

- Dewes, T., Hünsche, E., 1998. Composition and Microbial degradability in the soil of farmyard manure from ecologically-managed farms. *Biol. Agric. Hortic.* 16, 251–268.
- Dien, B.S., Nychols, N.N., O'Bryan, P.J., Bothast, R.J., 2000. Development of new ethanologenic *Escherichia coli* strains for fermentation of lignocellulosic biomass. *Appl. Biochem. Biotechnol.* 84/86, 181–196.
- Dipardo, J., 2000. Outlook for biomass ethanol production. Energy information administration. Available from <http://www.eia.doe.gov/oiaf/analysispaper/biomass.html>.
- Duff, S.J.B., Murray, W.D., 1996. Bioconversion of forest products industry waste cellulose to fuel ethanol: a review. *Bioresour. Technol.* 55, 1–33.
- Durand, H., Baron, M., Calmels, T., Tiraby, G., 1988. Classical and molecular genetics applied to *Trichoderma reesei* for the selection of improved cellulolytic industrial strains. In: Aubert, J.P., Beguin, P., Millet, J. (Eds.), *Biochemistry and Genetics of Cellulose Degradation*. Academic Press, San Diego, CA, pp. 135–151.
- Elander, R.T., Putsche, V.L., 1996. Ethanol from corn: technology and economics. In: Wyman, C.E. (Ed.), *Handbook on Bioethanol: Production and Utilization*. Taylor & Francis, Washington, DC, pp. 329–349.
- Esteghlalian, A., Hashimoto, A.G., Fenske, J.J., Penner, M.H., 1997. Modeling and optimization of the dilute-sulfuric-acid pretreatment of corn stover, poplar and switchgrass. *Bioresour. Technol.* 59, 129–136.
- Excoffer, G., Toussaint, B., Vignon, M.R., 1991. Saccharification of steam-exploded poplar wood. *Biotechnol. Bioeng.* 38, 1308–1317.
- Fan, L.T., Gharpuray, M.M., Lee, Y.-H., 1987. In: *Cellulose Hydrolysis Biotechnology Monographs*. Springer, Berlin, p. 57.
- Ghose, T.K., Bisaria, V.S., 1979. Studies on mechanism of enzymatic hydrolysis of cellulosic substances. *Biotechnol. Bioeng.* 21, 131–146.
- Gregg, D.J., Saddler, J.N., 1996. Factors affecting cellulose hydrolysis and the potential of enzymes recycle to enhance the efficiency of an integrated wood to ethanol process. *Biotechnol. Bioeng.* 51, 375–383.
- Grous, W.R., Converse, A.O., Grethlein, H.E., 1986. Effect of steam explosion pretreatment on pore size and enzymatic hydrolysis of poplar. *Enzyme Microb. Technol.* 8, 274–280.
- Hacking, A.J., Taylor, I.W.F., Haas, C.M., 1984. Selection of yeasts able to produce ethanol from glucose at 40 °C. *Appl. Microbiol. Biotechnol.* 19, 361–363.
- Hatakka, A.I., 1983. Pretreatment of wheat straw by white-rot fungi for enzymatic saccharification of cellulose. *Appl. Microbiol. Biotechnol.* 18, 350–357.
- Helle, S.S., Duff, S.J.B., Cooper, D.G., 1993. Effect of surfactants on cellulose hydrolysis. *Biotechnol. Bioeng.* 42, 611–617.
- Hinman, N.D., Schell, D.J., Riley, C.J., Bergeron, P.W., Walter, P.J., 1992. Preliminary estimate of the cost of ethanol production for SSF technology. *Appl. Biochem. Biotechnol.* 34/35, 639–649.
- Ho, N.W.Y., Chen, Z., Brainard, A.P., 1998. Genetically engineered *Saccharomyces* yeast capable of effective cofermentation of glucose and xylose. *Appl. Environ. Microbiol.* 64 (5), 1852–1859.
- Holtzapple, M.T., Davison, R.R., Stuart, E.D., 1992b. Biomass refining process, US patent 5, 171, 592.
- Holtzapple, M.T., Humphrey, A.E., Taylor, J.D., 1989. Energy requirements for the size reduction of poplar and aspen wood. *Biotechnol. Bioeng.* 33, 207–210.
- Holtzapple, M.T., Jun, J.-H., Ashok, G., Patibandla, S.L., Dale, B.E., 1990. Ammonia fiber explosion (AFEX) pretreatment of lignocellulosic wastes. American Institute of Chemical Engineers National Meeting, Chicago, IL.
- Holtzapple, M.T., Jun, J.-H., Ashok, G., Patibandla, S.L., Dale, B.E., 1991. The ammonia freeze explosion (AFEX) process: a practical lignocellulose pretreatment. *Appl. Biochem. Biotechnol.* 28/29, 59–74.
- Holtzapple, M.T., Lundeen, J.E., Sturgis, R., 1992a. Pretreatment of lignocellulosic municipal solid waste by ammonia fiber explosion (AFEX). *Appl. Biochem. Biotechnol.* 34/35, 5–21.
- Hooker, B.S., Dai, Z., Anderson, D.B., Quesenberry, R.D., Ruth, M.F., Thomas, S.R., 2001. Production of microbial cellulases in transgenic crop plants. In: Himmel, M.E., Baker, J.O., Saddler, J.N. (Eds.), *Glycosyl Hydrolases for Biomass Conversion*. American Chemical Society, Washington, DC, pp. 55–90.
- Huang, X.L., Penner, M.H., 1991. Apparent substrate inhibition of the *Trichoderma reesei* cellulase system. *J. Agric. Food Chem.* 39, 2096–2100.
- Iyer, P.V., Wu, Z.-W., Kim, S.B., Lee, Y.Y., 1996. Ammonia recycled percolation process for pretreatment of herbaceous biomass. *Appl. Biochem. Biotechnol.* 57/58, 121–132.
- Kadam, K.L., Schmidt, S.L., 1997. Evaluation of *Candida acidothermophilum* in ethanol production from lignocellulosic biomass. *Appl. Microbiol. Biotechnol.* 48, 709–713.
- Kitzer, F.J., Broido, A., 1965. Speculations on the nature of cellulose pyrolysis. *Pyrodynamics* 2, 151–163.
- Kirk, T.K., Farrell, R.L., 1987. Enzymatic combustion: the microbial degradation of lignin. *Annu. Rev. Microbiol.* 41, 465–505.
- Mackie, K.L., Brownell, H.H., West, K.L., Saddler, J.N., 1985. Effect of sulphur dioxide and sulphuric acid on steam explosion of aspenwood. *J. Wood Chem. Technol.* 5, 405–425.
- McCarthy, J.E., Tiemann, M., 1998. CRS report for congress. MTBE in gasoline: clean air and drinking water issues. Available from <http://www.epa.gov/otaq/consumer/fuels/mtbe/crs-mtbe.pdf>.
- MacDonald, T., Yowell, G., McCormack, M., 2001. Staff report. US ethanol industry production capacity outlook. California energy commission. Available from [http://www.energy.ca.gov/reports/2001-08-29\\_600-01-017.PDF](http://www.energy.ca.gov/reports/2001-08-29_600-01-017.PDF).
- McMillan, J.D., 1994. Pretreatment of lignocellulosic biomass. In: Himmel, M.E., Baker, J.O., Overend, R.P. (Eds.), *Enzymatic Conversion of Biomass for Fuels Production*. American Chemical Society, Washington, DC, pp. 292–324.
- Mes-Hartree, M., Hogan, C.M., Saddler, J.N., 1987. Recycle of enzymes and substrate following enzymatic hydrolysis of steam pretreated aspenwood. *Biotechnol. Bioeng.* 30, 558–564.
- Mes-Hartree, M., Dale, B.E., Craig, W.K., 1988. Comparison of steam and ammonia pretreatment for enzymatic hydrolysis of cellulose. *Appl. Microbiol. Biotechnol.* 29, 462–468.
- Millet, M.A., Baker, A.J., Scatter, L.D., 1976. Physical and chemical pretreatment for enhancing cellulose saccharification. *Biotech. Bioeng. Symp.* 6, 125–153.
- Mononmani, H.K., Sreekantiah, K.R., 1987. Saccharification of sugar-cane bagasse with enzymes from *Aspergillus ustus* and *Trichoderma viride*. *Enzyme Microb. Technol.* 9, 484–488.
- Morjanoff, P.J., Gray, P.P., 1987. Optimization of steam explosion as method for increasing susceptibility of sugarcane bagasse to enzymatic saccharification. *Biotechnol. Bioeng.* 29, 733–741.
- Neely, W.C., 1984. Factors affecting the pretreatment of biomass with gaseous ozone. *Biotechnol. Bioeng.* 20, 59–65.
- Ooshima, H., Sakata, M., Harano, Y., 1986. Enhancement of enzymatic hydrolysis of cellulose by surfactant. *Biotechnol. Bioeng.* 28, 1727–1734.
- Orpin, C.G., 1988. Genetic approaches to the improvement of lignocellulose degradation in the rumen. In: Aubert, J.P., Beguin, P., Millet, J. (Eds.), *Biochemistry and Genetics of Cellulose Degradation*. Academic Press, London, pp. 171–179.
- Park, J.W., Takahata, Y., Kajuchi, T., Akehata, T., 1992. Effects of nonionic surfactant on enzymatic hydrolysis of used newspaper. *Biotechnol. Bioeng.* 39, 117–120.
- Penner, M.H., Liaw, E.-T., 1994. Kinetic consequences of high ratios of substrate to enzyme saccharification systems based on *Trichoderma* cellulase. In: Himmel, M.E., Baker, J.O., Overend, R.P. (Eds.), *Enzymatic Conversion of Biomass for Fuels Production*. American Chemical Society, Washington, DC, pp. 363–371.

- Philippidis, G.P., 1996. Cellulose bioconversion technology. In: Wyman, C.E. (Ed.), *Handbook on Bioethanol: Production and Utilization*. Taylor & Francis, Washington, DC, pp. 253–285.
- Philippidis, G.P., Smith, T.K., 1995. Limiting factors in the simultaneous saccharification and fermentation process for conversion of cellulosic biomass to fuel ethanol. *Appl. Biochem. Biotechnol.* 51/52, 117–124.
- Philippidis, G.P., Smith, T.K., Wyman, C.E., 1993. Study of the enzymatic hydrolysis of cellulose for production of fuel ethanol by the simultaneous saccharification and fermentation process. *Biotechnol. Bioeng.* 41, 846–853.
- Ramos, J.P., Breuil, C., Saddler, J.N., 1993. The use of enzyme recycling and the influence of sugar accumulation on cellulose hydrolysis by *Trichoderma* cellulases. *Enzyme Microb. Technol.* 15, 19–25.
- Reshamwala, S., Shawky, B.T., Dale, B.E., 1995. Ethanol production from enzymatic hydrolysates of AFEX-treated coastal Bermuda grass and switchgrass. *Appl. Biochem. Biotechnol.* 51/52, 43–55.
- Sarkanen, K.V., 1980. Acid-catalyzed delignification of lignocellulosics in organic solvents. *Prog. Biomass Convers.* 2, 127–144.
- Saxena, A., Garg, S.K., Verma, J., 1992. Simultaneous saccharification and fermentation of waste newspaper to ethanol. *Bioresour. Technol.* 39, 13–15.
- Schurz, J., 1978. In: Ghose, T.K. (Ed.), *Bioconversion of Cellulosic Substances into Energy Chemicals and Microbial Protein Symposium Proceedings*, IIT, New Delhi, pp. 37.
- Shafizadeh, F., Lai, Y.-Z., 1975. Thermal degradation of 2-deoxy-D-arabino-hexonic acid and 3-deoxy-D-ribo-hexono-1,4-lactone. *Carbohydr. Res.* 42, 39–53.
- Shafizadeh, F., Bradbury, A.G.W., 1979. Thermal degradation of cellulose in air and nitrogen at low temperatures. *J. Appl. Poly. Sci.* 23, 1431–1442.
- Sivers, M.V., Zacchi, G., 1995. A techno-economical comparison of three processes for the production of ethanol from pine. *Bioresour. Technol.* 51, 43–52.
- Szczodrak, J., Targonski, Z., 1989. Simultaneous saccharification and fermentation of cellulose: effect of ethanol and cellulases on particular stages. *Acta Biotechnol.* 6, 555–564.
- Sternberg, D., 1976. Production of cellulase by *Trichoderma*. *Biotechnol. Bioeng. Symp.*, 35–53.
- Takagi, M., Abe, S., Suzuki, S., Emert, G.H., Yata, N., 1977. A method for production of alcohol directly from cellulose using cellulase and yeast. In: Ghose, T.K. (Ed.), *Proceedings of Bioconversion of Cellulosic Substances into Energy, Chemicals and Microbial Protein*, IIT, New Delhi, pp. 551–571.
- Tarkow, H., Feist, W.C., 1969. In: *A Mechanism for Improving the Digestibility of Lignocellulosic Materials with Dilute Alkali and Liquid NH<sub>3</sub>*. Advance Chemistry Series 95. American Chemical Society, Washington, DC, pp. 197–218.
- Tengerdy, R.P., Nagy, J.G., 1988. Increasing the feed value of forestry waste by ammonia freeze explosion treatment. *Biol. Wastes* 25, 149–153.
- Thring, R.W., Chorent, E., Overend, R., 1990. Recovery of a solvolytic lignin: effects of spent liquor/acid volume ration, acid concentration and temperature. *Biomass* 23, 289–305.
- Vidal, P.F., Molinier, J., 1988. Ozonolysis of lignin – improvement of in vitro digestibility of poplar sawdust. *Biomass* 16, 1–17.
- Vlasenko, E.Y., Ding, H., Labavitch, J.M., Shoemaker, S.P., 1997. Enzymatic hydrolysis of pretreated rice straw. *Bioresour. Technol.* 59, 109–119.
- Waldner, R., Leisola, M.S.A., Fiechter, A., 1988. Comparison of ligninolytic activities of selected fungi. *Appl. Microbiol. Biotechnol.* 29, 400–407.
- Wang, M., Saricks, C., Santini, D., 1999. Effects of Fuel Ethanol use on Fuel-Cycle Energy and Greenhouse Gas Emissions. Argonne National Laboratory, Argonne, IL.
- Wheals, A.E., Basso, L.C., Alves, D.M.G., Amorim, H.V., 1999. Fuel ethanol after 25 years. *Trends Biotechnol.* 17 (12), 482–487.
- Wood, B.E., Beall, D.S., Ingram, L.O., 1997. Production of recombinant bacterial endoglucanase as a co-product with ethanol during fermentation using derivatives of *Escherichia coli* K011. *Biotechnol. Bioeng.* 55 (3), 547–555.
- Wooley, R., Ruth, M., Glassner, D., Sheehan, J., 1999. Process design and costing of bioethanol technology: a tool for determining the status and direction of research and development. *Biotechnol. Prog.* 15, 794–803.
- Wright, J.D., 1998. Ethanol from biomass by enzymatic hydrolysis. *Chem. Eng. Prog.* 84 (8), 62–74.
- Wu, Z., Lee, Y.Y., 1997. Inhibition of the enzymatic hydrolysis of cellulose by ethanol. *Biotech. Lett.* 19, 977–979.
- Wu, J., Ju, L.K., 1998. Enhancing enzymatic saccharification of waste newsprint by surfactant addition. *Biotechnol. Prog.* 14, 649–652.
- Xin, Z., Yinbo, Q., Peiji, G., 1993. Acceleration of ethanol production from paper mill waste fiber by supplementation with  $\beta$ -glucosidase. *Enzyme Microb. Technol.* 15, 62–65.
- Zhang, M., Eddy, C., Deanda, K., Finkelstein, M., Picataggio, S., 1995. Metabolic engineering of a pentose metabolism pathway in ethanologenic *Zymomonas mobilis*. *Science* 267, 240–243.
- Zheng, Y.Z., Lin, H.M., Tsao, G.T., 1998. Pretreatment for cellulose hydrolysis by carbon dioxide explosion. *Biotechnol. Prog.* 14, 890–896.
- Ziegler, M.T., Thomas, S.R., Danna, K.J., 2000. Accumulation of a thermostable endo-1,4- $\beta$ -D-glucanase in the apoplast of *Arabidopsis thaliana* leaves. *Mol. Breed.* 6, 37–46.