

May / June, 2004

Graduate Research – Adam Watkins

Title: A Combined Cooking and Salmonella Inactivation Model for Ground Meat and Poultry Products



The focus of my research project is on development of a "universal" model for convection cooking of ground meat and poultry patties. The purpose of the completed model is to provide a tool for optimization of oven conditions for product yield, quality, and microbial safety. The model is based upon theoretical heat and mass transfer principals with emphasis on avoiding empirical relationships in order to maximize the utility of the model. Other unique aspects of the model include a dynamic model for fat transport and a unique method for modeling the surface conditions associated with moist air impingement-type convection cooking.



