

REFERENCES

- Akin, C. 1987. Biocatalysis with immobilized cells. *Biotechnol. Genet. Eng. Rev.*, 5: 319–367.
- Alexander, M. 1961. Introduction to soil microbiology. Toppan Company, Tokyo.
- Ashbolt, N.J., and Line, M.A. 1982. A bench-scale system to study the composting of organic waste. *J. Environ. Qual.*, 11: 405–408.
- Atchley, S. H., and Clark, J. B. 1979. Variability of temperature, pH, and moisture in anaerobic composting process. *App. & Environ. Microbiol.*, 38: 1040-1044.
- Ayuso, M., Hernandez, T. C., and Pascual, J.A. 1996. Biochemical and chemical-structural characterization of different organic materials used as manures. *Biores. Technol.*, 57: 201–207.
- Baines, S., Svoboda, I. F., and Evans, M.R. 1985. Heat from aerobic treatment of liquid animal wastes. In: Gasser, J.K.R. (Ed.). Composting of agricultural and other wastes. Elsevier, London New York, pp. 47-160.
- Barnett, H. L. 1988. Illustrated Genera of Imperfect Fungi. 4th edition. APS Press. Minnesota.
- Beidou, X., Guojun, Z., and Hongliang, L. 2005. Process kinetics of inoculation composting of municipal solid waste. *J. Hazardous Materials*, 124: 165–172.
- Bennet, J. W. 1998. Mycotechnology: the role of fungi in biotechnology: a review. *J. Biotechnol.*, 66: 101–107.

- Bertoldi, M. de, Vallini, G., and Pera, A. 1983. The biology of composting. *Waste Manage. Res.*, 1: 157-176.
- Biddlestone, A. J. and Gray, K. R. 1985. Compositing. In: Moo-Young, M. (Ed.). *Comprehensive biotechnology: Speciality products and service activities*. Pergamon Press, Oxford, pp. 1059-1070.
- Bodelier, P. L., and Laanbroek, H. J. 1997. Oxygen uptake kinetics of *Pseudomonas chlororaphis* grown in glucose- or glutamate-limited continuous cultures. *Archives Microbiology*, 167: 392-395.
- Britain-Domsch, K. H., Gams, W., and Anderson, T. H. 1980. *Paecilomyces*. In: *Compendium of soil fungi*. Academic Press, London, pp. 530-532.
- Brock, F. M., Frosberg, C. W., and Buchanan-Smith, J.G. 1982. Proteolytic activity of rumen microorganisms and effect of proteinase inhibitors. *App. & Environ. Microbiol.*, 44: 561-569.
- Brown, J. A, Collin A. A, and Wood, T. M. 1987. Development of a medium for high cellulase, xylanase and β -glucosidase production by a mutant strain NTG1116) of cellulolytic fungus *Penicillium pinophilium*. *Enzyme & Microbial. Techol.*, 5: 425 – 429.
- Buyer, J. S., Roberts, D. P., and Russek-Cohen, E., 1999. Microbial community structure and function in the spermosphere as affected by soil and seed type. *Canadian J. of Microbiol.*, 45: 138-144.
- Chan, D. K. O., Chaw, D., and Lo, C.Y. Y. 1994. Management of the sawdust litter in the 'pig-on-litter' system of pigwaste treatment. *Resour. Conserv. Recy.*, 11: 51-72.

- Chang, Y., and Hudson., H. J. 1967. The fungi of wheat straw compost II. Ecological studies. *Transaction British mycology society*, 50: 649-666.
- Chaw, D. 1996. Biochemical changes in fermentation bedding of the “pig-on-litter” method of pig rising - with special reference on biodegradation of nitrogen compounds and odour production. Ph.D. thesis, The University of Hong Kong, Hong Kong.
- Contreras-Ramos, S. M., Alvarez-Bernal, D., Trujillo-Tapia, N., and Dendooven, L. 2004. Composting of tannery effluent with cow manure and wheat straw. *Biores. Technol.*, 94: 223-228.
- Cooney, C. L., Wang, D. I., and Materles, R. I. 1968. Measurement of heat evolution and correlation with oxygen consumption during microbial growth. *Biotechnol. & Bioeng.*, 11: 269-281.
- Coughlan, M. P. 1989. Enzyme systems for lignocellulosic degradation. London: Elsevier Applied Science. ISBN 1851664114.
- Crawford, D. L., and McCoy, E. 1973. Production of microbial protein from waste cellulose by *Thermomonospora fusca*, a thermophilic actinomycete. *Biotechnol. & Bioeng.*, 15: 833-843.
- Crawford, J. H. 1983. Composting of agricultural wastes: a review. *Proc. Biochem.*, 18: 14-18.
- Crawford, J. H. 1985. Composting of agricultural wastes. In: Cherimisinoff, P.N., and Ouellette, R.P. (Eds.). *Biotechnology, Applications and Research*. Technomic Publishing Company Inc., Lancaster, PA, pp. 68-77.
- Cunha Queda, C., Vallini, G., Agnolucci, M., Coelho, C. A., Campos, L., and deSousa, R. B. 2002. Microbiological and chemical characterization of composts at

different levels of maturity, with evaluation of phytotoxicity and enzymatic activities. In: Insam, H., Riddech, N. and Krammer, S. (Eds.). *Microbiology of Composting*. Springer Verlag, Heidelberg. pp. 345–355.

Daniel, G., and Nilsson, T. 1998. Developments in the study of soft rot and bacterial decay. In: Bruce, A., and Palfreyman, J. W.(Eds.). *Forest Products Biotechnology*. Taylor & Francis, Great Britain, pp: 37–62.

Davis, L. 1991. *Handbook of genetic algorithms*. Van Norstrand Reinhold, New York, USA.

Department of Environmental Quality Standard. 1984. *Solid waste and refuse management*. Office of the national environment. Bangkok, Thailand.

Diaz, L. F., and Golueke, C. G. 1985. Solid waste management in developing countries. *J. Biocycle.*, 12: 45-54.

Diaz, L. F., Savage, G. M., Eggerth, L. L., and Golueke, C. G. 1993. *Composting and recycling municipal solid waste*, Lewis Publishers, Ann Arbor, Michigan, USA.

Diaz-Ravina, M., Acea, M. J., and Carballas, T. 1989. Microbiological characterization of four composted urban refuses. *Biol. Wastes.*, 30: 89-100.

Dirksen, C., and Dasberg, S. 1993. Improved calibration of time domain reflectometry soil water content measurements. *Soil Sci. Soc. Am. J.*, 57: 258-264.

Dix, N. J., and Webster, J. 1995. *Fungal ecology*. Chapman & Hall, Cambridge, Great Britain. Springer, Berlin Heidelberg, New York, pp. 119–132.

Ekinci, K. 2001. Theoretical and experimental studies on the effects of aeration strategies on the composting process. Ph.D. Dissertation, the Ohio State University, Columbus, USA.

Ellis, M. B. 1993. *Dematiaceous hyphomycetes*. CAB International, UK.

- Elorrieta, M. A., Lopez, M. J., Suarez-Estrella, F., Vargas Garcia, M. C., and Moreno, J. 2002. Composting of different horticultural wastes: effect of fungal inoculation. In: Insam, H., Riddech, N., and Klammer, S. (Eds.). *Microbiology of Composting*.
- Epstein, E., 1997. *The science of composting*. A Technomic Publishing Company.
- Eriksson, K. K., and Johnsrud, S. C. 1983. Mutants of white – rot fungus *Sporotrichum pulverulentum* with increased cellulase and β -glucosidase production. *Enzyme & Microbial. Technol.*, 38 : 425 – 429.
- Eriksson, K. E., Blanchette, R. A., and Ander, P. 1990. Biodegradation of lignin. In: Timell, T. E. (Ed.). *Microbial and enzymatic degradation of wood and wood components*. Springer-Verlag GmbH & Co. KG, Berlin, pp. 225–397.
- Esse, P. C., Buerkert, A., Hiernaux, P., and Assa, A., 2001. Decomposition and nutrient release from ruminant manure on acid sandy soils in the Sahelian zone of Niger, West Africa. *Agriculture, Ecosys. & Environ.*, 83: 55–63.
- Fan, L. T., and Lee, Y. H. 1983. Kinetic studies of enzymatic hydrolysis of insoluble cellulose: Derivation of a mechanistic kinetic model. *Biotechnol. & Bioeng.*, 11: 2707–2735.
- FAO (FAO and Agriculture Organization of the United Nations). 1987. *Soil management: Compost production and use in tropical and subtropical environments*. FAO and Agriculture organization of the United Nations, pp. 177.
- Finnerty, W. R. 1989. Microbial lipid metabolism. In: Ratledge, C. and Wilkinson, S.G. (Eds.). *Microbial Lipids*, Academic Press, New York, pp. 525–558.

- Finstein, M. S., and Morris, M. L., 1975. Microbiology of municipal solid waste composting. *Av. Appl. Microbiol.*, 19: 113–151.
- Finstein, M. S., Miller, F. C., and Strom, P. F., 1986. Waste treatment composting as a controlled system. *J. Biotechnol.*, 7: 363–398.
- Fukuda, T. 1991. Utilisation of Fermentation Products in the ‘Pig-on-litter’ System of Pig Farming. Japanese Council for the Propagation and Promotion of Fermentation Products. Tokyo, Japan.
- Garcia, C., Hernandez, T., and Costa, F., 1991. The influence of composting on the fertilizing value of anaerobic sewage sludge. *Plant Soil*, 136: 269–272.
- Ghanem, E. H., Al-Sayed, H. A., and Saleh, K. M. 2000. An alkalophilic thermostable lipase produced by a new isolate of *Bacillus alcalophilus*. *World J. Microbiol. Biotechnol.*, 16: 459–464.
- Giglotti, G., Valentini, F., Erriquens, F. G., and Said-Pullicino, D. 2005. Evaluating the efficiency of the composting process: a comparison of different parameters. *Geophys. Res. Abs.*, 7: 19-26.
- Gilbert, E. J., Cornish, A., and Jones, C. W. 1991. Purification and properties of extracellular lipase from *Pseudomonas aeruginosa* EF2. *J. Gen. Microbiol.* 137: 2223-2229.
- Golueke, C. G., Card, B. J., and McGauhey, P. H. 1954. A critical evaluation of inoculums in composting. *J. Appl. Microbiol.*, 2: 45–53.
- Golueke, C. G. 1972. Composting, Rodale Press, Inc., Emmaus, Pennsylvania, USA.
- Golueke, C. G. 1981. Principles of biological resource recovery. *J. Biocycle*, 22: 36–40.

- Golueke, C. G., and Diaz, L. F. 1990. Bioremediation for Hazardous Wastes. *J. Biocycle*, 31: 54- 55.
- Gouin, F. R. 1992. The composting process. In: On-farm composting handbook. pp. 12-13.
- Goyal, S., Dhull, S. K., and Kapoor, K. K. 2005. Chemical and biological changes during composting of different organic wastes and assessment of compost maturity. *Biores. Technol.*, 96: 1584–1591.
- Guerra-Rodriguez, E., Diaz-Ravina, M., and Vazquez, M. 2001. Co-composting of Chestnutburr and leaf litter with solid poultry manure. *Biores. Technol.*, 78: 107-109.
- Hall, S. G. 1998. Temperature feedback and control via aeration rate regulation in biological composting systems. Ph.D. Dissertation, Cornell University, Ithaca, USA.
- Hatakka, A. 1994. Lignin-modifying enzymes from selected white-rot fungi: production and role in lignin degradation. *Fems. Microbiol. Rev.*, 13: 125–135.
- Haug, R. T. 1980. Compost engineering: principles and practice. Ann Arbor Science, Ann Arbor, USA.
- Haug, R. T. 1993. The practical handbook of compost engineering. Lewis Publishers, Boca Raton, USA.
- Haug, R. T. 1996. Composting plant design and process management. In: DeBertoldi, M., Sequi, P., Lemmes, B., and Papi, T. (Eds). The Science of Composting. Blackie Academic and Professional, London, UK, pp. 60-70.
- Heerden, I., Cronje, C., Swart, S. H., and Kotze, J. M. 2002. Microbial, chemical and physical aspects of citrus waste composting. *Biores. Technol.*, 81: 71–76.

- Hoffman, R. M., and Wood, T. M. 1985. Isolation and partial characterization of a mutant *Penicillium* sp. for the saccharification of straw. *Biotechnol. & Bioeng.*, 27: 81 – 85.
- Hoitink, H. A. J., Wilson, J. H., and Poole, H. A. 1978. Factors affecting composting of hardwood tree bark. In: Proceedings Second Wood Ornamental Disease Workshop. University Missouri, Columbia, pp. 11-18.
- Hols, P., Ferain, T., and Garmyn, D. 1994. Use of expression secretion signals and vector free stable chromosomal integration in engineering of *Lactobacillus plantarum* for α -Amylase and levanase expression. *App. & Environ. Microbiol.*, 60: 1401-1403.
- Holt, E. L., 1994. The Actinomycetes, Bergey's manual of determinative bacteriology, 9th ed., Baltimore : Williams and Wilkins Press, p. 605-609.
- Hong, C. Y., and Ueyama, A. 1973. An example of utilization of wood waste deposit: Manufacture of fortified bark compost having a decreased ability to support outbreak of soil-borne plant diseases. Stockholm Skogshogskolan Inst. Virkeslara Rapp, 83: 1-13.
- Huang, G. F., Wong, J. W. C., Wu, Q. T., and Nagar, B. B. 2004. Effect of C/N on composting of pig manure with sawdust. *Waste Manage. Res.*, 24: 805-813.
- Huang, Y. F. 2004. Development of environmental modeling methodologies for supporting system simulation, optimization and process control in petroleum waste management. Ph.D. Dissertation, University of Regina, Regina, Canada.
- Iriarte, M. L., and Ciria, P. 2001. Performance characteristics of three aeration systems in the composting of sheep manure and straw. *J. Agri. Eng. Research*, 79: 317-330.

- Ishigami, H., Hashimoto, H., and Kainuma, K. 1985. Determination of optimum culture conditions for the Chalara enzyme production. *J. Jpn. Soc. Starch*, 32: 189-196.
- Ishii, K., Fukui, M., and Takii, S. 2000. Microbial succession during a composting process as evaluated by denaturing gradient gel electrophoresis analysis. *J. Appl. Microbiol.*, 89: 768-777.
- Jeris, J. S., and Regan, R. W. 1973. Controlling environmental parameters for optimum composting (I): experimental procedures and temperature. *Compost Science*, 14: 10-15.
- Johnson, L. F., and Curl, E. A., 1972. Methods for Research on Ecology of Soil-Borne Pathogens. Burgess Publ. Co., Minneapolis, p. 247.
- Kandeler, E., Stemmer, M., Palli, S. and Gerzabek, M. H. 1999. Xylanase, invertase and urease activity in particle size fractions of soils. In: Berthelin, J., Huang, P. M. and Bollag, J. M. (Eds.). Effect of mineral – organic – microorganism interactions on soil and fresh water environments. Kluwer Academic/Plenum Publishers, New York, London, pp. 275-286.
- Kazuhiya, M. 1997. Renewable biological system for alternative sustainable energy production. Osaka University, Osaka, Japan.
- Kokusho, Y., Machida, H., and Iwasaki, S. 1982. Study on alkaline lipase isolation and identification of lipase producing microorganism. *Arg. Bio. Chem.*, 46: 1159-1164.
- Kosinkiewicz, B., 1974. Humus-like substances produced by bacteria: ability of *Pseudomonas* sp. to form humus-like polymers. In: Nancy, M. (Ed.). Biodegradation and humification. Rapport of premier colloque international,

Pierron, pp. 379–389.

Kostov, O., Rankow, V., Atanasova, G., and Lynch, J. M. 1991. Decomposition of sawdust and bark treated with cellulose decomposing microorganism. *Biol. Fert. Soils.*, 11: 105–110.

Ladisch, M. R., Lin, K. W., Voloch, M., and Tsao, G. T. 1983. Process considerations in the enzymatic hydrolysis of biomass. *Enzyme & Microbial. Technol.*, 5: 82–102.

Land Development Department. 2005. “Microbial activator.” [online]. Available <http://www.ldd.go.th>. (10 March 2005).

Li, X., and Gao, P. 1997. Isolation and partial properties of cellulose-decomposing strain of *Cytophaga* sp. LX-7 from soil. *J. Appl. Microbiol.*, 82: 73-80.

Lin, C. K. 1991. Use of bacterial products in the pig-on-litter system theory and practice. In Proceedings of The International Symposium and Training Course on Modern Technology in The Treatment and Recycling of Livestock Wastes. Kadoorie Agricultural Research Centre, Hong Kong.

Liu, Y. S., Zhang, J., Liu, Q., Zhang, C. G., and Ma, Q. S. 2004. Molecular cloning of novel cellulase genes cel 9A and cel 12A from *Bacillus licheniformis* GXN 151 and synergism of their encoded polypeptides. *Curr. Microbiol.*, 49: 234-238.

Lu, W. J., Wang, H. T., Huang, D.Y., Qiu, X. Y., and Chen, J. C. 2004. Effect of inoculating flower stalk and vegetable waste with lingo-cellulolytic microorganisms on the composting process. *J. Environ. Sci. Health.*, 39: 873-889.

- MacGregor, S. T., Miller, F. C., Psarianos, K. M., and Finstein, M. S. 1981. Composting process control based on interaction between microbial heat output and temperature. *App. & Environ. Microbiol.*, 41: 1321-1330.
- Magan, N., Hand, P., Kirkwood, I. A., and Lynch, J. M. 1989. Establishment of microbial inocula on decomposing wheat straw in soil of different water contents. *Soil Biol. & Biochem.*, 21: 15-22.
- Maheshwari, R., Bharadwaj, G., and Bhat, M. K. 2000. Thermophilic fungi: their physiology and enzymes. *Microbiol. Mol. Biol. Rev.*, 64: 461-488.
- Mahidol University. 1998. Report of using compost from wastes instead of chemical fertilizer. Faculty of engineering, Mahidol University.
- Mandels, M., 1982. Cellulases. In: Tsau, G. T., Annual reports on fermentation processes, Academic Press, Inc. New York, pp. 35-78.
- Mandels, M., and Reese, E. T., 1985. Fungal cellulase and microbial decomposition of cellulosic fibres. *Dev. Ind. Microbiol.*, 5: 5 – 20.
- Markweg-Hanke, M., Lang, S., and Wagner, F. 1995. Dodecanoic acid inhibition of a lipase from *Acinetobacter* sp. OPA 55. *Enzyme & Microbial. Technol.*, 17: 512-516.
- Marx, M. C., Wood, M., and Jarvis, S. C. 2001. A microplate fluorimetric assay for the study of enzyme diversity in soils. *Soil Biol. & Biochem.*, 33: 1633-1640.
- Mauriello, G., Casaburi, A., and Villani, F. 2002. Proteolytic activity of *Staphylococcus xylosus* strains on pork myofibrillar and sarcoplasmic proteins and use of selected strains in the production of Naples type salami. *J. Appl. Microbiol.*, 92: 482-490.

- McKinley, V. L., and Vestal, J. R. 1985. Physical and chemical correlates of microbial activity and biomass in composting municipal sewage sludge. *App. & Environ. Microbiol.*, 50: 1395-1403.
- McKinley, V. L., Vestal, J. R., and Erarp, A. E. 1985. Microbial activity in composting. *J. Biocycle*, 26: 47-50.
- Meunchang, S., Panichsakpatana, S., and Weaver, R. W. 2005. Co-composting of filter cake and bagasse ; by-products from a sugar mill. *Biores. Technol.*, 96: 437-442.
- Miller, G. L. 1959. Use of dinitrosalicylic acid reagent for determination of reducing sugar. *Anal. Chem.* 31: 426-428.
- Miller, F. C., and Finstein, M. S. 1985. Material balance in the composting of wastewater sludge as affected by process control. *J. Water Pollut. Control Fed.*, 57: 122-127.
- Miller, F. C. 1991. Biodegradation of solid wastes by composting. In: Martin, A. M. (Ed.). *Biological Degradation of Wastes*. Elsevier Applied Science, London, UK, pp. 1-31.
- Ministry of Agriculture and Corporatives. 2005. Compost standard, Thailand.
- Mondini, C., Fornasier, F., and Sinicco, T. 2004. Enzymatic activity as a parameter for the characterization of the composting process. *Soil Biol. & Biochem.*, 36: 1587-1594.
- Muderwa, J. M., and Ratamahenina, R. 1985. Purification and properties of the lipase from *Candida deformans* (Zach) Langeron and Guerra. *J. Amer. Oil. Chem. Soc.*, 62: 1031-1036.

- Nakasaki, K., and Akiyama, T. 1988. Effects of seeding on thermophilic composting of household organic waste. *J. Ferment. Technol.*, 66: 37–42.
- Nakasaki, K., and Shoda, M. 1987. Oxygen diffusion and microbial activity in the composting of dehydrated sewage sludge cakes. *J. Ferment. Technol.*, 56: 43-48.
- Nakasaki K., Fujiwara, S., and Kubota, H. 1994. A newly isolated thermophilic bacterium, *Bacillus licheniformis* HA1 to accelerate the organic matter decomposition in high rate composting. *Compost Sci. & Util.*, 2: 88–96.
- Nakasaki, K., Uehara, N., Kataoka, M., and Kubota, H. 1996. The use of *Bacillus Licheniformis* HA1 to accelerate composting of organic waste. *Compost Sci. & Util.*, 44: 47–51.
- Nakasaki, K., Nag, K., and Karita, S. 2005. Microbial succession associated with organic matter decomposition during thermophilic composting of organic waste. *Waste Manage. Res.*, 23: 48-56.
- Nakaya, I. 1999. Laboratory study of optimizing moisture control in composting by using a water holding amendment. M.S. Thesis, University of Dayton, Dayton, USA.
- Negro, M. J., Salano, M. L., Ciria, P., and Carrasco, J. 1999. Composting of sweet sorghum bagasse with other wastes. *Biores. Technol.*, 67: 89-92.
- Nuria, K. U. S. 1967. Bureau of commercial fisheries technological laboratory. Ann Arbor, Michigan, USA.
- Ogram, A., and Feng, X., 1996. Analysis of microbial community structures. In: *Manual of Environmental Microbiology Edition: American Society of Microbiology Press. Florida. pp 422-430.*

- Oliveira, S. C., Provenzano, M. R., Silva, M. R. S., and Senesi, N. 2002. Maturity degree of composts from municipal solid wastes evaluated by differential scanning calorimetry. *Environ. Technol.*, 23: 1099–1105.
- Opatsiriwit, C., Phumputra, A., Phaewsakul, T., Chaikawna, N. and Imasakul, T. 1996. Office of Bangkok Metropolitan Cleanlines Control, Bangkok, Thailand.
- Ouatmane, A., Provenzano, M. R., Hafidi, M., and Senesi, N., 2000. Compost maturity assessment using calorimetry, spectroscopy and chemical analysis. *Compost Sci. & Util.*, 8: 124–134.
- Paatero, J., Lehtokari, M., and Kemppainen, E. 1984. Compostable packaging materials test methods and limit values for biodegradation. *Appl. Microbiol. Biotechnol.*, 51: 125-133.
- Pabai, F., Kermasha, S., and Mrin, A. 1995. Lipase from *Pseudomonas fragi* CRDA323 : partial purification, characterized and interesterification of butter fat. *Appl. Microbiol. Biotechnol.*, 43: 42-51.
- Pandey, A., Soccol, C.R., Nigam, P., Brand, D., Mohan, R., and Roussos, S. 2000. Biotechnological potential of coffee pulp and coffee husk for bioprocesses. *Biochem. Eng. J.*, 6: 153–162.
- Pascual, J. A., Garcia, C., and Hernandez, T. 1999. Comparison of fresh and composted organic waste in their efficacy for the improvement of arid soil quality. *Biores. Technol.*, 68: 255–264.
- Pelaez, C. A., and Planas, A. Y. 2001. Composting of cattle and agricultural waste: variables and processes. *Afinidad*, 58: 162-162.

- Petre, M., Zarnea, G., Adrian, P., and Gheorghiu, E. 1999. Biodegradation and bioconversion of cellulose wastes using bacterial and fungal cells immobilized in radiopolymerized hydrogels. *Resour. Conserv. Recy.*, 27: 309-332.
- Peters, S., Koschinsky, S., Schwieger, F., and Tebbe, C. C. 2000. Succession of microbial communities during hot composting as detected by PCR-single-strain-conformation polymorphism-based genetic profiles of small-subunit rRNA genes. *App. & Environ. Microbiol.*, 66: 930-936.
- Poincelot, R. P., and Day, P. R. 1973. Rates of cellulose decomposition during the composting of leaves combined with several municipal and industrial wastes and other additives. *Compost Science*, 44: 23–25.
- Poincelot, R. P. 1974. A scientific examination of the principles and practice of composting. *Compost Science*, 15: 24–31.
- Poincelot, R. P. 1977. The biochemistry of composting. In: National conference on Composting of Municipal Residues and Sludges, Information Transfer Inc., Maryland, USA, pp. 348-362.
- Pollution Control Department. 1993. Report of the comparison study of solid waste disposal methods. Pollution Control Department, Bangkok, Thailand.
- Pollution Control Department. 1998. Report of pollution control plan. Pollution Control Department, Bangkok, Thailand.
- Pollution Control Department. 2006. "Quantity of wastes." [online]. Available <http://www.pcd.go.th> (25 August 2007).
- Polprasert, C. 1989. Organic Waste Recycling. John Wiley & Sons, New York, USA.
- Polprasert, C. 1996. Organic waste recycling: technology and management (second ed.), Wiley, Chichester, pp. 69–113.

- Rajbanshi, S. S., Endo, H., Sakamoto, K., and Inubushi, K. 1998. Stabilisation of chemical and biochemical characteristics of grass straw and leaf mix during in-vessel composting with and without seeding material. *Soil Sci. Plant Nutr.*, 44 : 485–495.
- Rao, P. V., Kunthala, J., and Lakshmanan, C.M. 1993. Production of lipase by *Candida rugosa* in solid state fermentation I: Determination of significant process variables. *Proc. Biochem.*, 28: 385-389.
- Regan, R. W., and Jeris, J. S. 1970. A review of the decomposition of cellulose and refuse. *Compost Science*, 11: 17.
- Requena, N., Azcon, R., and Baca, M. T. 1996. Chemical changes in humic substances from compost due to incubation with ligno-cellulolytic microorganisms and effects on lettuce growth. *App. & Environ. Microbiol.*, 45: 857–863.
- Richard, T. L., Walker, L. P., and Gosset, J. M. 1999. The effects of oxygen on solid-state biodegradation kinetics. *Proceedings of the IBE*, 2: A22-A39.
- Riddech, M., Klammer, S., and Insam, H. 2002. Characterization of microbial communities during composting of organic wastes. In: Insam, H., Riddech, N., and Klammer, S. (Eds.), *Microbiology of Composting*, Springer Verlag, Heidelberg, pp. 43–52.
- Robinson, J., and Stentiford, E. I. 1993. Improving the aerated static pile composting method by the incorporation of moisture control. *Compost Sci. & Util.*, 1: 53-69.
- Rodriguez, M., Nunez, F., Cordoba, J. J., Bermudez, M. E., and Asensio, M. A. 1998. Evaluation of proteolytic activity of microorganisms isolated from dry cured ham. *J. Appl. Microbiol.*, 85: 905–912.

- Ros, M., Garcia, C., and Hernandez, T. 2006. A full-scale study of treatment of pig slurry by composting kinetic changes in chemical and microbial properties, *Waste Manage.*, 26: 1108–1118.
- Rosevear, A. 1984. Immobilized biocatalysts: A critical review. *J. Chem. Technol. Biotechnol.*, 34: 127-150.
- Ruijsenaars, J., and Hartsmans, S. 2000. Plate screening methods for the detection of polysaccharase producing microorganisms. *Appl. Microbiol. Biotechnol.*, 55: 143–149.
- Ryckeboer, J., and Mergaert, J. 2003. Microbiological aspects of biowaste during composting in a monitored compost bin. *J. Appl. Microbiol.*, 94: 127-137.
- Rynk, R. F., Johnson, E. A., and Whitney, L. F. 1991. An expert system assisted control system for a composting process. In: Automated agriculture for the 21st century, Proceedings of the December 1991 Symposium, ASAE, St Joseph, USA.
- Rynk, R. 1992. On-farm composting handbook. Cooperative extension, NRAES #54. USA Northeast Regional Agriculture Engineering Service. NY, pp. 6–23.
- Ryu, D., and Mandels, M. 1980. Cellulase; Biosynthesis and applications. *Enzyme & Microbiol. Technol.*, 2: 90-103.
- Sandhu, D. K., and Bawa, S. 1992. Improvement of cellulose activity in *Trichoderma*. *Appl. Biochem. Biotechnol.*, 35: 175–192.
- Sanglier, J. J., Whitehead, D., Saddler, G.S., Ferguson, E.V., and Goodfellow, M. 1992. Pyrolysis mass spectrometry as a method for the classification, identification and selection of actinomycetes. *Gene*, 115: 235-242.

- Schnitzer, M., Dinel, H., Schulten, H. R., Pare, T., and Lafond, S., 2000. Humification of duck farm wastes. In: Ghabbour, E. A., and Davies, G. (Eds.), *Humic Substances: Versatile Components of Plants, Soils and Water*. The Royal Society of Chemistry, Cambridge, pp. 21–35.
- Schewale, J. G. 1982. Glucosidase: Its role in cellulase synthesis and hydrolysis of cellulose. *Int. J. Biochem.*, 14: 435–443.
- Sesay, A. A. 1998. Aerated static pile composting of municipal solid waste (MSW): A comparison of positive pressure aeration with hybrid positive and negative aeration. *Waste Manage. Res.*, 16: 264-272.
- Shaw, T. V., and Quejesky, H. 1979. Characterization of the growth and cellulolytic activities of *Trichoderma viride*. *Dev. Ind. Microbiol.*, 12: 212 – 224.
- Sierra, G. 1957. A simple method for the detection of lipolytic activity of microorganisms and some observations on the influence of the contact between cells and fatty substrates. *Antonie van Leeuwenhoek Ned. Tijdschr. Hyg.*, 23: 15-22.
- Shin, H. S., Hwang, E. J., Park, B. S., Sakai, T. 1999. The effects of seed inoculation on the rate of garbage composting. *Environ. Technol.*, 20: 293–300.
- Sneath, P. H. A., Mair, N. S., Sharp, M. E., and Holt, J. G. 1986. *Bergey's manual of systematic bacteriology*, London : Williams and Wilkins Press, vol. 2; p. 1105-1139.
- Snell, J. R. 1957. Some engineering aspects of high rate composting of garbage and reuse. *Journal of the Sanitary Engineering Division, ASCE*, 83(SA1), Proceedings Paper, 1178: 1-36.

- Soares, H. M., Cardenas, B., Weir, D., and Switzenbaum, M. S. 1995. Evaluating pathogen regrowth in biosolids compost. *J. Biocycle*, 36: 70-75.
- Solbraa, K. 1984. An analysis of compost starters used on spruce bark. *J. Biocycle*, 44: 46-48.
- Strom, P. F. 1985. Effect of temperature on bacterial species diversity in thermophilic solid-waste composting. *App. & Environ. Microbiol.*, 50: 899-905.
- Stutzenberger, F. J. 1971. Cellulase production by *Thermomonospora curvata* isolated from municipal solid waste compost. *J. Appl. Microbiol.*, 22: 147-152.
- Sutton, B. C. 1980. The Coelomycetes. Commonwealth Mycological Institute, England.
- Sutton, R. and Jess, I. M. 1991. A design study of a self-organizing fuzzy autopilot for ship control. *Proceedings Institute of Mechanical Engineers*, 205: 35-47.
- Syndney, M., Finegold, L. and William, J. M. 1982. *Diagnostic Microbiology*. Chapt. 3, Mosby Co., St. Louis.
- Takada, S., Nakamura, M., Matsueda, T., Kondo, R. and Sakai, K., 1996. Degradation of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans by the white rot fungus *Phanerochaete sordida* YK-624. *Appl & Environ Microbiol.*, 62: 4323-4328.
- Tam, N. F. Y. and Vrijmoed, I. L. P. 1990. Effects of commercial bacteria products on nutrient transformation of pig manure in a pig-on-litter system. *Waste Manage. & Res.*, 8: 363-373.
- Taniguchi, H., Odashima, F., Igarashi, M., Maruyama, Y., and Nakamura, M. 1982. Characterization of a potato starch digesting bacterium and its production of amylase. *Agric. Biol. Chem.*, 46: 2107-2115.

- Ta-oun, M., Prathumrung, P., and Prathumrung, T. 2005. Techniques to produce bio-extracts and compost fertilizers from domestic rubbish. Department of Land Resources and Environment, Khon Kaen University, Thailand.
- Ten Khak Mun, Pimenov, E. P., and Imranova, E. L. 1988. Succession of microbial complexes in wood composting. *J. Microbiology*, 57: 427-476.
- Tengerdy, R. P., and Szakacs, G. 2003. Bioconversion of lignocellulose in solid substrate fermentation. *Biochem. Eng. J.*, 13: 169–179.
- Tiquia, S. M. 2002. Evolution of extracellular enzyme activities during manure composting. *J. Appl. Microbiol.*, 92: 764–775.
- Tiquia, S. M., Tam, N. F. Y. and Hodgkiss, I. J. 1996. Effect of moisture content on the composting of pig-manure sawdust litter disposed from the pig-on-litter (POL) system. In: deBertoldi, M., Sequi, P., Lemmes, P. and Papi, T. (Eds.). *The Science of Composting: Part IZ*. Chapman and Hall, London. pp. 1361-1364.
- Tiquia, S. M., Tam, N. F. Y., and Hodgkiss, I. J. 1997. Effects of bacterial inoculum and moisture adjustment on composting of pig manure. *Environ. Pollut.* 96: 161–171.
- Tiquia, S. M., Tam, N. F. Y., and Hodgkiss, I. J. 1998. Salmonella elimination during composting of spent pig litter. *Biores. Technol.*, 63: 193-196.
- Tuomela, M., Hatakka, A., Raiskila, S., Vikman, M., and Itavaara, M. 2001. Biodegradation of radiolabelled synthetic lignin (14C-DHP) and mechanical pulp in a compost environment. *Appl. Microbiol. Biotechnol.*, 55: 492 –499.
- Tuomela, M., Vikman, M., Hatakka, A., and Itavaara, M. 2000. Biodegradation of lignin in a compost environment: a review. *Biores. Technol.*, 72: 169–183.

- Van Schaijk, G. H. A. 1991. Housing aspects of the Envi-Stim-sawdust system for pigs: development and practice. In Proceedings of The International Symposium and Training Course on Modern Technology in The Treatment and Recycling of Livestock Wastes. Kadoorie Agricultural Research Centre, Hong Kong.
- Vinci, B. J., Summerfelt, S. T., Timmons, M. B., and Watten, B. J. 1996. Carbon dioxide control in intensive aquaculture: design tool development. Proceedings of the Aquacultural Engineering Society, 2: 399-419.
- Waksman, S. A., and Cordon, T. C. 1939. Thermophilic decomposition of plant residues in composts by pure and mixed cultures of microorganisms. *Soil Sci.*, 47: 217-225.
- Wani, S. P., and Shinde, P. A., 1978. Studies on biological decomposition of wheat-straw: II-Screening of wheat-straw decomposing microorganisms under field conditions. *Mysore J. Agric. Sci.*, 12: 388-391.
- Wood, T.M. 1989. Synergism between enzyme components of *Penicillium pinophilum* cellulose in solubilizing hydrogen bond ordered cellulose. *J. Biochem.*, 260: 37-43.
- Wood, T. M. 1992. Fungal cellulases. *Biochem. Soc. Transact.*, 20: 46-52.
- Wood, T. M., and McCare, S.L. 1972. The purification and properties of the C1 component of *Trichoderma koningii* cellulase. *J. Biochem.*, 128: 1183 – 1192.
- Wood, T. M., and McRae, S. T. 1978. The cellulose of *Trichoderma koningii*: Purification and properties of some endoglucanase components with special reference to their action on cellulose when acting alone and in synergism with the cellobiohydrolase. *J. Biochem.*, 171: 61-69.

- Wood, T. M., and McRae, S. T. 1979. Synergism between enzymes involved in the solubilization of the native cellulose. *Adv. Chem. Ser.*, 18: 181-210.
- Woodward, J., and Wiseman, A. 1983. Fungal β - glucosidases; Their properties and applications. *Enzyme & Microbial. Technol.*, 4: 73-79.
- Yamcharoenwong, P. 1988. Solid Waste Management. Division of Administrative Information, Faculty of Engineering, Khonkaen University, Khonkaen, Thailand.
- Zhang, Z. 2000. The effects of moisture and free air space on composting rates. M.S. Thesis, Iowa state university, Ames, USA.
- Zucconi, F., Monace, A., and Forte, M., 1985. Phytotoxins during the stabilization of organic matter. In: Grasser, J.K.R.(Ed.), *Composting of Agricultural and Other Wastes*. Ewlsevier Appl. Sci. Publ., England.