

## ENVIRONMENT

**Title:** Evaluation of the Effectiveness of the ISU Community Assessment Model in the Siting of Swine Production Units - **NPB#07-231** (revised)

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**Scientific Abstract:** The community assessment model (CAM) for odor dispersion is a tool to help site hog production facilities. CAM considers the size and type of a swine production system, local historical weather conditions, and odor control implementation. It predicts the number of hours of exposure to various levels of odor, by month, for each receptor in a given community. A follow-up survey of all CAM users since 2005 was conducted. The survey was designed to provide: 1) formative feedback for programming adjustments to improve extension efficiency, usability and reduce costs, and 2) summative feedback used to provide an indirect baseline assessment of the broader impact that CAM has had on reducing odor related conflict. For the majority of producers who used CAM, the potential impacts to their neighbors factored heavily into their decisions. To that end CAM was believed to be very important to their siting process. A high majority (95%) of the producers clearly understood the model results. Over half of the producers in turn communicated these results to their neighbors of which one third of these were considered positive interactions. Overall, for producers who went on to build at sites that were modeled there was a significant improvement in neighbor relations. As CAM continues to evolve as a tool, by integrating more key odor dispersion parameters and calibrating for different species, it will be critical for support programming and producer interaction protocols to similarly develop. This process will be important in the future as the state of Iowa has passed legislation that would, when funding is made available, integrate the use of CAM into odor management policy.

Rural residents were surveyed about their attitudes about the swine industry and modeling. It was found that people acknowledge the importance of the pork industry but have concerns about the impact on property values and quality of life. In general they believe that rural residents should have tolerance of odors and that large facilities, with proper management, can be environmentally benign. There are some concerns for the rights of rural property owners. The willingness to tolerate odors is a key model input. More than one third of those surveyed (39%) thought that an exposure to strong odors should be less than 1/2%, or 30 minutes every 4 days. When asked about moderate odors, 22% felt it should be less than 30 minutes, with 34% feeling that over 2 hours every 4 days would be acceptable.

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