Brett J. Savary, Ph.D.

Research Professor of Protein Chemistry
Arkansas Bioscience Institute and
College of Agriculture and Technology
Arkansas State University - Jonesboro
PO Box 639
State University, AR 72467

Phone 870-680-4792
Fax 870-970-2026
Email bsavary@astate.edu

Education:

Ph.D., Plant Physiology, Pennsylvania State University
M.S., Botany, University of Tennessee
B.S., Biology, Iowa State University

Professional Experience

Research Professor, Arkansas State University, 2013 –
Research Associate Professor, Arkansas State University, 2006 to 2013
Research Plant Physiologist, USDA Agricultural Research Service, 1998 to 2006
Postdoctoral Research Associate, USDA Agricultural Research Service, 1995 to 1998
Graduate Research Assistant, Penn State University, 1990 to 1995
Research Associate, University of Tennessee, 1987 to 1990
Graduate Research Assistant, University of Tennessee, 1984 to 1986

Professional Associations

American Chemical Society (AGFC and CELL divisions)
American Society of Plant Biologists
Gamma Sigma Delta Agriculture Honor Society
Sigma Xi Scientific Research Society

Recent Courses Taught

AGRI 6361, Graduate Seminar – Introduction to research and funding proposals
BIOL 6145, Biotechnology Techniques II (Protein bioproduction)
MBS 6251, Techniques in Molecular Biosciences – MALDI-TOF mass spectrometry
MBS 6251, Techniques in Molecular Biosciences – Protein analysis and purification
MBS 7123, Special topics in Molecular Biosciences – Plant cell wall polysaccharides
MBS 7123, Special topics in Molecular Biosciences – Pectin enzymes

Recent Invited Talks

- Enzyme technologies for generating functional co-products from food processing residues. Institute of Food Processing, Zhejiang Academy of Agricultural Sciences, Hangzhou, Zhejiang Provence, China, Dec. 18, 2012.
- Energy beets as an industrial sugar-feedstock platform in the Mid-South for renewable chemicals and biobased products. Symposium on next generation biofuels and bioproducts: advances and challenges, agrochemical division, 244th ACS National Meeting, Philadelphia, PA, Aug. 23, 2012.
- Investigating the diversity of pectin methylesterases – Chemistry and applications. Department of Food Science, University of Arkansas, Fayetteville. Mar. 12, 2011.
- Diversity of pectin methylesterases and innovative applications for biomass processing. Program #76, Pectin: Effect on structural and functional properties by enzyme or chemical modification, PacifiChem 2010, Honolulu, HI. Dec. 16, 2010.

- Biochemical technologies for generating valuable co-products from food processing residues. USDA-ARS Citrus and Subtropical Products Laboratory, Winter Haven, FL. Apr. 23, 2010.
- Enzyme systems for preparing functional polysaccharides from plant cell walls. USDA-ARS Dale Bumpers National Rice Research Center, Stuttgart, AR. Dec. 8, 2009.
- Applications of protein and cell wall chemistry to Arkansas rice research. AR Rice Research Workshop, Dept. of Applied Science, Univ. Arkansas-Little Rock, Aug. 5, 2009.
- Prospecting for polysaccharide-modifying enzymes useful for generating biobased products from plant cell walls. BIO Pacific Rim Summit on Industrial Biotechnology and Biofuels: Biorefinery Co-Products (panel co-organizer and chair), Vancouver, BC. Sept. 11, 2008.

Recent Research Publications

- Pannkuk, E.L., T.S. Risch, B.J. Savary. Profiling the triaclyglyceride contents in bat integumentary lipids by preparative thin layer chromatography coupled to MALDI-TOF mass spectrometry. J. Vis. Experment. (Accepted for publication March 13, 2013.)
- Kim, Y., M.A.K. Williams, A.L. Galant, G.A. Luzio, B.J. Savary, P. Vasu, R.G. Cameron, 2013. Nanostructural modification of a pectin with a papain-stable pectin methylesterase: effects of pH on nanostructure, enzyme mode of action and functionality. Food Hydrocoll. 33(1): 132–141.
- Yoo, S.-H., B.-H. Lee, S. Lee, I.H. Bae, H. G. Lee, M.L. Fishman, H.K. Chau, B.J. Savary, A.T. Hotchkiss Jr., 2012. Structural characteristics of pumpkin pectin extracted by microwave heating. J. Food Science 77(11): C1169-C1173.
- Vasu, P., R.G. Cameron, B.J. Savary, 2012. Purification and characterization of a papaya (*Carica papaya* L.) pectin methylesterase isolated from a commercial papain preparation. Food Chemistry 133: 366-372.
- Pannkuk, E.L., B.J. Savary, D.F. Gilmore, T.S. Risch, 2012. Triacylglyceride profiles of integumentary lipids isolated from three bat species determined by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. Can. J. Zool. 90:1117-1127.
- Savary, B.J., P. Vasu, 2011. Routine identity confirmation of recombinant proteins by MALDI-TOF mass spectrometry. *IN* Argelia Lorence (Ed.), Recombinant Gene Expression, Reviews and Protocols, Third Edition. New York, NY: Humana Press. (ISBN # 978-1-61779-432-2.)
- Vasu, P., B.J. Savary, S. Bauer, 2011. Cloning and expression of hemicellulases from *Aspergillus nidulans* in *Pichia pastoris*. *IN* Argelia Lorence (Ed.), Recombinant Gene Expression, Reviews and Protocols, 3rd ed. New York, NY: Humana Press. (ISBN # 978-1-61779-432-2.)
- Cameron, R.G., G.A. Luzio, P. Vasu, B.J. Savary, 2011. Enzymatic modification of a model homogalacturonan with the thermally tolerant pectin methylesterase from Citrus: I. Nanostructural characterization, enzyme mode of action and effect of pH. J. Agric. Food Chem. 59: 2717-2724.
- Savary, B.J., P. Vasu, A. Nuñez, R.G. Cameron, 2010. Identification of thermolabile pectin methylesterases isolated from sweet orange fruit by peptide mass fingerprinting. J. Agric. Food Chem. *58*, 12,462-12,468.
- Savary, B.J., R.G. Cameron, G.A. Luzio, G. McCollum, P. Vasu, A. Nuñez, 2010. Thermally-tolerant pectin methylesterase. U.S. Patent No. 7,803,597 B2, Sept. 28.
- Cameron, R.G., Luzio, G.A., Savary, B.J., and K. Goodner, 2009. Digestion patterns of two commercial endopolygalacturonases on polygalacturonate oligomers with a degree of polymerization of 7 – 21. Proc. Fla. State Hort. Soc. 122: 295-302.
- Yoo, S.-H., B.-H. Lee, B.J Savary, A.T. Hotchkiss Jr., 2009. Characteristics of PME-deesterified pectin gels produced in the presence of monovalent ionic salts. Food Hydrocoll. 23:1926-1929.