



The Pork Industry in Your County: Weighing the Economic and Environmental Impacts



Dr. John Mabry
Director, Iowa Pork Industry Center
Iowa State University

Starting Points

- There is a need to grow the rural economies of Iowa
- Growth needs to be sustainable
 - Environmental
 - Social
 - Economic



Integrated Rural Economic Development

Starting Points

- Growth needs to be diverse
 - Agriculture, manufacturing, construction, transportation, public services (financial, education, utilities, etc), retail marketing, tourism, technology, energy, etc.
- Key = PEOPLE
- For people to stay in rural areas there needs to be jobs and quality of life



Integrated Rural Economic Development

Starting Points

- The need to keep more of our young people in rural Iowa is a priority
- Primary usage for rural Iowa land will be agronomic
 - Crop production (corn, soybean, others)
- An integrated crop/livestock industry has great potential to grow Iowa's rural economies!



Integrated Rural Economic Development

Pork Industry in Iowa

- More than just production of pigs
 - Processing, feed grain usage, buildings, equipment, supplies, jobs, soil nutrients, tax generation, etc.
- Massive structural change recently
- Rural economies are supported by the pork industry, could grow larger
- Need a clear and progressive vision to grow the industry

Integrated Rural Economic Development

Sustainability Factors

- Economic sustainability requires adequate size, good management and technology utilization
- Key factor for both environmental and social sustainability appears to be the size of the operation and location
- Therefore, growth in the commodity side of pork production must be done via "Low Density" model

Integrated Rural Economic Development

“Low Density”

- Match the nutrient needs of the land with the manure production of the farm
- Consider the impact of the farm on the rural infrastructure
- Consider the profit potential to create rural jobs
- Site the farm using objective assessments of environmental risk

Integrated Rural Economic Development

2400 Head Finisher Example

- One 2400 finisher on one section of land with an approved MMP
- Nutrient needs of the land match the manure production of the pigs
- Reduce the use of rural roads for manure transport
- Locate only on sites that are objectively identified as environmentally acceptable

Integrated Rural Economic Development

2400 Head Finisher Example

- Construction cost ~ \$220/pig space or \$ 528,000
- Income can be from farmer owning the pigs, managing the pigs, or by the farmer renting the building
- Rental payment = \$38.50/pig space/year if farmer manages pigs
- Rental payment = \$34/pig if owner manages the pigs

Integrated Rural Economic Development

2400 Head Finisher Example

- In any case, the farmer gets the manure to fertilize their crops
- Value of manure to fertilize the land from N, P and K
- Reduces the demand for imported petroleum based fertilizers
- Transportation over public roads is minimized

Integrated Rural Economic Development

2400 Head Finisher Example

- Costs of building and operation:
- \$67,000 to pay off building in 12 years
- Utility costs = \$ 8600/year
 - Electricity and fuel
- Insurance = \$ 3000
- Taxes = \$ 2000
- Maintenance/upkeep = \$ 2400
- Total = \$ 83,000/year

Integrated Rural Economic Development

2400 Head Finisher Example

- Cash flow from renting the building:
- Rents building but does not manage pigs = \$ 81,600 / year
- Manure value (fertilizer not purchased – application costs) = \$23,500
- Income – cost = \$ 22,100
- Income ~ 0.5 FTE wage
- Implications for new farmer development?

Integrated Rural Economic Development

2400 Head Finisher Example

- Cash flow from managing building:
- Rents building but does manage pigs = \$ 92,400 / year
- Manure value (fertilizer not purchased – application costs) = \$23,500
- Income – cost = \$ 32,900
- Income ~ 0.75 FTE wage
- Implications for new farmer development?

Integrated Rural Economic Development

Economic Impact also Includes

- Job creation to manage the farm
 - New beginning farmers
- Feed utilization of the pigs
 - Local grains, local processing
- Veterinary care (local practitioners)
- Utilities (regional suppliers)
- Insurance (local businesses)
- Taxes (local and state)

Integrated Rural Economic Development

Economic Impacts on Community

- Generate ~ \$ 122,000 in gross revenue per year (labor, nutrients)
- Estimated economic activity of ~ \$270,000 per year (mostly local)
- Tax generation
 - Property taxes to support schools and services, sales taxes
- Turnover of ~ \$ 700,000 in pig sales (regionally)

Integrated Rural Economic Development

Economic Impacts on Community

- Indirect jobs in the community
- Equipment sales, repair, maintenance, insurance, banking, custom manure work, supplies, veterinary services, crop production, feed processing, etc.
- Support local crop producers by purchasing corn/soybean meal from ~ 700+ acres of production

Integrated Rural Economic Development

Where to Locate the Farms?

- Use objective siting models to minimize chance of environmental impact
 - CAM (Community Assessment Model)
Dr. Steve Hoff, Iowa State University
- Follow state guidelines on MMP to insure water quality
- Visit with potential neighbors

Integrated Rural Economic Development

Objective Siting Models

- Predicts the probability of detectable odor from a potential swine production site at locations of interest around the site
- Expressed as hours of detectable odor from March to October
- Facility emissions only, not application emissions

Integrated Rural Economic Development

Objective Siting Models

- Detectable odor defined based on ISU research (ABE department)
- Factors considered include:
 - Historical weather patterns (zip code)
 - Other livestock farms in vicinity
 - Distance and direction from locations
 - Number and size of animals
 - Size and orientation of barn

Integrated Rural Economic Development

2400 Sow Farm

- Same manure production
- Generates enough pigs to support 8+ 2400 head finishers
- Requires more labor, better labor
- Larger economic impact on the community
- Do not want too many new sow farms (overproduction potential)

Integrated Rural Economic Development

Potential Growth Areas

- Attribute based niche markets
 - Based on production system (pasture reared), eating quality (Berkshire, Niman Ranch), health perceptions (no sub therapeutics), diet (organic)
- Bioscience based industries
 - Biological research, development, manufacturing, genetics, internet applications, feed products, research tools, etc)

Integrated Rural Economic Development

Potential Growth Areas

- Harvesting and further processing
 - Large harvesting industry now, difficult to locate new plants
- Increasing demand for further processed foods
 - Further processing can be done in rural communities (Burke Foods in Nevada)
- These jobs pay above average wages

Integrated Rural Economic Development

Questions

Integrated Rural Economic Development