

VII. LITERATURE CITED

- Ananth, V., Dickson, J., Olson, D., and Murano, E. 1998. Shelf life extension, safety, and quality of fresh pork loin treated with high hydrostatic pressure. *J. Food Prot.* 61:1649-1656.
- Anon. 1998. Hydrodyne process promises tenderized meat faster - with greater food safety. *Meat Business* 59:18-19.
- Anon. 2002. Standards- 29 CFR. Explosives and blasting agents 1910.109 Subpart H. Subpart title Hazardous materials (a)(17). OSHA US Dept. of Labor Regulations. http://www.osha-slc.gov/OshStd_data/1910_0109.html.
- Barbosa-Canovas, G., Zhang, Q., Pierson, M., and Schaffner, D. 2000. High voltage arc discharge. In *Kinetics of microbial inactivation for alternative food processing technologies*. *J. Food Sci. Suppl.* 65: 80-81.
- Batsanov, S. 1994. *Effects of explosions on materials, modification, and synthesis under high pressure shock compression*. New York: Springer-Verlong.
- Berry, B., Solomon, M., Zuckerman, M., Eastridge, J., and Long, J. 1997. Application of hydrodyne for military meat products. *Act. Rep. Res. Dev. Assoc.* 49/50:279-284.
- Claus, J. 2001. Personal communication. Experiments performed at Canovanas, Puerto Rico Hydrodyne facility utilizing Capacitor Discharge Processor, March 5 – 14, 2001.
- Claus, J., Schilling, J., Marriott, N., Duncan, S., Solomon, M., and Wang, H. 2001. Hydrodynamic shockwave tenderization effects using a cylinder processor on early deboned broiler breasts. *Meat Sci.* 58:287-292.
- Cook, M. 1974. *The Science of Industrial Explosives*. Graphic Service & Supply Inc. USA.
- Donovan, D. 1998. What a blast! *Forbes*, July 27: 80-81.
- Eastridge, J. 1998. Pressure front calculations per weight of explosive developed by John Long. U. S. Department of Agriculture, Agricultural Research Service, Beltsville, MD, 20705.
- Edebo, L. and Selin, I. 1968. The effect of pressure shock wave and some electrical quantities on the microbicidal effect of transient electric arcs in aqueous systems. *J. Gen. Microbiol.* 50:253-259.
- Farkas, D. and Hoover, D. 2000. High Pressure Processing. In *Kinetics of microbial inactivation for alternative food processing technologies*. *J. Food Sci. Suppl.* 65:47-64.
- Gamble, H., Solomon, M., and Long, J. 1998. Effects of hydrodynamic pressure on the viability of *Trichinella spiralis* in pork. *J. Food Prot.* 61:637-639.

- Gill, C. and Newton, K. 1978. The ecology of bacterial spoilage of fresh meat at chill temperatures. *Meat Sci.* 2:207-217.
- Gilliland, S. and Speck, M. 1967a. Inactivation of microorganisms by electrohydraulic shock. *Appl. Microbiol.* 15:1031-1037.
- Gilliland, S. and Speck, M. 1967b. Mechanism of the bacterial action produced by electrohydraulic shock. *Appl. Microbiol.* 15:1038-1044.
- Hanlon, J. 1992. Handbook of package engineering. Pp. 3.1-3.59.
- Heinz, V. and Knorr, D. 1996. High pressure inactivation kinetics of *Bacillus subtilis* cells. *Food Biotech.* 10:149-161.
- Hoover, D., Metrick, C., Papineau, A., Farkas, D., and Knorr, D. 1989. Biological effects of high hydrostatic pressure on food microorganisms. *Food Technol.* 43:99-106.
- Jay, J. 1996. Modern food microbiology (pp. 38-96), Van Nostrand Reinhold, NY.
- Johnston, R., Harris, M., and Moran, A.. 1978. The effects of mechanical tenderization on beef rounds inoculated with Salmonellae. *J. Food Safety.* 1:217-228.
- Judge, M., Aberle, E., Forrest, J., Hedrick, H., and Merkel, R. 1989. Principles of Meat Science, 2nd ed. Kendall/Hunt Publishing Co. Dubuque, IA.
- Kalchayanand, N., Sikes, T., Dunn, P., and Ray, B. 1997. Viability loss kinetics of food spoilage and pathogenic bacteria at moderate hydrostatic pressure. *Act. Rep. R&D Assoc. Proceed. Fall 1996 Meet.* 49:331-341.
- Karfakis, M. 2002. The nature of chemical explosions. Personal Communication March 20, 2002. Professor of Mining Engineering, Virginia Tech.
- Kolsky, H. 1963. Stress waves in solids. New York: Dover Publications, Inc.
- Lawrie, R. 1966. Meat Science. Pergamon Press: New York.
- Long, J. 1993. Tenderizing meat. United States Patent #5,273,766.
- Long, J. 1994. Apparatus for tenderizing meat. United States Patent #5,328,403.
- Long, J. 2000a. The nature of the pressure waves generated during High Voltage Arc Discharge treatment. Personal communication.
- Long, J. 2000b. Treatment of meat by capacitor discharge. United States Patent #6,120,818.
- Long, J. 2001. Method for killing bacteria in meat. United States Patent #6,200,615.

Long, J. 2002. Pressure curve calculations for binary and molecular explosives, April 9, 2002. Personal communication.

Ludwig, H. , Bieler, C., Hallbauer, K., and Scigalla, W. 1992. Inactivation of microorganisms by high hydrostatic pressure. *High Press. Biotech.* 224:25-32.

MacFarlane, J. 1985. High pressure technology and meat quality. In R. Laurie ed. *Developments in Meat Science*. London: Elsevier Applied Science.

MacFarlane, J. and McKenzie, I. 1986. Pressure-accelerated changes in the in the proteins of muscle and their influence on Warner-Bratzler shear values. *J. Food Sci.* 51:516-517.

Martin, E.A. 1960. Experimental investigation of a high-energy density, high pressure arc plasma. *J. Appl. Phys.* 31:255-267.

Meek, K. 1997. Hydrodynamic shock wave: decreasing broiler breast aging time. M.S. Thesis. Department of Food Science and Technology, Virginia Polytechnic Institute and State University. URN: ETD:12698-135522.

Meek, K., Claus, J., Duncan, S., Marriott, N., Solomon, M., Kathman, S., and Marini, M. 2000. Quality and sensory characteristics of selected post-rigor, early deboned broiler breast meat tenderized using hydrodynamic shock waves. *Poul. Sci.* 79:126-136

Mirsky, S. 1998. Tender is the bite. *Sci. Amer.* 34.

Moeller, S., Wulf, D., Meeker, D., Ndife, M., Sundararajan, N., and Solomon, M. 1999. Impact of the Hydrodyne process on tenderness, microbial load, and sensory characteristics of pork longissimus muscle. *J. Anim. Sci.* 77:2119-2123.

O'Rourke, B., Calkins, C., Rosario, R. Eastridge, J., Solomon, M, and Long, J. 1998. Improvement of pork loin tenderness using the Hydrodyne process. 1998 Nebraska Swine Report. 36-38. Lincoln, Nebraska.

Palou, E. Lopez-Malo, A., Barbosa-Canovas, G., Welti-chanes, J., Davidson, P., and Swanson, B. 1998. High hydrostatic pressure come-up time and yeast viability. *J. Food Prot.* 61:1657-1660.

Patterson, J. and Gibbs, P. 1978. Sources and properties of some organisms isolated in two abattoirs. *Meat Sci.* 2:263-273.

Pevish, M. 1998. High pressure inactivation of *Saccharomyces cereviciae*, endogenous microflora, and pectin methyl esterase in orange juice. *J. Food Safety.* 18:57-65.

Phebus, R. , Marsden, H., Spring, S., and Kastner, C. 1999. Blade tenderization and food safety. *Recip. Meat Conf. Proc.* 52:71-72.

- Raloff, J. 1998. Ka-Boom! A shockingly unconventional meat tenderizer. *Sci. News.* 153:386.
- Savell, J. and Shackelford, S. 1992. Significance of tenderness to the meat industry. *Recip. Meat Conf. Proc.* 45:43-46.
- Schilling, J. 2000. High Pressure Hydrodynamic Shock Wave Effects on Tenderness of Early Deboned Broiler Breasts. M.S. Thesis. Department of Food Science and Technology, Virginia Polytechnic Institute and State University.
- Schilling, W., Claus, J., Marriott, N., Solomon, M., Eigel, W., and Wang, H. 2002. No effect of hydrodynamic shock wave on protein functionality of beef muscle. *J. Food Sci.* 67:335-340.
- Smelt, J., Rijke, A., and Hayhurst, A. 1995. Possible mechanism of high pressure inactivation of microorganisms. *High Press. Res.* 12:199-203.
- Solomon, M. 1998a. Tenderizing beef using the Hydrodyne process. 1998 Int. Livestock Cong. pp 1-9.
- Solomon, M. 1998b. The Hydrodyne process for tenderizing meat. *Recip. Meat Conf. Proc.* 51:171-176.
- Solomon, M., Long, J., and Eastridge, J. 1996. New technology for tenderizing pork: the Hydrodyne process. *J. Anim. Sci.* 74 (Suppl. 1):101-120.
- Solomon, M., Long, J., and Eastridge, J. 1997a. The Hydrodyne: a new process to improve beef tenderness. *J. Anim. Sci.* 75:1534-1537.
- Solomon, M., Eastridge, J., Zuckerman, H., Long, J., and Johnson, W. 1997b. Hydrodyne treated beef: tenderness and muscle ultra structure. *Proc. 43rd Intl. Cong. Meat Sci. Technol.*:121-124.
- Solomon, M., Long, J., Eastridge, J., Zuckerman, H., and Berry, B. 1997c. New technology to instantaneously tenderize meat. *50th Ann. Recip. Meat Conf.*: 165.
- Spanier, A. and Romanowski, R. 2000. A potential index for assessing the tenderness of hydrodynamic pressure-treated beef strip loins. *Meat Sci.* 56:193-202.
- Thomsen, P. 2000. Transducer tests of Capacitor Discharge Processor at the Canovanas Puerto Rico facility concurrent with microbiological testing, December 19-20, 2000. Personal communication.
- Van Laack, R. 1994. Spoilage and preservation of muscle foods. In D. M. Kinsman, A. W. Kotula, and B.C. Brendenstein (ed, pp378-405), *Muscle Foods: Meat poultry, and seafood technology.* New York: Chapman & Hall.
- Williams-Campbell, A., and Solomon, M. 2002. Reduction of spoilage microorganisms in fresh

beef using hydrodynamic pressure processing. *J. Food Prot.* 65:571-574.

Williams-Campbell, A., and Solomon, M. 2001. New non-thermal postharvest technology to improve food safety: hydrodynamic pressure processing. In *Photonic detection and intervention technologies for safe food*. *Proc. Int. Soc. Opt. Eng.* 4206:167-173.

Yaguchi, H. 1996. Instant tenderization. *National Lamb & Wool Grower*. May, 16-17.

Zuckerman, H. and Solomon, M. 1998. Ultrastructural changes in bovine longissimus muscle caused by the Hydrodyne process. *J. Muscle Foods*. 9:419-426.