

# CAFOs

*Concentrated Animal Feeding Operations*

## SOCIAL/ECONOMIC ISSUES

# Community Impacts of CAFOs: Property Values



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This publication is one title in the *Concentrated Animal Feeding Operations* series. To view the entire series, visit <http://www.ansc.purdue.edu/CAFO/>.

As rural communities debate the siting of CAFO operations, an important distinction must be made between community-wide impacts and those that impact individuals. Improvements in the income tax base or CAFO deterrence of other industries are likely to be shared economic impacts across all residents. An often noted impact that is not shared in the same manner by all residents is the impact on property value. In general, those who are closest to a potential CAFO site feel they will disproportionately suffer financial harm as their property loses market value.

The objective of this publication is to review estimates from academic studies on CAFO impacts on house prices and discuss the implications of these for Indiana communities facing CAFO siting decisions.

### Overview of Studies

Rural non-farm families tend to have a majority of their wealth in their home and

property. A nearby CAFO may cause deterioration in the market value of this asset due to loss of amenities or the risk of water or air pollution derived from the CAFO.

Ulmer and Massey provide a review of the academic literature on property value impacts of animal feeding operations. They discuss the effects of distance, animal numbers, and management practices as sources of impact on residential property values. Property price impacts (percentage changes) from two of the studies reviewed by Ulmer and Massey and two unpublished studies are reported in Table 1. We note that the impacts as estimated in these studies are quite uncertain ranging from a six percent reduction to a four percent increase in house prices.

Market prices for homes are expected to decline the closer the home is to the CAFO, and each of the studies in Table 1 provides evidence of this. Instances of positive impacts on home prices typically occur because: 1) the area is already well-populated

**Table 1.** *Estimates of property value loss from location of animal feeding operation*

| Authors                   | State          | Animal Type | Change in Property Price |
|---------------------------|----------------|-------------|--------------------------|
| Bayoh, Irwin, Roe         | Ohio           | Various     | Small                    |
| Herriges, Secchi, Babcock | Iowa           | Swine       | -6% to +4%               |
| Kim, Goldsmith, Thomas    | North Carolina | Swine       | -2%                      |
| Palmquist, Roka, Vukina   | North Carolina | Swine       | -3.6% to 0 %             |

*Notes: Estimates reflect the percentage reduction of the price of a house when a CAFO (1000 animal units) is located at a distance of 1 mile from the home. The exception is Herriges, Secchi, and Babcock whose range of estimates is for a 1.5 mile distance from the home. Kim, Goldsmith, and Thomas use assessed value of the home rather than a purchase price.*

with livestock, or 2) that the purchases of homes were made by the CAFO operator or those who work on the CAFO.

An interesting point raised in the study of Iowa property values is that larger operations (in terms of animal numbers) tend to be newly built and employ best available technologies for dealing with waste and odor. As a result, it may be that larger operations are not necessarily more harmful than smaller feeding operations.

## Implications

The obvious implication from the estimates in Table 1 is that individuals will realize different impacts from the location of a CAFO. Each of the studies report that property value impacts diminish to negligible effects beyond a distance of two miles. One study considered the prevailing winds direction. A downwind home will realize a significantly larger decline in value relative to a home upwind that is the same distance from the CAFO (Herriges, Secchi, and Babcock).

The potential inequities of these different factors of home location indicate that communities and operators must choose to site CAFOs in a manner that either minimizes differential impacts on home values or compensates those individuals disproportionately impacted. Appropriately discounting property value assessments for taxation purposes represents one avenue discussed by Ulmer and Massey that has been handled through court cases.

## Concluding Comments

Disproportionate impacts on community residents' wealth through property value changes represent a source of conflict in community decisions regarding CAFOs. An important step for communities when considering the siting of a new CAFO is to understand the unequal wealth impacts may be realized and formally address how and to what degree a concession or compensation might be made to those with the greatest potential for loss. Any proposed economic redress to the CAFO siting would then need to be incorporated into discussions of the overall benefits and costs being considered by the community as a whole.

Unfortunately, academic studies of property markets offer only the general conclusion that there will be negative impacts on some house prices. Several of the studies indicate factors that underlie different impacts for different areas include the general acceptance of agriculture and characteristics of the typical buyer in the local residential market.

With little general guidance available, community leaders may need to conduct or commission local studies of the magnitude of potential impacts given the technology and scale of the proposed CAFO. Local realtors, appraisers, or community officials involved in property assessment represent local resources that bring different expertise and could be used to find a useful consensus.

## References

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Available at <http://extension.missouri.edu/explore/miscpubs/mp0748.htm>