

2010

## Patents, Journal Publications & Presentations

### Books and Journals

1. Aita, G. and Kim, M. (2010) Pretreatment Technologies for the Conversion of Lignocellulosic Materials to Bioethanol. In: Sustainability of the Sugar and Sugar-Ethanol Industries. ACS Press, Available on-line, Dec 10. ISBN13: 9780841225985; eISBN: 9780841225992; DOI: 10.1021/bk-2010-1058. Dec 14.
2. Salvi, D., Aita, G., Robert, D. and Bazan, V. (2010). Dilute ammonia pretreatment of sorghum and its effectiveness on enzyme hydrolysis and ethanol fermentation. *Applied Biochemistry and Biotechnology*. 161: 67-7.
3. Kim, M., Aita, G. and Day, D. (2010). Compositional changes in sugarcane bagasse on low temperature, long-term diluted ammonia treatment. *Applied Biochemistry and Biotechnology*. 161: 34-40.
4. Salvi, D., Boldor, D., Ortego, J., Aita, G. and Sabliov, C. (2010). Numerical modeling of continuous flow microwave heating: a critical comparison of COMSOL and ANSYS. *Journal of Microwave Power and Electromagnetic Energy*. 44, 4: 1-11.
5. Aita, G. (2010). Sucrose loss during milling and methods for prevention, Annual ASI Factory Operations Seminar. Apr 29.
6. Madsen, L. and Day D. (2010). Iron mediated clarification and decolorization (FeMCaD) of sugarcane juice, *Proceedings of the XXVII Congress ISSCT*. 27: 1-13.
7. Kim, M. and Day D. (2010). Butanol production from sugarcane juices, *Proceedings of the XXVII Congress ISSCT*, 27: 1-7.
8. Kim, M. and Day, D. (2010). Compositional changes in sugarcane bagasse on low temperature, long-term diluted ammonia treatment. *Applied Biochemistry and Biotechnology*. 161: 34-40.
9. Kim, M. and Day, D. (2010). Use of cellulase inhibitors to produce cellobiose. *Applied biochem and Biotechnol*. 162: 1379-1390, DOI:10.1007/s12010-010-8915-2.
10. Kim, M., Han, K. and Day, D. (2010). Ethanol from sweet sorghum, a potential energy feedstock for bioethanol production. *J of Agricultural Food Chemistry*. submitted May 24.
11. Kim, M. and Day, D. (2010). Composition of multiple feedstocks suitable for ethanol production at Louisiana sugar mills. *Journal of Industrial Microbiology and Biotechnology*. in press.
12. Han, Pitman, W., Montgomery W., Harrell, D., Viator, H., Gravois, K., Kim, M. and Day, D. (2010). Agronomic considerations for sweet sorghum Biofuel production in South-Central USA. *Biomass and Bioenergy*. submitted Aug 18.
13. Kim, M. and Day, D. (2010). Butanol production from sugarcane juices. *International Sugar J*. 112: 601-605.
14. V.Kochergin, V. and Miller, K. (2010). Evaluation of target efficiencies for solid-liquid separation steps in biofuels production. *Applied Biochemistry and Biotechnology*, 163, 1: 90.
15. Kochergin, V. (2010). Studies of Long-Term Storage of High Quality Raw Sugar. *Proceedings of the 26th Congress of the International Society of Sugar Cane Technologists*, Veracruz, Mexico, March 7-11.
16. Kochergin, V. (2010). Reduction on Sugar losses in Boiling House Operations. *Sugar Bulletin*, 88, 7: 17-19.
17. Miller, K. and Kochergin, V. (2010). Dissolved Air Flotation (DAF) for recovery of suspended solids from pretreated bagasse streams. *Applied Biochemistry and Biotechnology*, submitted.
18. Kochergin, V. (2010). Studies of Long-Term Storage of High Quality Raw Sugar. *Sugar Industry/Zuckerindustrie*, 135, 7: 419-426.
19. Kochergin, V., Gaudet, C. and Robert, M. (2010). A Juice Clarifier with Turbulence Reduction Devices-Results of First Industrial Trials. *Proceedings of the 83th Congress of SASTA*, 315-325.
20. Legendre, B. and Gravois, K. (2010). The 2009 Louisiana sugarcane variety survey. *Sugar Bull*. 88, 9: 23-28.
21. Reagan, T., Wilson, B., Beuzelin, J., Gravois, K., Pollet, D. and Legendre, B. (2010). Developing best management practices for the Mexican rice borer. *Sugar Bull*. 88,9: 29-31.
22. Salassi, M., Deliberto, M., Westra, J. and Legendre, B. (2010). Economic importance of Louisiana sugarcane

- production in 2009. Sugarcane Research Annual Progress Report, LSU Agricultural Center. 1-3.
23. Legendre, B. (2010). Sugarcane crop summary for crop year 2009. Sugarcane Research Annual Progress Report, LSU Agricultural Center. 4- 6.
  24. Legendre, B. and Gravois, K. (2010). The 2009 Louisiana sugarcane variety survey. Sugarcane Research Annual Progress Report, LSU Agricultural Center. 83-96.
  25. Legendre, B., Birkett, H., Stein, J., Duet, M., Tew, T. and Eggleston, G. (2010). Stalk cold tolerance of commercial and candidate varieties. Sugarcane Research Annual Progress Report, LSU Agricultural Center. 146-149.
  26. Orgeron, A., Legendre, B., Pontif, M., Griffin, J. and Gravois, K. (2010). Ripener update. Sugarcane Research Annual Progress Report, LSU Agricultural Center. 152-158.
  27. Legendre, B. and Gravois, K. (2010). Variety trends and concern over the dependence of a single variety (Monoculture). Sugar Bull. 88, 10: 13-16.
  28. Madsen II, L. and Day, D. (2010). Iron Mediated Clarification and Decolourisation of Sugarcane Juice. Proc. Int. Soc. Sugar Cane Technol. 27: 1-11; Abstract, p. 200.
  29. Madsen, L. and Day, D. (2010). Iron Mediated Clarification and Decolorization of Sugarcane Juice. Annual ASI Factory Operations Seminar. Apr 29.
  30. Madsen, L., Polanco, S., Verret, C. and Dinu, I. (2010). The Molasses and Juice Survey. Annual ASI Factory Operations Seminar. Apr 29.

### Posters and Presentations

1. Chen, C., Boldor, D. and Aita, G. (2010). Enhancing enzymatic digestibility of sweet sorghum by microwave pretreatment. Annual International Meeting ASAME. Pittsburg, Pa. Jun 20-23.
2. Aita, G. (2010). Sucrose loss during milling and methods for prevention. Annual ASI Factory Operations Seminar. Apr 29.
3. Aita, G. and Salvi, D. (2010). Enzyme hydrolysis and ethanol fermentation of ammonia treated energy cane." Symposium on Biotechnology for Fuels and Chemicals SIM. Clearwater Beach, FL, Apr 19-22.
4. Day, D. (2010). Biofuels Program. CEPRC Meeting. New Orleans, La. Jan 29
5. Kim, M. and Day, D. (2010). Butanol from sugar juices. XXVII Congress ISSCT. Vera Cruz, Mexico. Mar 7-11.
6. Madsen L. and Day, D. (2010). Iron mediated clarification and decolorization of sugarcane juice. XXVII Congress ISSCT. Vera Cruz, Mexico. Mar 7-11.
7. Kochergin, V., Day, D., Suhr, M. (2010). Algal production and cane sugar mills: Is there a synergy? Symposium on Biotechnology for Fuels and Chemicals SIM. Clearwater Beach, FL. Apr 19-22.
8. Kang, H., Kim, N., Kim, G., Kim, H., Day, D., Kim, J. and Kim, D. (2010). Enzymatic saccharification of rice straw pretreated using TiO<sub>2</sub>/UV for bioconversion to ethanol. Symposium on Biotechnology for Fuels and Chemicals SIM. Clearwater Beach, FL. Apr 19-22.
9. Kim, M. and Day, D. (2010). Composition of multiple feedstocks suitable for extended ethanol production at Louisiana sugar mills. Symposium on Biotechnology for Fuels and Chemicals SIM. Clearwater Beach, FL. Apr 19-22
10. Madsen, L. and Day, D. (2010). Iron mediated clarification and decolorization of sugarcane juice. Annual ASI Factory Operations Seminar. Apr 29.
11. Kim, M. and Day, D. (2010). Butanol production from sugarcane juices. Annual ASI Factory Operations Seminar, Apr 29.
12. Madsen, L. and Day, D. (2010). Iron mediated clarification and decolorization of sugarcane juice: a pilot test. Joint Annual Meeting ASSCT. Panama City Beach, FL. Jun 16-18.
13. Day, D. (2010). Why Ethanol? Butanol production and the raw mill. Joint Annual Meeting ASSCT. Panama City Beach, FL. Jun 16-18.
14. Kochergin, V., Suhr, M. and Day, D. (2010). Biodiesel from algae as an alternative for sugar mill sustainability. Joint Annual Meeting ASSCT. Panama City Beach, FL. Jun 16-18.
15. Kim, M. and Day, D. (2010). Comparative study of multiple energy crops for cellulosic ethanol production. Joint Annual Meeting ASSCT. Panama City Beach, FL. Jun 16-18.
16. Han, K., Alison, W., Day, D. and Kim, M. (2010). Planting management impact on sweet sorghum as a biofuel crop. ASA-CSSA-SSSA International Annual Meeting. Long Beach, Ca. Nov. 2.
17. Kochergin, V., Gaudet, C., Robert, M. and Bergeron, S. (2010). Experience with new design of juice clarifier. Annual Meeting ASSCT, Louisiana Division. Lafayette, La.
18. Kochergin, V. and Tishechkina, I. (2010). Crystal size measurements - convenient tool for sugar mill tune-up. Annual

Meeting ASSCT, Louisiana Division. Lafayette, La.

19. Kochergin, V. (2010). Studies of Long-Term Storage of High Quality Raw Sugar. Proceedings of the 26th Congress of the International Society of Sugar Cane Technologists. Vera Cruz, Mexico. March 8-11.
20. Miller, K. and Kochergin, V. (2010). Flow Characteristics of C-Masseccuite in Cooling Crystallizers. SPRI Conference. New Orleans, La. March 28-29.
21. Miller, K. and Kochergin, V. (2010). Dissolved Air Flotation (DAF) for recovery of suspended solids from pretreated bagasse streams. Symposium on Biotechnology for Fuels and Chemicals. Clearwater Beach, FL. Apr 19-22.
22. Kochergin, V., Day, D. and Suhr, M. (2010). Algae production and sugar cane mills: is there a synergy? Symposium on Biotechnology for Fuels and Chemicals. Clearwater Beach, FL. Apr 19-22
23. Kochergin, V. and Gaudet, C. (2010). New Approach to Fluid Distribution in the Industrial Clarifiers. Joint Annual Meeting ASSCT. Panama City Beach, FL. Jun 16-18.
24. Kochergin, V. and Suhr, M. (2010). Biodiesel from Algae as an Alternative for Sugar Mill Sustainability. Joint Annual Meeting ASSCT. Panama City Beach, FL. Jun 16-18.
25. Kochergin, V., Gaudet, C. and Robert, M. (2010). A Juice Clarifier with Turbulent Reduction Devices-Results of First Industrial Trials. Annual Congress SASTA. Durban, South Africa. Aug 25-27.
26. Kochergin, V. (2010). Sugar Industry: Pathways to non-ethanol fuels and carbohydrate based chemicals. Annual Congress SASTA. Durban, South Africa. Aug 25-27.
27. Madsen, L., Polanco, S., Verret, C. and Dinu, I. (2010). A Survey of Louisiana Final Molasses Produced During the 2009-2010 Grinding Season. Annual Meeting ASSCT. Louisiana Division. Lafayette, La. Feb 3.
28. Madsen, L. and Day, D. (2010). Iron Mediated Clarification and Decolorization of Sugar Cane Juice: A Pilot Test. Joint Annual Meeting ASSCT. Panama City Beach, FL. Jun 16-18.

#### Patents

1. Day, D. and Kim, M. (2010). Antifungal and anti-cariogenic cellobio-oligosaccharides produced by dextransucrase, filed 12/988,343, Oct 18.
2. Day, D. and Chung, C. (2010). Isomaltooligosaccharides from *Leuconostoc* as Nutraceuticals, Canadian Patent 2,467,695 Jan 6.
3. Day, D. and DeQueiroz, G. (2010). Biocide Compositions and related methods. Australian Patent 2003270523, Feb 25.
4. Day, D. and Chung, C. (2010). Isomaltooligosaccharides to inhibit avian pathogenic intestinal bacteria, US Patent 7,772,212 B2, Aug 10.
5. Day, D., Hoogewind, A., Randhava, S., Oswald, J., Madsen, L. and Kim, M. (2010). Method for Producing Butanol and Isopropanol. File 61/380,747, Sep 8.
6. Kochergin, V. and Gaudet, C. (2010). Turbulence Reduction Device. US Patent filed on Sept 20.

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