



Faculty Member Profile

Cameron Faustman

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Background:

Education/Training

University of Connecticut	Dual B.S.	1982	Agricultural Education & Natural Resources Conservation
University of Wisconsin-Madison	M.S.	1986	Animal Science
University of Wisconsin-Madison	Ph.D.	1989	Animal Science

Honors, Awards, and Fellowships:

2006/2007	Editorial Board, <i>Animal Science Journal</i> , Japanese Society of Animal Science
2006	Member, CSREES Review Team for Univ. Nebraska-Lincoln Animal Science Dept
2003	Panel Mgr, USDA/NRI Food Characterization/Process/Product Panel
2002	Panel Mgr, USDA/NRI Food Characterization/Process/Product Panel
2001	Member, USDA/NRI Food Characterization/Process/Product Panel
2000	Recipient AMSA Research Excellence Award
2000	Member, USDA/NRI Food Characterization/Process/Product Panel
1999	USDA National Excellence in Teaching Award
1999	College of Agriculture & Natural Resources Research Excellence Award
1998-2001	Meat Science Section Editor, <i>J. Animal Science</i>
1998	Chairman, Reciprocal Meat Conference (RMC)
1998	NACTA UConn Teaching Award of Merit
1997	Chairman, Meat Industry Research Conference (MIRC)
1997	Flinn Fellowship (Flinn Foundation, Phoenix, Arizona); 6-month sabbatical at the University of Arizona, Department of Pharmacology and Toxicology.
1996	Northeast ADSA/ASAS Young Scientist Award
1996	Gamma Sigma Delta (UConn Chapter) Junior Faculty Award of Merit
1995	University of Connecticut Teaching Fellow Award
1994	Donald M. Kinsman Award for Excellence in Undergraduate Teaching
1994	AMSA (American Meat Science Association) Achievement Award
1991	OECD (Organization for Economic Cooperation and Development)

Fellowship for study at the Department of the Science of Food of Animal Origin, Department of Veterinary Medicine, University of Utrecht, Utrecht, Netherlands.

Courses Taught:

SAAG 50 First Year Experience
ANSC 160 The Science of Food
ANSC 303 Food Chemistry

Research Interests:

- Chemistry and biochemistry of myoglobin
- Lipid and protein interactions in foods
- Application of mass spectrometry for characterizing food proteins
- Antioxidant mediation to improve food quality
- Vitamin E chemistry/biochemistry in food

Extension Publications:

How to Build a Smokehouse
Home Sausage Making

Recent Journal Publications:

Chaijan, M., Benjakul, S., Visessanguan, W. and Faustman, C. 2007. Characterization of myoglobin from sardine (*Sardinella gibbosa*) dark muscle. *Food Chem.* 100: 156-164.

Seyfert, M., Mancini, R.A., Hunt, M.C., Tang, J., and Faustman, C. 2007. Influence of carbon monoxide in package atmospheres containing oxygen on colour, reducing activity, and oxygen consumption of five bovine muscles. *Meat Sci.* 75:432-442.

Suman, S.P., Faustman, C., Stamer, S.L. and Liebler, D.C. 2007. Proteomics of lipid-oxidation induced oxidation of porcine and bovine oxymyoglobins. *Proteomics.* 7:628-640.

Chaijan, M., Benjakul, S., Visessanguan, W., Lee, S. and Faustman, C. 2007. Effect of ionic strength and temperature on interaction between fish myoglobin and myofibrillar proteins. *J. Food Sci.* 72:C89-C95.

Chaijan, M., Benjakul, S., Visessanguan, W. and Faustman, C. 2006. Changes of lipids in sardine (*Sardinella gibbosa*) muscle during iced storage. *Food Chem.* 99: 83-91.

Tang, J., Faustman, C., Mancini, R.A., Seyfert, M. and Hunt, M.C. 2006. The effects of freeze-thaw and sonication on mitochondrial oxygen consumption, electron transport chain-linked metmyoglobin reduction, lipid oxidation, and oxymyoglobin oxidation. *Meat Science.* 74: 510-515.

Seyfert, M., Mancini, R.A., Hunt, M.C., Tang, J., Faustman, C. and Garcia, M. 2006. Color stability, reducing activity, and mitochondria profiles of five bovine muscles. *J. Agric. Food Chem.* 54:8919-8925.

Suman, S.P., Mancini, R.A. and Faustman, C. 2006. Lipid oxidation induced carboxymyoglobin oxidation. *J. Agric. Food Chem.* 54:9248-9253.

Suman, S.P., Faustman, C., Stamer, S.L. and Liebler, D.C. 2006. Redox instability induced by 4-Hydroxy-2-nonenal in porcine and bovine myoglobins, at pH 5.6, 4°C. *J. Agric. Food Chem.* 54: 3402-3408..

Lee, S., Faustman, C., Djordjevic, D., Faraji, H. and Decker, E.A. 2006. Effect of antioxidants on stabilization of meat products with n-3 fatty acids. *Meat Sci.* 72: 18-24.

Tang, J. Faustman, C., Hoagland, T.A., Mancini, R.A., Seyfert, M. and Hunt, M.C. 2005. Postmortem oxygen consumption by mitochondria and its effects on myoglobin form and stability. *J. Agric. Food Chem.* 53: 1223-1230.

Sepe, H.A., Faustman, C., Lee, S., Tang, J., Suman, S.P. and Venkitanarayanan, K.S. 2005. Effects of reducing agents on premature browning in ground beef. *Food Chem.* 93: 571-576.

Tang, J., Faustman, C., Mancini, R.A., Seyfert, M. and Hunt, M.C. 2005. Mitochondrial reduction of metmyoglobin: dependence on the electron transport chain. *J. Agric. Food Chem.* 53: 5449-5455

Chaijan, M., Benjakul, S., Visessanguan, W. and Faustman, C. 2005. Changes of pigments and color in sardine (*Sardinella gibbosa*) and mackerel (*Rastrelliger kanaurta*) muscle during iced storage. *Food Chem.* 93: 607-617.

Lee, S., Decker, E.A. Faustman, C. and Mancini, R. 2005. The effects of antioxidant combinations on color and lipid oxidation in n-3 oil fortified ground beef patties. *Meat Science.* 70: 683-689.

Bekhit, A.E.D., Simmons, N., Faustman, C. 2005. Metmyoglobin Reducing Activity In Fresh Meat: A Review. *Meat Sci.* 71: 407-439.

Tang, J., Faustman, C., Hoagland, T.A., Mancini, R.A., Seyfert, M. and Hunt, M.C. 2005. Postmortem mitochondrial lipid oxidation and oxymyoglobin oxidation. *J. Agric. Food Chem.* 53: 6073-6079.

Chaijan, M., Benjakul, S., Visessanguan, W. and Faustman, C. 2005. Physicochemical properties, gel-forming ability and myoglobin content of sardine (*Sardinella gibbosa*) and mackerel (*Rastrelliger kanaurta*) surimi produced by conventional method and alkaline solubilisation process. *Eur. Food Res. Technol.* 222: 58-63.

Tang, J. and Faustman, C. 2005. Postmortem potential of mitochondria and its effects on myoglobin redox stability. *J. Agric. Food Chem.* 53: 1223-1230.

Suman, S.P., Faustman, C., Lee, S., Tang, J., Sepe, H.A., Vasudevan, P., Annamalai, T., Manojkumar, M., Marek, P. and Venkitanarayanan, K.S. 2005. Effect of erythorbate, storage and high-oxygen packaging on premature browning in ground beef. *Meat Sci.* 69:363-369.

Chaijan, M., Benjakul, S., Visessanguan, W. and Faustman, C. 2004. Characteristics and gel properties of muscles from sardine (*Sardinella gibbosa*) and mackerel (*Rastrelliger kanaurta*) caught in Thailand. *Food Res. Intl.* 37:1021-1030.

Tang, J., Faustman, C. and Hoagland, T.A. 2004. Krzywicki Revisited: Equations for

- spectrophotometric determination of myoglobin redox forms in aqueous meat extracts. *J. Food Sci.* 69: C717-720.
- Suman, S.P., Faustman, C., Lee, S., Tang, J., Sepe, H.A., Vasudevan, P., Annamalai, T., Manojkumar, M., Marek, P. and Venkitanarayanan, K.S. 2004. Effect of muscle source on premature browning in ground beef. *Meat Sci.* In press.
- Lee, S., Joo, S.T., Alderton, A.L., Hill, D.W. and Faustman, C. 2003. Oxymyoglobin and lipid oxidation in yellowfin tuna (*Thunnus albacares*) loins. *J. Food Sci.* 68: 1664-1668.
- Alderton, A.L., Faustman, C., Liebler, D.C and Hill, D. 2003. Induction of myoglobin redox instability by adduction with 4-hydroxynonenal. *Biochemistry.* 42:4398-4405.
- Tang, J., Faustman, C., Lee, S. and Hoagland, T.A. 2003. The effect of glutathione on oxymyoglobin oxidation. *J. Agric. Food Chem.* 51:1691-1695.
- Phillips, A.L., Faustman, C., Liebler, D.C. and Hill, D.W. 2002. The use of proteomics tools to understand the effects of lipid-derived aldehydes on myoglobin redox stability. *Proceed. 55th Recip. Meat Conf.* Pp. 109-117.
- Lee, S., Phillips, A.L., Liebler, D.C. and Faustman, C. 2002. Porcine oxymyoglobin and lipid oxidation *in vitro*. *Meat Sci.* 63:241-247
- Sun, Q., Senecal, A. and Faustman, C. 2002. Effect of water activity on lipid oxidation and protein solubility in freeze-dried beef. *J. Food Sci.* 67:2512-2516.
- Lynch, M.P., Faustman, C., Silbart, L.K., Rood, D. and Furr, H.C. 2001. Detection of lipid-derived aldehydes and aldehyde:protein adducts *in vitro* and in beef. *J. Food Sci.* 66: 1093-1099.
- Phillips, A.L., Faustman, C., Lynch, M.P., Govoni, K.E., Hoagland, T.A. and Zinn, S.A. 2001. Effect of dietary alpha-tocopherol supplementation on color and lipid stability in pork. *Meat Sci.* 58:389-393.
- Phillips, A.L., Mancini, R., Sun, Q., Lynch, M.P. and Faustman, C. 2001. Effect of erythorbic acid on cooked color in ground beef. *Meat Sci.* 57: 31-34.
- Sun, Q., Faustman, C., Senecal, A., Wilkinson, A.L. and Furr, H. 2001. Aldehyde reactivity with 2-thiobarbituric acid, and TBARS in freeze-dried beef during accelerated storage. *Meat Sci.* 57: 55-60.
- Wilkinson, A.L., Sun, Q., Senecal, A. and Faustman, C. 2001. Effect of antioxidants on TBARS and fluorescence measurements in freeze-dried meats. *J. Food Sci.* 66:20-24.
- Faustman, C. and Phillips, A. 2001. Ch. F3 Unit F3.3. Measurement of Discoloration in Fresh Meat. In, *Current Protocols in Food Analytical Chemistry.* Wiley and Sons, Inc. New York, NY.
- Faustman, C. and Wang, K.W. 2000. Potential mechanisms by which vitamin E improves oxidative stability of myoglobin. Ch. 6. In, *Oxidation in Muscle Foods.* E. Decker, C. Faustman, C. Lopez-Bote (eds). Wiley and Sons, Inc. New York, NY.
- Decker, E., Faustman, C. and Lopez-Bote, C. (eds). 2000. *ANTIOXIDANTS IN MUSCLE FOODS. Nutritional Strategies to Improve Quality.* Wiley and Sons, Inc. New York, NY.

- Lynch, M.P. and Faustman, C. 2000. Effect of aldehyde lipid oxidation products on myoglobin. *J. Ag. Food Chem.* 48:600-604.
- Clark, T.H., Faustman, C., Chan, W.K.M., Furr, H. and Riesen, J.W. 2000. Canthaxanthin as an antioxidant in a liposome model system and minced patties from rainbow trout (*Oncorhynchus mykiss*). *J. Food Sci.* 64: 982-986.
- Freeman, K., Faustman, C., Bloom, L.Z. and Hoagland, T. 2000. "Improving Writing in the Agricultural Sciences: A Field Guide for Assisting Instructors".
- Hirsch, D.W. and Faustman, C. 1999. HACCP Manual. HACCP: Step by Step. A Workbook To Help You Through the HACCP Planning Process. 93 pp.
- Faustman, C. and Lynch, M. 1999. New developments in vitamin E nutrition and meat quality. Proceed. 19th Western Nutrition Conf. Saskatoon, Saskatchewan, Canada. pp. 157-164.
- Faustman, C., Liebler, D.C., McClure, T.D. and Sun, Q. 1999. alpha, beta-Unsaturated aldehydes accelerate oxymyoglobin oxidation. *J. Ag. Food Chem.* 47:3140-3144.
- Faustman, C., Liebler, D.C. and Burr, J.A. 1999. alpha-Tocopherol oxidation in beef and in bovine muscle microsomes. *J. Ag. Food Chem.* 47: 1396-1399.
- Lynch, M.P., Kerry, J.P., Buckley, D.J., Faustman, C. and Morrissey, P.A. 1999. Effect of dietary vitamin E supplementation on the quality of fresh, frozen, and vacuum-packaged beef. *Meat Sci.* 52:55-59.
- Lynch, M.P., Faustman, C., Chan, W.K.M. and Buckley, D.J. 1998. Potential mechanism by which alpha-tocopherol maintains oxymyoglobin pigment through cytochrome b₅ mediated reduction. *Meat Sci.* 50:333-342
- Chan, W.K.M., Joo, S.T., Faustman, C., Sun, Q. and Vieth, R. 1998. Effect of *Pseudomonas fluorescens* on beef discoloration and oxymyoglobin oxidation *in vitro*. *J. Food Protect.* 61:1341-1346.
- Chan, W.K.M., Faustman, C., Velasquez-Pereira, J., McDowell, L.R. and Batra, T.R. 1998. Effect of alpha-tocopherol on metmyoglobin formation and reduction in beef from cattle fed soybean or cottonseed meal diets. *J. Anim. Sci.* 76:1019-1026.
- Faustman, C., Chan, W.K.M., Schaefer, D.M. and Havens, A. 1998. Beef Quality Update: The Role for Vitamin E. *J. Anim. Sci.* 76:1019-1026.

Hobbies or Non-Academic Interests:

Fly fishing, birding, photography, clay target shooting.