

Shock Wave Related Research Publications

Electrically generated shock waves (capacitor discharge system)

- Claus, J.R. 2002. Shock treatment- shock waves are an effective tool for tenderizing meat. *Meat&Poultry* 48(12):61-63.
- Claus, J., Sagili, J., and Sammel, L. 2002. Tenderization of beef and pork with shockwaves produced with a capacitor discharge system. 55th Recip. Meat Conf. Michigan State Univ., Lansing, MI. July 28-31. Poster abstract 45.
- Claus, J.R., Schilling, J.K., Marriott, N.G., Duncan, S.E., Solomon, M.B., and Wang, H. 2001. Tenderization of chicken and turkey breasts with electrically produced hydrodynamic shockwaves. *Meat Sci.* 58:283-286.
- Long, J.B. 2000. Treatment of meat by capacitor discharge. U.S. Patent 6,120,818.
- Long, J.B. 2001. Continuous shock wave food processing with shock wave reflection. U.S. Patent 6,168,814 B1.
- Long, J.B. and Ayers, R.A. 2001. Shock-wave food processing with acoustic converging wave guide. 6,224,476B1.
- Lorca, T.A., Claus, J.R., Eifert, J.D., Marcy, J.E., and Sumner, S.S. 2002. Penetration of surface-inoculated bacteria as a result of electrically-generated hydrodynamic shock wave treatment of boneless skinless chicken breasts. *J. Poultry Sci.* Accepted.
- Schilling, J. K. 2000. High pressure hydrodynamic shock wave effects on tenderness of early deboned broiler breasts. M.S. Thesis. VPI&SU.

Explosive generated shock waves

- Berry, B.W., Solomon, M.B., Bigner-George, M.E., and Eastridge, J.S. 1999. Application of hydrodyne technology to ground beef. *J. Anim. Sci.* 77 (Suppl. 1):91. Abstract 11.
- Berry, B.W., Solomon, M.B., Johnson, W.L., Long, J.B., Eastridge, J.S., and Zuckerman, H. 1997. Application of the Hydrodyne process to strip loins from U.S. Select grade beef. *J. Anim Sci.* 75 (Suppl. 1) 128.
- 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.
- Callahan, J.A., Solomon, M.B., Paroczay, E.W., Eastridge, J.S., Pursel, V.G., and Mitchell, A.D. 2002. Enhancement of pork quality using the hydrodynamic pressure process. IFT June 15-19, Anaheim, CA. Abstract 46G-14.
- Claus, J.R., Schilling, J.K., Marriott, N.G., Duncan, S.E., Solomon, M.B., and Wang, H. 2001. Hydrodynamic shockwave tenderization effects using a cylinder processor on early deboned broiler breasts. *Meat Sci.* 58:287-292.
- Eastridge, J.S., Solomon, M.B., Paroczay, E.W., and Callahan, J.A. 2002. Changes in charge shape may improve efficacy of hydrodynamic pressure process. 55th Recip. Meat Conf. Michigan State Univ., Lansing, MI. July 28-31. Poster abstract 40.

- Eastridge, J.S., Solomon, M.B., Pierre, J.L., Paroczay, E.W., and Callahan, J.A. 2002. Collagen solubility in hydrodynamic pressure process-treated beef longissimus muscle. IFT June 15-19 Anaheim CA. Abstract 88-10.
- Eastridge, J.S., Solomon, M.B., West., R.L., Hammond, A.C., and Chase, C.C. 1998. Developing hydrodyne technology parameters for tenderizing meat from Brahman cattle. *J. Anim. Sci.* 76 (Suppl. 1):154. Abstract 596.
- 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.
- Godfrey, J. 1970. Tenderizing Meat. U.S. Patent 3,492,688.
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- Long, J.B. 1994. Apparatus for tenderizing meat. U.S. Patent 5,328,403.
- Long, J.B., Chao, P., and Waits, D. 1998. Water deflector for water-gas plumes from underwater explosions. U.S. Patent 5,841,056.
- Long, J.B. and Waits, D. 2000. Support structure for explosion-containing tank. U.S. Patent 6,146,262.
- Long, J.B. 2000. Method for killing bacteria in meat. U.S. Patent 6,074,680.
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- Marriott, N.G., Wang, H. and Solomon, M. B. 2000. Cow beef tenderness enhancement through supersonic shock wave treatment. Congress Proceedings. 46th Internat. Congress of Meat Sci. and Technol. Argentina, 27 Aug. – 1 Sept.
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- Schilling, J. K. 2000 (Spring). High pressure hydrodynamic shock wave effects on tenderness of early deboned broiler breasts. M.S. Thesis. VPI&SU.
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