



CARBON CREDITS IN THE PRODUCTION SWINE INDUSTRY

**Charles Fulhage
Professor, Extension Agricultural
Engineer**

Carbon Credits



As a swine producer, why might I qualify for carbon credits ?

What are the potential benefits of participating in the carbon credit market ?

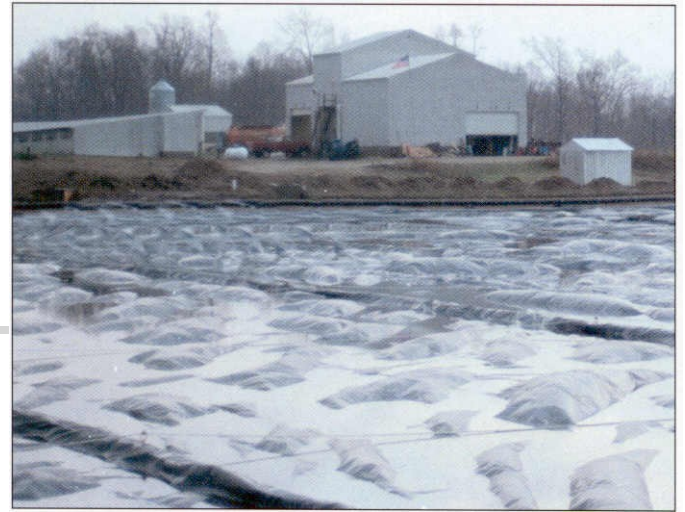
Carbon Credits



If your manure management system includes a lagoon you may qualify for carbon credits.

Lagoons emit significant amounts of methane (a greenhouse gas) to the atmosphere.

Carbon Credits



Covering the lagoon to capture methane then burning the gas reduces the overall GHG effect of the system.

“Additional” practices which reduce GHG qualify for carbon credits.

Carbon Credits



Using the biogas to displace fossil fuel (ie. propane for heating or running an engine to generate electricity) may qualify for additional carbon credits.

Example



1,000 finishing hogs excrete about 250,000 lbs volatile solids annually.

The lagoon will convert about 45% of these volatile solids to biogas (about 100,000 lbs of biogas).

Example



Biogas is about 60% methane, so about 60,000 lbs (30 tons) of methane would be captured in the covered lagoon annually.

Example



The GHG effect of methane is about 20 times that of carbon dioxide so the CO₂ equivalent of the 30 tons of methane would be 600 tons of CO₂e. This is the basis of payment for carbon credits.

Example



Carbon credits have traded for \$2 to \$4 per ton CO₂e on the CCX. Hence the carbon credits from a lagoon serving 1,000 finishing hogs might have been worth \$1,200 to \$2,400 annually depending on the market.



Additional Considerations

- **Additional carbon credits may be available if the methane is used to generate electricity or replace a fossil fuel for heating**
- **Covering a lagoon to capture methane represents a significant capital and management investment that must be recovered through the carbon credits or other benefits such as odor control or electricity generation**



Additional Considerations

- **GHG emissions are currently unregulated in the United States**
- **In regulated countries (Europe) CO₂e sold for \$16 to \$30 per metric ton in 2006**
- **Long-term contracting of carbon credits at current CCX prices may not be prudent**

Questions ??????????

