Co-location of industries with small livestock slaughter facilities

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Co-location of industries with small livestock slaughter facilities

Abstract
This November 2003 study researched the possibilities for Iowa producers who are interested in specialized smaller-scale slaughter facilities and their potential, both for co-products and related industries.

Keywords
Market research and feasibility studies, Supply networks

Disciplines
Agribusiness | Agriculture

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Abstract: This November 2003 study researched the possibilities for Iowa producers who are interested in specialized smaller-scale slaughter facilities and their potential, both for co-products and related industries.

Question & Answer
Q: What is the potential for receiving premiums for co-product streams coming from attribute meat markets such as organic, natural, etc.?

A: There are few co-product markets that exist for these attribute markets at this time. Additionally, because of the lower volume, disposal costs of co-products is higher than traditional meat processing.

Background
Many farmers are exploring ways to market their crops and livestock through channels or methods other than traditional commodity channels. One such farmer group is the Upper Mississippi Family Meats Cooperative (UMFM). Located in northeast Iowa, the cooperative was organized in March 2001 with a list of guiding principles related to sustainability and humane production, local ownership, and use of facilities of appropriate scale and operating methods.

UMFM, in partnership with Blooming Prairie and CROPP Cooperatives, commissioned a study to investigate the possibilities for a processing facility that could extend the values and production methods of producers throughout the value chain, and to explore the feasibility of such a facility. The proposed facility would be a multi-species plant to process meat from organically and naturally raised animals. It would be modeled on New Zealand-style processing plants, which are much smaller than traditional U.S. slaughter facilities and have lower volume output.

ISU Extension’s Value-Added Agriculture Program conducted this project in November 2003 to explore market options and niches for by- and co-products from this multi-species slaughter facility. The Leopold Center-funded component was one part of a larger processing plant feasibility study also supported by the North Central Initiative for Small Farm Profitability.

Approach and methods
Project researchers used information gleaned from interviews with industry experts (who often insisted on anonymity), store visits, Internet research, library research, and previous industry knowledge and experience. Outside consultants were employed as needed to fill in knowledge gaps that appeared.

Results and discussion
As a background to the work, investigators explored and assessed the dimensions of the meat industry competition and social business capital need for producer groups. They then analyzed the New Zealand-style design as compared to the current U.S. industrial model and trends.

The New Zealand model meat plant does the same things as a standard U.S. meat plant, but on a smaller scale. It focuses on diversity of species, low throughput, a small environmental footprint, and low social impact. The difficulty with a small plant, especially if it is not well-located, is that it will most likely have higher operating costs on a per unit basis.

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Budget:
$23,639 for year one

Date:
November 2003
Traditionally, the kill costs at the plant are borne by hide and offal (by-product) values. However, this is not feasible in a small plant. The market for hides is volatile. If they must be taken to a tannery, the transportation cost is discounted from the price. Additional discounts apply if the volume is low per pickup or if the plant needs to store the hides to accumulate volume. The same issues apply to offal. There may be potential for small businesses from co-located niche industries and the project explored a number of these possibilities.

Conclusions

It appears unrealistic to expect standard meat processing ancillary service businesses to co-locate around a small plant. These businesses operate on tighter margins than a meat processor and therefore must be close to more significant sources of their inputs and/or close to output markets. Further, if the location doesn’t offer other favorable aspects (low cost labor, good-quality roads, higher value product, etc.), the prospects for attracting ancillary businesses will be more difficult.

There are a few small, niche areas that provide some opportunity for development of co-located businesses, including:

- Organic pet food—This growing industry represents an opportunity, but volumes are likely to be too small to justify co-location. Trade sources cite a $21 million market for organic pet foods, while investigators in this study see a total market of $300 million for all non-commodity pet foods. This niche organic segment of the industry uses non-traditional ingredients such as natural or organic products in pet food formulations.

- Organic bones—These can be cooked and used in organic soup stock. Bones can be processed with old-fashioned, inexpensive cooking and drying technologies. The resulting powder can be sold as an ingredient for organic soup and ready-to-eat meals. Though currently small (estimated at about $1 million per year), this is a growing segment of the organic food industry and the supply of organically certified ingredients falls short of the need. In addition, the bones can be broken, ground, and bagged as steamed bone meal for organic flower gardens.

- Fertilizer—Hog and cattle waste offer limited potential as fertilizer, but may find a market among organic gardeners for use in household gardens.

Composting near the plant is practical and market price for such compost ranged from $3 to $5 per ton. Co-location near organic farmers who would prefer not to use compost from conventionally-fed cattle or hogs is a possible market niche.

- Inedible offal—The most effective way to mitigate the likely disposal costs would be to co-locate the plant near existing rendering facilities.

- Trucking, truck wash, cold storage—Scale also limits the co-location opportunities for services such as these. Most small packing plants require inbound and outbound trucking, but not enough to warrant a company setting up shop near the plant. The same is true for a truck wash dedicated to livestock trucks. Outside cold storage facilities are valuable to the success of a small plant, but they have more impact on the location of the slaughter plant than vice versa.

The project also identified industries not likely to be viable co-location industries. These included packing house residue for energy, pharma-products, and hides and skins.

Impact of results

The investigators made a number of recommendations for small meat processing plant success. Smaller plants will have higher operating costs than larger facilities, so they need to address two issues more effectively than their conventional competitors. First, the business must achieve “system efficiency” so that inputs are carefully channeled to
this processor. Second, all output products must precisely meet a higher value customer demand, resulting in a price premium.

Co-location of ancillary businesses will be problematic because of the size of the processing plant. Many of the usual adjacent industries will be attracted only if the location offers a compelling economic improvement to the business.

By-products are a fact of life in all food processing. The study examined many possible uses for meat processing by-products and in nearly every case, the by-products must be processed further but the volume is too low to support further processing activity.

The product attributes that command premiums for meat products generally do not apply to by-products. Attributes such as organic, natural, grass-fed, locally grown, etc., have a premium value to certain consumers. They do not tend to add value on the by-product side, with the exception of organic pet food, which is a significant market.

In general, conventional market values apply for by-products, making transportation cost and volume the dominant issues in marketing these products. Volumes from a smaller plant are too low to attract co-location, even if the other attributes (such as organic) are compelling.

This November 2003 study confirms the difficulty of attracting a critical mass of ancillary business to the smaller scale of operation. Planning for such a business model might include the converse option—locating a new processing/management unit near the existing necessary ancillary services or outlet markets. Emphasis should be on the by-product market.

**Education and outreach**

Members of the study team shared findings with representatives of UMFM. Copies of comprehensive report will be given to the Iowa Departments of Agriculture and Land Stewardship, Economic Development, and Natural Resources. Additionally, information and findings will be provided to the Iowa Area Development Group (an economic development firm sponsored by the state’s rural electric cooperatives), and interested farm and agricultural organizations.

For more information, contact
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