Title: Caring for compromised swine - an assessment swine marketed through buying stations and development of fitness for transport guidelines - NPB #13-261

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Scientific abstract
The welfare of pigs marketed through buying stations has received little examination, and these pigs may face greater risk of becoming fatigued or non-ambulatory during these stages of production. The objectives of this study were to (1) to characterize the prevalence of animal outcomes associated with culled and compromised swine marketed through buying stations, and (2) identify potential risk factors associated with fatigued and non-ambulatory pigs marketed through buying stations. A survey was conducted at integrated and independent buying stations in 2014. Fifteen individual buying stations, representing four marketing companies with locations in the U.S., were enrolled. For enrolled trailers, detailed animal assessments were conducted at the time of unloading for every pig on the trailer. Assessments included condition on arrival (non-ambulatory, fatigued, dead), as well as body condition, injuries, hernias, skin lesions, vulva lesions, tail bites, lameness, abscesses, and prolapses. Compromised pigs, those that were segregated from their cohorts by buying station employees due to health and welfare concerns, were followed within the buying station to determine final outcome (rested and recovered, euthanized or died). Descriptive statistics were calculated for the total prevalence of each animal outcome. Prevalence ratio analyses were used to compare animal outcomes associated with breeding stock relative to market pigs. A total of 7,105 pigs on 122 trailer loads were evaluated. Total population prevalence of dead, non-ambulatory and fatigued pigs on arrival was 0.04%, 0.3% and 15.6%, respectively. Compromised pigs comprised 1.6% of the total population, and 69% of these were euthanized. The most common animal outcomes observed were abscesses (9.4%), lameness (5.1%), emaciation (3.2%), hernias (2.5%), severe skin lesions (2.5%) and vulva wounds (2.1%). The prevalence ratios of fatigue (2.2; CI 1.8-2.6), severe abscesses (8.5; CI 4.0-18.1), emaciation (2.4; CI 1.6-3.5) and severe skin lesions (3.2; CI 1. 8-5.9) were greater in breeding sows and gilts than the prevalence observed in market pigs ($P <0.01$ for all). Results of this study support the hypothesis that culled pigs marketed through buying stations are at risk for handling and transport stress relative to industry norms. Opportunity to identify at risk pigs that fail to cope with transport and handling stressors can assist decision-making about fitness for transport, with implications for humane endpoints and mitigating production losses.