

Title: Facilitating Use of the Odor Footprint Tool by Nebraska Pork Producers – NPB #06-141

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Scientific Abstract:

The goal of this project was to make Odor Footprint Tool (OFT) resources readily usable by pork producers and their technical advisors as a planning and screening tool when siting swine facilities. Detailed odor footprints for five specified sizes of swine facilities were developed for twenty-four locations throughout Nebraska: six regional sites and three “localized” sites within each region. Each odor footprint shows the predicted odor annoyance-free frequency as a function of the distance from the facility. Footprints developed using localized weather data differed only slightly from footprints produced using weather data from a regional site when the general topography of the sites was similar. However, when the general topography of sites was noticeably different, the footprints differed considerably. Simplified regional odor footprints generally missed 10-15% of the risk-based odor impact area for localized sites in this study, while being 75% too large overall on an area basis. A graphical approach was developed to illustrate how a county’s setback requirements compared to science-based estimates of frequency of exposure to annoying odor levels. The effect of reduced odor emissions from implementing odor control was illustrated using odor footprints. The footprints showed reductions in areas that were generally similar to the reductions in emissions when using odor control. Pork producers in Nebraska were informed about the Odor Footprint Tool via presentations made at the 2008 Nebraska Pork Industry Day. Training workshops on use of the OFT were provided to key industry representatives to expand utilization of the OFT resources.

These research results were submitted in fulfillment of checkoff funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer reviewed

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