

# Bioethics

**M63 US consumer perceptions of and willingness to pay for “local” pork chops and chicken breasts.** Elizabeth Byrd\*, Nicole Widmar, and Michael Wilcox, *Purdue University, W. Lafayette, IN.*

As the debate continues about what animal agriculture “should” look like, it is important to understand what consumers perceive attributes and buzzwords such as “local” to mean. In our study, when asked how they defined “local” food, 37% of US consumers described local food as having been produced within 10 miles of their home, 21% described local to mean within 20 miles of their home, and 17% described local food as having been produced within the state. Several demographics were found to be correlated with perceptions of “local”; being male is correlated with defining local food as having been produced within 20 miles of home, whereas living in the Northeast is positively correlated with defining local food as produced within 10 miles of home. Households earning less than \$40,000 more often defined local food as having been produced within 10 miles of home. Having visited a beef or dairy farm in the last 5 years is negatively correlated with defining local food as having been produced within 10 miles of home. Expressing concern for the welfare of beef or dairy cattle is positively correlated with defining local food as having been produced within 100 miles of home. Are consumers willing to pay (WTP) for verified locally grown pork chops and chicken breasts? Preliminary results of a simulated purchasing scenario indicate that consumers are WTP up to \$2.02/lb. for USDA-verified locally produced chicken breasts, but are not WTP for verified locally produced pork chops. Is it possible consumers feel differently about pigs and chickens? But, when asked, 37% and 38% of consumers express concern for the welfare of farmed pigs and chickens, respectively. Do consumers exhibit more trust in different verification agencies? While consumers were WTP \$2.02/lb. for the USDA to verify local production in chicken breasts, those same consumers were only WTP \$0.37 for the poultry industry to verify that chicken breasts were produced locally. Knowledge about consumer perceptions of local production can help the animal industries make decisions about marketing livestock products.

**Key Words:** consumer demand, local food, preferences

**M64 US consumer awareness of animal diseases and animal health requirements: Are we meeting the demands of the US public?** Elizabeth Byrd\*, Nicole Widmar, and John Lee, *Purdue University, W. Lafayette, IN.*

Have various segments of a representative sample of US consumers heard of prominent animal diseases such as bovine spongiform encephalopathy (BSE), porcine epidemic virus diarrhea (PEDV), tuberculosis (TB), chronic wasting disease (CWD), leptospirosis, rabies, and food and mouth disease (FMD)? We have found that 30% of respondents reported having heard of BSE, 17% heard of PEDV, and 27% heard of CWD. Various demographic factors have been found, through cross-tabulations, to be associated with the awareness of animal diseases. Being a college graduate, someone who regularly hunts, a pet owner, or a member of HSUS or PETA were all positively correlated with having heard of BSE, PED-v, and Leptospirosis. Reporting concern for the welfare of beef cattle, dairy cattle, or pigs was positively correlated with being aware of all diseases analyzed. Do people who have recently visited farms raising cattle, deer, or pigs show an increased awareness for their associated diseases? Having visited a beef cattle farm in the

last 5 years was positively correlated with animal disease awareness. Visiting a dairy or pig farm in the past 5 years was positively associated with awareness of BSE, PED-v, CWD, and Leptospirosis. Consumers who raise their own food, either through gardening, raising chickens for eggs or meat, or raising animals for meat, are more likely to be aware of BSE and PEDV. Related to disease awareness is inspection; respondents were asked about veterinary inspection for transport. Sixty-eight percent of respondents agreed that livestock should be required to undergo a veterinary inspection before being transported within or outside the state. Likewise, 75% of US consumers who were aware of BSE agree that beef carcasses should be tested for BSE before being used for human food consumption. Understanding the demographics the predispose consumers to be more aware and sensitive to animal disease/health issues is important for animal industry communication to consumers to ensure consumer confidence in the food they choose to purchase.

**Key Words:** consumer demand, preference

**M65 Consumers know food, but they don’t know ag (how does that work?).** Ann Cummins\*, Nicole Widmar, Candace Croney, and Joan Fulton, *Purdue University, W. Lafayette, IN.*

This research examined a gap in some consumers’ minds between being educated food consumers and being educated about agriculture. This research uses data from a survey that is representative of national household consumers in terms of age, sex, income, and region of residence, with a sample size of 1004. This research identified that to some consumers, being educated about food consumption did not necessarily mean being educated about agriculture. Results include that 37% of people thought they were educated about agriculture but 76% thought they were educated about food. Food consumption and agriculture are connected to one another, but how are we as food providers communicating if in many consumer minds being educated about food and educated about agriculture is not the same. This research examines individuals self-reported level of education about food consumption and education level about agriculture. We examine the differences in these self reported values and demographics, knowledge and perception about as livestock production, and personal consumption behaviors. This research examines the demographic, educational, and perceptions of livestock operation differences that are associated with the different groups, including, those who self-identified as more educated about agriculture than food, those who self-identified as very educated about both food and agriculture, and those who self identified as being more educated about agriculture than food. The methods used for this analysis were both Spearman and Pearson correlations, cross tabs and z-scores (all completed in SPSS). The majority of respondents, 51%, self-reported being more educated about food consumption than agriculture, 2.7% of respondents indicated that they were more educated about agriculture than about food consumption, and 35% of respondents indicated that they consider themselves to be highly educated about both food consumption and about agriculture. Of those who reported to be more educated about food consumption than agriculture, we see that they tend to be female, older in age, not a pet owner, and not visiting tourist attractions.

**Key Words:** consumers, education, perceptions of agriculture

**M66 Ergonomic assessment of the milking routine in large dairy operations of the US Southwest.** Jose A. Garcia Buitrago\*<sup>1</sup>, Gerrit R. Hagevoort<sup>1</sup>, David Gimeno<sup>2</sup>, and David I. Douphrate<sup>2</sup>, <sup>1</sup>*New Mexico State University, Clovis, NM*, <sup>2</sup>*University of Texas, San Antonio, TX*.

The US dairy industry has experienced a rapid transformation from small dairy farms to large operations. In southwest regions the majority of commercial dairy herds are large operations. Current trends are larger herds where a great number of cows are attended for few employees. Reasons for these trends are beyond the scope of this abstract. This transformation has led to significant changes in work tasks and in ergonomic challenges due to the repetitive work nature of the milking process. Despite the improvement in modern equipment and design of milking parlors, it seems that the musculoskeletal workload of dairy workers remains high. Field-based direct measures of physical exposures have been limited in these challenging work environments. To assess quantitatively the posture, muscle activity and muscular fatigue a throughout milking shift, we have recruited 30 milking parlor workers representing large-herd (1000+ head) dairy operations in 3 southwest US states. All

participants were Latino males between 21 and 45 years of age, who were free of pain or upper extremities pathologies. Shoulder elevation and the trunk inclination angles, were estimated using wireless triaxial accelerometers. Surface electromyography was continually recorded of the upper trapezius, finger flexors, finger extensors and anterior deltoid muscles, while workers performed milking tasks. These muscles were chosen for their relevance when performing milking tasks. Preliminary findings suggest milking workers may be exposed to awkward postures, high velocity and repetitive movements, high repetition, and high muscle forces. These physical exposures have been often associated with the development of upper limb pathology. These results warrant the need for continued research in these working environments, for development of ergonomic strategies that permit improving work conditions and to reduce the negative effect of postures during the milking routine on the musculoskeletal system, as well as to prevent fatigue that would impair dairy workers performance.

**Key Words:** milking routine, ergonomic, electromyography