

Dr. STEVENS M. BRUMBLEY

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CITIZENSHIP

Dual citizenship USA and Australia

EDUCATION

PhD, Plant Pathology, University of Georgia, 1986-1992
GPA: 3.50, 4.0

BS, Biology, University of Oregon, 1983-1985
GPA: 3.25, 4.0

Associate, General Education, Lane Community College, 1980-1983
GPA: 3.65, 4.0

PROFESSIONAL EXPERIENCE

Associate Professor Plant Metabolic Engineering University of North Texas 2011 – Current:
Plant metabolic engineering for the production of bioproducts

Principle Research Fellow/Project Partner Investigator AIBN 2011 – Current: Developing sugarcane as a biofactory producing bioplastics

Senior Research Fellow/Project Leader AIBN 2006 –2011: Developing sugarcane as a biofactory producing bioplastics

Senior Scientist/Project Leader BSES Limited 2000 – 2006: Developing sugarcane as a biofactory producing bioplastics polyhydroxyalkanoates, *p*-hydroxybenzoic acid, and the alternative sugar and industrial chemical sorbitol.

Senior Research Scientist 1999 – 2004: Genetic diversity and functional genomics of *Leifsonia xyli* subsp. *xyli*. Sugar quality projects, Genomics of sugarcane, Genetic diversity of *Metarhizium anisopliae*

Research Officer 1993 – 1997: Project leader 1997 - 1999 Studying the Molecular Mechanisms of Pathogenicity and Virulence in the Phytopathogenic Bacterium *Leifsonia xyli* subsp. *xyli*. Joint position with the Cooperative Research Center for Tropical Plant Pathology, University of Queensland, St. Lucia, QLD and the Bureau of Sugar Experiment Stations. Indooroopilly, QLD 4068 Australia.

Lecturer 1993 – 1999: Responsible for the section on bacterial pathogens in the Molecular Plant Pathology course at the University of Queensland.

Postdoctoral Research Associate. 1992-1993 Studying the Mechanisms of Fungal Survival in Rhizosphere and Non-rhizosphere Soil. The University of California, Riverside, CA.

CONFERENCE ORGANISER

Organised and Chaired the 13th International Symposium on Biopolymers (ISBP2012) Pullman Reef Hotel, Cairns, Queensland, Australia October 7–10, 2012.

CURRENT RESEARCH PROJECTS

- (1) Developing sugarcane as a biofactory to produce a range of industrial biopolymers and biopolymer precursors including *p*-hydroxybenzoic acid, polyhydroxybutyrate, polyhydroxybutyrate/polyhydroxyalkanoate copolymer, and sorbitol.
- (2) Development of Sorghum as a platform for production of biopolymers, biopolymer precursors, biofuels and bioenergy
- (3) Algal biology, algal lipid production, algal bioengineering, gene discovery from algae
- (4) Paratransgenesis for control of West Nile Virus
- (5) Development of *Setaria viridis* (green foxtail millet) as a model system for plant metabolic engineering.

PAST RESEARCH PROJECTS

- (1) Genomics of *Leifsonia xyli* subsp. *xyli*. Project leader on two sugar quality projects.
- (2) Novel genes for resistance.
- (3) Establishment of a sugarcane BAC library.
- (4) Proteomics *Metarhizium anisopilae* used in the biological control of cane grub species.
- (5) Paratransgenesis for control of Fiji Disease Virus and Canegrubs.

INTERNATIONAL LINKAGES/COLLABORATIONS

Production of PHB in Sugarcane peroxisomes Prof. Yves Poirier, Université de Lausanne, Lausanne, Switzerland

Production of PHB in Sugarcane Dr Kristi Snell, Metabolix Inc., Cambridge, MA, USA

Production of PHA in Sugarcane Prof David Sherman, University of Michigan, Ann Arbor, MI, USA

Production of PHA in Sugarcane Dr Phil Green, Procter and Gamble Corp. Cincinnati, OH, USA

Production of pHBA in Sugarcane Dr Paul Viitanen, DuPont Experiment Station, Wilmington, DE, USA

Genomics of *Leifsonia xyli* subsp. *xyli*. Prof Luis Carmargo, University of São Paulo, Piracicaba, Brazil

EU Framework 7 project --"LimeGreen"-- Production of industrial chemicals in non-food crops.

GRANTS AND OTHER FUNDING

Date of Funding	Funding Agency	Project Number	Project Title	Funding Amount
1996/98	CRCTPP(1)/SRDC		Molecular basis of Lxx pathogenicity	AU \$ 210,000
1998/01	SRDC/BSES		Molecular basis of Lxx pathogenicity	AU \$ 201,000
1999/02	ARC/SRDC	<u>C0990687</u>	Lxx genetic diversity	AU \$ 117,000
2000/01	BSES/Macquarie Uni	Pilot Study Matching funds	Thermo-stabile dextranase	AU \$ 80,000
2000/02	BSES	Internal	Molecular basis Pathogenicity Lxx	AU \$ 92,000
2000/04	CRCTPP(2)/SRDC	Project 2.2b	Leifsonia genomics	AU \$ 259,000
2000/04	CRCTPP(2)	Project 2.4b	Novel resistance sugarcane	AU \$ 352,000
2001/02	BSES	Internal	Sugarcane BAC library	AU \$ 150,000
2001/04	ARC/BSES	<u>C00107189</u>	Thermo-stable dextranase.	AU \$ 232,000
2002/03	BSES/BioCare		Characterization <i>Metahizium</i>	AU\$ 25,000
2001/02	BSES/UQ	Pilot Study Matching funds	Sugarcane biofactory	AU \$ 70,000
2002/04	CRCTPP/BSES	Project 1	Sugarcane smut diversity	AU \$ 50,000
2002/05	ARC/BSES	<u>LP0210658</u>	Sugarcane biofactory: PHB	AU \$ 425,000
2002/04	DuPont/BSES	Pilot study	Sugarcane biofactory:-pHBA	AU \$ 188,000
2003/06	ARCBSES	<u>LP0349278</u>	Metahirizium biocontrol	AU \$ 356,000
2003/06	ARC/BSES	<u>LP0453776</u>	Thermo-stable dextranase.	AU \$ 312,000
2004/05	BSES	Internal	Sugarcane smut resistance	AU\$ 164,000
2004/06	CRCSIIB/SRDC	Project 2a3	Sugarcane biofactory: PHA	AU \$ 553,000
2004/06	CRCSIIB/SRDC	Project 2a4	Sugarcane biofactory: Sorbitol	AU \$ 350,000
2004/07	ARC/BSES	<u>LP0347776</u>	Paratransgenesis	AU \$ 349,000
2006/07	BSES/Macquarie	Matching Funds	Thermos-stable dextranase	AU \$ 80,000
2006/10	CRCSIIB/Metabolix	Project 2a8	Sugarcane biofactory: PHB	AU \$2,100,000
2006/10	UQ/CRCSIIB APAI	PhD scholarship	Sugarcane biofactory: PHB	AU \$ 90,000
2010/2015	UQ/BSES Limited/Metabolix/ ARC	Granted for funding starting January 2010	Sugarcane biofactory: PHB	AU \$2,400,000

MEMBERSHIP IN ASSOCIATIONS

Curent

American Society of Plant Biologists
Australian Society of Sugarcane Technologists

Past

American Phytopathological Society
International Society of Plant Pathology
International Society of Sugarcane Technologists
Australasian Society of Plant Pathology
International Society for Molecular Plant-Microbe Interactions

PUBLICATIONS

Where my **name** is in bold I am the corresponding author.

Where my name is underlined I initiated the project.

McQualter, R.B., Gebbie, L.K., Petrasovits, L.A., Somleva, M.N., de Oliveira Dal'Molin, C.G., Li, X., Blackman, D., Riches, J.D., Snell, K.D., ¹Lars Keld Nielsen, L.K. and Brumbley, S.M. (2013)

Polyhydroxybutyrate production in C4 biomass crops: solving the mesophyll problem, Nature Biotech. (Manuscript in prep)

Tilbrook, K., Poirier, Y., Gebbie, L., Schenk, P.M., McQualter, R.B. and **Brumbley, S.M.** (2013) Reduced peroxisomal citrate synthase activity increases substrate availability for polyhydroxyalkanoate biosynthesis in plant peroxisomes. Plant Biotechnology Journal (Submitted)

Petrasovits, L.A., McQualter, R.B., Gebbie, L.K., Blackman, D.M., Nielsen, L.K. and **Brumbley, S.M.** (2013) Chemical inhibition of Acetyl Coenzyme A Carboxylase as a strategy to increase polyhydroxybutyrate yields in transgenic sugarcane. Plant Biotechnology Journal (Published on line early) doi: 10.1111/pbi.12109.

O'Neill, B.P., Purnell, M.P., Kurniawan, N.D., Cowin, G.J., Galloway, G.J., Nielsen, L.K., **Brumbley, S.M.** (2013) Non-Invasive Monitoring of Sucrose Mobilization from Culm Storage Parenchyma by Magnetic Resonance Spectroscopy Bioscience, Biotechnology and Biochemistry. 77:487-496.

O'Neill, B.P., Purnell, M.P., Nielsen, L.K., **Brumbley, S.M.** (2012) RNAi-mediated abrogation of Trehalase expression does not affect Trehalase activity in sugarcane SpringerPlus 1:74

O'Neill, B.P., Purnell, M.P., Anderson, D.J., Nielsen, L.K., **Brumbley, S.M.** (2012) Sucrose Mobilisation in Sugarcane Stalk Induced by Heterotrophic Axillary Bud Growth Tropical Plant Biology. 5:173-182

Gnanasambandam, A., Anderson, D.J., Mills, E., and **Brumbley, S.M.** (2012) Peroxisomal targeting in diverse plant species, Journal of Plant Physiology 169:830-833.

Petrasovits, L.A., Zhao, L., McQualter, R.B., Snell, K.D., Somleva, M.N., Patterson, N.A., Nielsen, L.K. and **Brumbley, S.M.** (2012) Strategies to enhance polyhydroxybutyrate production in transgenic sugarcane Plant Biotechnol. J. 10: 569–578.

Anderson, D.J., Gnanasambandam, A., Williams, E., O'Shea, M.G., Nielsen, L.K., and **Brumbley, S.M.** (2012) Synthesis of Short-Chain-Length/Medium-Chain Length Polyhydroxyalkanoate (PHA) Copolymers in Peroxisomes of Transgenic Sugarcane Plants Trop. Plant Biol. 4:170-184.

Hughes, G.L., Allsopp, P.G., Webb, R.I., Yamada, R., Iturbe-Ormaetxe, I., **Brumbley, S.M.**, O'Neill, S.L. (2011) Identification of Yeast Associated with the Planthopper, *Perkinsiella saccharicida*: Potential Applications for Fiji Leaf Gall Control. Curr Microbiol 63 (4): 392-401.

Lin, C.X., Li, Z., **Brumbley, S.M.**, Petrasovits, L., McQualter, R., Yu, C., and Lu, G.Q. (2011) Synthesis of Magnetic Hollow Periodic Mesoporous Organosilica with Enhanced Cellulose Tissue Penetration Behaviour Journal of Material Chemistry 21, 7565-7571.

Tilbrook, K., Gebbie, L., Schenk, P.M., Poirier, Y., **Brumbley, S.M.** (2011) Peroxisomal polyhydroxyalkanoate biosynthesis is a promising strategy for bioplastic production in high biomass crops. Plant Biotechnology Journal 9:958-969.

- Hughes, G.L. , Allsopp, P.G., Brumbley, S.M., Woolfit, M.M., McGraw, E.A. and O'Neill, S.L. (2011) Variable Infection Frequency and High Diversity of Multiple Strains of *Wolbachia pipientis* in *Perkinsiella* Planthoppers Appl. Environ. Microbiol. 77 2165-2168.
- Dal'Molin, C.G.de O., Quek, L.,-E., Palfreyman, R.W., Brumbley, S.M. and Nielsen, L.K., (2010) C4GEM - Genome-Scale Metabolic Model to study C4 plant metabolism. Plant Physiol. 154:1871-1878.
- Chong, B.F., Abeydeera, W.P.P., Glassop, D., Bonnett, G.D., O'Shea, M.G., and Brumbley, S.M. (2010) Co-ordinated synthesis of gentiobitol and sorbitol, evidence of sorbitol glycosylation in transgenic sugarcane. Phytochem 71:736–741.
- Dal'Molin, C.G.O., Quek, L.-E., Palfreyman, R.W., Brumbley, S.M. and Nielsen, L.K. (2010) AraGEM – a Genome-Scale Model Reconstruction of the Primary Metabolic Network in *Arabidopsis thaliana* Plant Physiol. 152:579-589.
- Manalil, N.S., Te'O, V.S.J., Braithwaite K. , Brumbley, S.M., Samson, P, Nevalainen, K.M.H. (2010) Comparative analysis of the *Metarhizium anisopliae* secretome in response to exposure to the greyback cane grub and grub cuticles. Fung. Biol. 114:637-645.
- Tilbrook, K., Gnanasambandam, A., Schenk, P.M. and Brumbley, S.M. (2009) Efficient targeting of polyhydroxybutyrate (PHB) biosynthetic enzymes to plant peroxisomes requires more than three amino acids in carboxyl-terminal signal J. Plant Physiol. 167:329-332.
- Manalil, N.S., Te'o, V.S.J., Braithwaite, K., Brumbley, S.M., Samson, P., Nevalainen, K.M.H. (2009) A proteomic view into infection of greyback canegrubs (*Dermolepida albohirtum*) by *Metarhizium anisopliae* Curr. Gen. 55:571–581.
- Hughes, G.L., Allsopp, P.G., Brumbley, S.M., Johnson, K.N., and O'Neill, S.L. (2008) *In vitro* rearing of *Perkinsiella saccharicida* and the use of leaf segments to assay Fiji disease virus transmission Phytopathol. 98: 810-814.
- Gnanasambandam, A., Anderson, D.J., Purnell, M.P., Nielsen, L.K. and **Brumbley, S.M.** (2008) The N-terminal presequence from F₁-atpase β -subunit of *Nicotiana plumbaginifolia* efficiently targets green fluorescent fusion protein to the mitochondria in diverse commercial crops. Functional Plant Biology, 35: 166-170.
- Pittman, G.W., Brumbley, S.M., Allsopp, P.G. and O'Neill, S.O. (2008) Assessment of gut-bacteria for a paratransgenic approach to control *Dermolepida albohirtum* larvae Appl Environ. Microbiol. 74: 4036-4043.
- Pittman, G.W., Brumbley, S.M., Allsopp, P.G. and O'Neill, S.O. (2008) *Endomicrobia* and other bacteria associated with the hindgut of *Dermolepida albohirtum* larvae. Appl Environ. Microbiol. 74: 762–767.
- Hild, E., Brumbley S.M., O'Shea, M., Nevalainen, H. and Bergquist, P.L. (2007) A *Paenibacillus* sp. dextranase mutant pool with improved thermostability and activity. Appl Microbiol Biotechnol 75:1071–1078.

- Brumbley, S.M.**, Purnell, M.P. Lars A. Petrasovits, L.A. Nielsen, L.K., and Twine, P.H. (2007) Developing the sugarcane biofactory for high-value biomaterials *Internat Sugar J* 109:5-14
- Chong, B.F., Bonnett, G.D., Glassop, D., O'Shea, M.G., **Brumbley, S.M.** (2007) Growth and metabolism in sugarcane are altered by the creation of a new hexose-phosphate sink. *Plant Biotechnology Journal* 5:240-253.
- Petrasovits, L.A., Purnell, M.P., Nielsen, L.K., and **Brumbley, S.M.** (2007) Polyhydroxybutyrate production in transgenic sugarcane. *Plant Biotechnology Journal* 5:162-172.
- Purnell, M.P., Petrasovits, L.A., Nielsen, L.K., and **Brumbley, S.M.** (2007) Spatio-temporal characterisation of polyhydroxybutyrate accumulation in sugarcane *Plant Biotechnology Journal*. 5:173-184.
- Hermann, S., **Brumbley, S.** and McIntyre, C.L. (2006) Analysing Diversity in Sugarcane Resistance Gene Analogues. *Australasian Plant Pathology* 35:631-641
- Brumbley, S. M.**, Petrasovits, L. A., Hermann, S. R., Young, A. J. and Croft, B. J. (2006) Recent advances in the molecular biology of *Leifsonia xyli* subsp. *xyli*, causal organism of ratoon stunting disease. *Australasian Plant Pathology* 35:681-689.
- Young, A. J., Petrasovits, L. A., Croft, B. J., Gillings, M. and **Brumbley, S. M.** (2006) Genetic uniformity of international isolates of *Leifsonia xyli* subsp. *xyli*, causal agent of ratoon stunting disease of sugarcane (*Saccharum* interspecific hybrids) *Australasian Plant Pathology* 35:503-511.
- Brumbley, S.M.**, Twine, P.E. and Nielsen, L.A. (2006) Plastics from Plant Cells: The High-Carb Economy. *Australasian Science* 27:19-22. (Front Cover for this issue)
- Finnegan, P.M., **Brumbley, S.M.**, O'Shea, M.G., Nevalainen, K.M.H. & Bergquist, P.L. (2005) Diverse dextranase genes from *Paenibacillus* species. *Archives of Microbiology* 183:140-147.
- McQualter, R.B., Chong, B.F., Meyer, K., Van Dyk, D.E., O'Shea, M.G., Walton, N.J., Viitanen, P.V. and **Brumbley, S.M.** (2005) Initial evaluation of sugarcane as a production platform for *p*-hydroxybenzoic acid. *Plant Biotechnology Journal* 3:29-41.
- Monteiro-Vitorello, C. B., Camargo, L. E. A., Van Sluys, M. A., Kitajima, J. P., Truffi¹, D., do Amaral, A. M., Harakava, R., Franco, J. C., Wood, D., de Oliveira, M.C., Miyaki, C., Takita, M. A., da Silva, A.C. R., Furlan, L. R., Carraro, D.M., Camarotte, G., Almeida Jr., N. F., Carrer, H., Coutinho, L. L., El-Dorry, H. A., Ferro M. I. T., Gagliardi¹, P. R., Giglioti¹, E., Goldman¹, M. H. S., Goldman¹, G. H., Kimura¹, E. T., Ferro¹, E. S., Kuramae, E. E., Lemos, E. G. M., Lemos, M. V. F., Mauro, S. M. Z., Machado, M. A., Marino¹, C. L., Menck¹ C. F., Nunes, L. R., Oliveira, R. C., Pereira, G. G., Siqueira, W., de Souza, A. A., Tsai, S. M., Zanca, A. S., Simpson, A. J. G., **Brumbley, S. M.**, Setúbal, J.C. (2004) Genome sequence of the Gram-positive sugarcane pathogen *Leifsonia xyli* subsp. *xyli* *Mol Plant-Microbe Interact* 17: 827-836. (Times Cited Web of Science 35; 5 Year Journal Impact Factor 4.303; Article Influence Score, 1.397)

Finnegan, P.M., Brumbley, S.M., O'Shea, M.G., Nevalainen, K.M.H. & Bergquist, P.L. (2004) Isolation and characterisation of genes encoding thermoactive and thermostable dextranases from two thermotolerant soil bacteria. *Curr. Microbiol.* 49:327-333. (Times Cited Web of Science 2; 5 Year Journal Impact Factor 1.437; Article Influence Score, 0.429)

Finnegan, P.M., Brumbley, S.M., O'Shea, M.G., Nevalainen, K.M.H. & Bergquist, P.L. (2004) *Paenibacillus* isolates possess diverse dextran-degrading enzymes, *Jour. Appl. Microbiol.* 97:477-485.

Mcintyre, C.L., Hermann, S., Knight, D., Casu, R.E., Tao, Y., Drenth, J., Brumbley, S.M., Godwin, I., Williams, S., and Manners, J.M. (2004) Homologues of the maize rust resistance gene *Rp1-D* are genetically associated with a major rust resistance QTL in sorghum. *Theoretical and Applied Genetics* 109:875-883.

Brumbley, S. M., Petrasovits, L. A., Murphy, R. M., Nagel, R. J., Candy, J. M., and Hermann, S. R. (2004) Establishment of a Functional Genomics Platform for *Leifsonia xyli* subsp. *xyli*. *Mol. Plant-Microbe Interact.* 17:175-183.

Taylor, P.W.J., Petrasovits, L.A., Fegan, M., Van de Velde, R., Smith, G.R., and **Brumbley, S.M.** (2003). Development of PCR-based markers for detection of *Clavibacter xyli* subsp. *xyli* in fibrovascular fluid of infected sugarcane plants. *Australasian Plant Path.* 32:367-375.

Brumbley, S.M., Petrasovits, L.A., Birch, R.G., and Taylor, P.W.J. (2002). Transformation and transposon mutagenesis of *Leifsonia xyli* subsp. *xyli*, causal organism of ratoon stunting disease of sugarcane. *Mol. Plant Microbe Interact.* 15:262-268.

Denny, T.P., Brumbley, S.M., Carney, B.F., Clough, S.J., and Schell, M. A. (1994) Phenotypic conversion of *Pseudomonas solanacearum*: Its molecular basis and potential function. *International Symposium on Bacterial Wilt*, Date: OCT, 1992 Taiwan. *Bacterial Wilt* Pages: 137-143
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Brumbley, S. M., B. F. Carney, and T. P. Denny (1993) Phenotypic conversion in *Pseudomonas solanacearum* due to spontaneous inactivation of *phcA*, a putative *lysR* transcriptional regulator. *J. Bacteriol.* 175:5477-5487.

Brumbley, S.M. and Denny T.P. (1990) Cloning of wild-type *Pseudomonas solanacearum phcA*, a gene that when mutated alters expression of multiple traits that contribute to virulence. *J. Bacteriol.* 172:5677-5685.

Denny, T.P., Makini, F.W. and Brumbley, S.M. (1988) Characterization of *Pseudomonas solanacearum* Tn5 mutants deficient in extracellular polysaccharide. *Molecular Plant-Microbe Interactions.* 1:215-223.

BOOK CHAPTERS

Poirier, Y. and Brumbley, S.M. (2010) Metabolic engineering of plants for the synthesis of polyhydroxyalkanoates. In. *Microbiology Monographs: Plastics from Bacteria: Natural Functions and Applications* Vol. Ed. Professor A. Steinbuchel, Book Ed.: G.-Q. Chen. Springer, Heidelberg, Germany. 14:187-211.

Koops, A.J. Brumbley, S.M. Poirier, Y., de Laat, A., Scott, E., Sanders, J. and van der Meer, I.M. (2009) Production of chemical building blocks by plants In. The Biobased Economy: Biofuels, Materials and Chemicals in the Post-oil Era. Ed. H. Langeveld, M. Meeusen and J. Sanders. Earthscan Publishing London UK. [pg:131 -146](#).

Brumbley, S.M., Snyman, S.J., Gnanasambandam, A., Joyce, P., Hermann, S.R., da Silva, J.A.G., McQualter, R.B., Wang, M.-L., Egan, B., Patterson, A.H., Albert, H.H., and Moore, P.H. (2008) Sugarcane. In: Kole C, Hall TC (eds) A compendium of transgenic crop plants: sugar, tuber and fiber crops. Blackwell, Oxford, pp 1–58

Ming, R., Moore, P. H., Wu, K. K., D'Hont, A., Glaszmann, J. C., Tew, T. L., Mirkov, T. E., da Silva, J., Jifon, J., Rai, M., Schnell, R. J., Brumbley, S. M., Lakshmanan, P., Comstock, J. C. and Paterson, A. H. (2006) Sugarcane Improvement through Breeding and Biotechnology. In (Janick, J. ed.) Plant Breeding Reviews vol 27: 15-118.

Young, A. and Brumbley, S.M. (2004) Ratoon stunting disease of sugarcane: history, management and new research. In (Rao, G.P., Saumtally, A.S. and Rott, P. ed.) Sugarcane Pathology Volume III: Bacterial Diseases. Science Publishers, Inc. Enfield, New Hampshire. 6: 97-124.

Denny, T.P., Brumbley, S.M., Carney, B.F., Clough, S.J. and Schell, M.A. (1994) Phenotype conversion of *Pseudomonas solanacearum*: Its molecular basis and potential function. In (Hayward, A.C. and Gartman, G.L. eds.) Bacterial Wilt. pp. 137-143. Proceedings of and international conference held at Kaohsiung, Taiwan, 28-31 October 1992. CAB International, Wallingford, U.K.

Denny, T.P., Brumbley, S.M., Carney, B.F., Clough, S.J. and Schell, M.A. (1994) Regulation of virulence in *Pseudomonas solanacearum*. In (Hayward, A.C. and Gartman, G.L. eds.) Bacterial Wilt. pp. 252-256. Proceedings of and international conference held at Kaohsiung, Taiwan, 28-31 October 1992. CAB International, Wallingford, U.K.

PATENTS

Brumbley, S.M. et al. Polyhydroxyalkanoate production in plant peroxisomes
PCT/AU2009/001523 23 November 2009 Publication # WO/2010/057271

Australian provisional 2008903567 for Polyhydroxyalkanoate Production In Plants filed July 11 2008 (Full patent filed 21 Nov 2009)

Australian provisional 2008906035 for Polyhydroxyalkanoate Production In Plant Peroxisomes filed November 21 2008 (Full patent filed 21 Nov 2009)

Brumbley, S.M., Chong, B.F., Nielsen, L.K., McQualter, R.B., Petrasovits, L.A., Purnell, M.P. Transgenic plants used as a bioreactor system' International patent (Granted) WO04/006657.

PROCEEDINGS

Croft, B. J., Brumbley, S. M. , Braithwaite, K. S. , Hermann, S. R. , McIntyre, C. L. , Irwin, J. A. G. (2005) Sugarcane disease management for the 21st century - contributions of the CRC for tropical plant protection. Proceedings of the 2005 Conference of the Australian Society of Sugar Cane Technologists held at Bundaberg, Queensland, Australia, 3-6 May 2005, pp. 273-281, 24 ref.

Braithwaite, K., Croft, B., Bakkeren, G. and Brumbley, S.M. (2004) Genetic variation in a worldwide collection of the sugarcane smut fungus *Ustilago scitamineae*. Proceedings of the 26th Conference of the Australian Society of Sugarcane Technologists 4-7 May 2004 Brisbane Queensland Australia.

Brumbley, S.M., Petrasovits, L., Purnell, M., O'Shea, M.G., Geijskes, J., Lakshmanan, P., Smith G.R and Nielsen, L.K. (2002) Application of biotechnology for future sugar industry diversification. Proceeding of the 24th ASSCT, 29 April – 2 May 2001 Cairns, QLD pp 20-26.

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Harrison, S.J., Marcus, J.P., Goulter, K.C., Brumbley, S., Green, J.L., Maclean, D.J., and Manners, J.M. Antimicrobial Proteins: New options for disease control in sugarcane. (1996) Sugar 2000 Symposium Sugarcane: Research towards efficient and sustainable production. Wilson, J.R., Hogarth, D.M., Cambell, J.A., and Garside, A.L. Anonymous Brisbane, Australia: CSIRO Division of Tropical Crops and Pastures. 135-137, 1996.

INVITED TALKS

Brumbley, S.M. (2014) Towards Commercial Production of Polyhydroxyalkanoates in a High Biomass C4 Grass. ISBP2014, Santos, Brazil September 28th to October 1st, 2014.

Brumbley, S.M. (2014) Towards Commercial Production of Polyhydroxyalkanoates in Sugarcane Plant and Animal Genome, Town and Country Hotel, San Diego, California, USA. January 11-15, 2014.

Brumbley, S.M. (2013) Towards Commercial Production of Polyhydroxyalkanoates in a High Biomass C4 Grass Chromatin, USDA Lubbock, TX September 26, 2013

Brumbley, S.M. 2013 Production of Polyhydroxyalkanoates in Plastids and Peroxisomers of High Biomass C4 Grasses FPS 67th and SWST 56th International Conventions The AT&T Executive Education and Conference Center Austin, Texas June 9-11, 2013

Brumbley, S.M. 2012. PHA Production in Sugarcane Institute of Cellular and Molecular Biology, University of Texas, Austin, Texas November 8, 2012

Brumbley, S.M. 2012. Plant Metabolic Engineering at the University of North Texas. Australian Institute for Bioengineering and Nanotechnology, The University of Queensland. Brisbane, Australia. September 14, 2012

Brumbley, S.M. (2012) Sugarcane: Can it be a Biofactory for both Sucrose and Bioplastics Department of Plant Pathology & Crop Physiology, Louisiana State University. Baton Rouge, Louisiana, USA February 15, 2012.

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Invited Speaker

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McQualter, R.M. Gebbie, L., Dal'Molin, C., Petrasovits, L., Snell, K.D., Nielsen, L.K. and Brumbley, S.M. Brumbley (2012). Major adjustments in metabolic flux occur to accommodate PHB production in sugarcane. 13th International Symposium on Biopolymers, ISBP2012, Pullman Reef Hotel, Cairns, Queensland, Australia October 7-10.

Brumbley, S.M. (2012) PHA Accumulation in Sugarcane Plastids and Peroxisomes 2nd Annual Discovery Workshop - Renewable and Sustainable Energy Systems. UNT Discovery Park June 25-26.

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Anderson, D. J., Gnanasambandam, A., Williams, E., O'Shea, M. G. Nielsen, L.K. and Brumbley, S.M. (2008) Production of polyhydroxyalkanoate copolymers in sugarcane, International Symposium on Biological Polyesters Conference 2008 Sky City Convention Centre, Auckland, New Zealand, 23 - 26 November 2008.

Brumbley, S.M. The BioEconomy: Opportunities to grow Australia's Economy (2008) AusBiotech, Melbourne Convention Centre, Melbourne Australia 26-29 October 2008.

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Brumbley, S.M (2008) Polyhydroxyalkanoates: Plastics for the Future Panel 1825: Renewable Chemicals and Biomaterials Fifth Annual World Congress on Industrial Biotechnology and Bioprocessing April 27-30, 2008, Chicago, Illinois.

Brumbley, S.M. (2007) Advances in the production of polyhydroxyalkanoates. Track 4-Biobased products and chemicals and renewable chemical platforms. Pacific Rim Summit on Industrial Biotechnology and Bioenergy Honolulu, Hawaii, 14-16 Nov 2007.

Brumbley, S.M., (1998) RSD Workshop at the 7th International Congress of Plant Pathology. Edinburgh, Scotland. August 9–16, 1998.

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Offered Papers

McQualter, R.B., Petrasovits, L.A., Gebbie, L.K., Hodson, M.P., Plan, M.R., Blackman, D.M., Dal'Molin, C., Brumbley, S.M., Nielsen, L.K. (2013) Production of a Biodegradable Plastic in the C4 Biomass Crop Sugarcane. In, Proceeding of Agriculture and Food Biotechnology Symposium, AusBiotech 2013, Brisbane Convention and Exhibition Centre, Brisbane, Queensland, Australia 29 October – 1 November.

Brumbley, S.M., Petrasovits, L., McQualter, R., Gebbie, L., Tilbrook, K., Paterson, N., Somleva, M., Nielsen, L., and Snell, K. (2011) PHA Accumulation in Sugarcane Plastids and Peroxisomes

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Brumbley, S.M., Petrasovits, L.A., Murphy, R.M., and Hermann, S.R. (2008) Establishment of a functional genomics platform for *Leifsonia xyli* subsp. *xyli*. Interational Conference on Biotic Plant Interactions. The University of Queensland 27 -30 March 2008.

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POSTER PRESENTATIONS AND ABSTRACTS

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