Aktivitas Enzim Mikrobia Pendegradasinya. Program Studi Biologi. FMIPA. Universitas Sumatra Utara. Medan.
- Zajic, J. E., Margaritis, A., & Gerson, D. F. 1979. Production and Surface-Active Properties of Microbial Surfactants. *Biotechnology & Bioengineering* 21: 1151-1162.