Wisconsin Pork Business Survey Results

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Executive Summary

The Survey Research Center (SRC) at the University of Wisconsin – River Falls, working with Bill Gnatzig, Steve Bach, and Lynn Harrison, developed and sent surveys to 279 meat processors throughout Wisconsin during February and March of 2011. The SRC received 77 usable responses from Wisconsin Association of Meat Processors (WAMP) members (62% response rate) and 47 useable responses from non-WAMP members (30% response rate). Given these response rates, the estimates in this report should be accurate to within plus/minus 6.9% for WAMP members and plus/minus 12% for non-WAMP members with 95% confidence.

Meat Processors' Operations. For all but 8% of the meat processors who returned their questionnaires, pork products make up some proportion of their total sales. For 4 out of 5 respondents, pork product sales make up less than half of their sales - approximately 40% said pork represents less than one-quarter of their sales and 40% put pork sales at between one-quarter and one-half of their sales. Pork sales are significantly more important for WAMP members than for non-WAMP processors.

Retail counter sales are the most common type of pork sales for these 124 meat processors and custom processing and whole/half hog sales the least common forms.

The processors who returned their surveys reported processing 2,500 and 3,500 hogs in most months. There are pronounced seasonal differences in reported hog slaughter rates, with a trough in April and May (about 2,100 hogs) and a peak in August and September (more than 3,600 hogs). The typical processor's needs vary from barely 10 hogs in May to nearly 25 hogs in September and October. WAMP members slaughter more hogs per month than do non-WAMP processors. Though there may be some concerns about the quality of these data, it appears that there is substantial unused slaughter capacity among Wisconsin's meat processors.

Processors are evenly split between a preference for live hogs and carcasses. However, WAMP members prefer live hogs by a wide margin (63% live hogs vs. 37% carcasses), whereas non-WAMP members are almost exactly the opposite (33% live hogs vs. 67% carcasses). Those with more slaughter capacity also prefer live hogs to carcasses by a wide margin.

Meat Processors' Challenges and Opportunities. Fewer than half the respondents felt that any of the factors about which we asked were likely or very likely to constrain their ability to meet pork demand. However, nearly half (46%) expressed concern about inconsistent supply and nearly as many (41%) said inconsistent quality is likely or very likely to constrain their ability to meet demand. WAMP members seem to be slightly more concerned about consistent supply, consistent quality and their ability to access a competent workforce over the next five years.

Meat processors are substantially more concerned about the physical characteristics of hogs than less tangible ones in terms of driving their future profitability. Roughly, two-thirds of respondents said that the loin eye size, the degree of marbling, and back fat that is consistently an inch or less are important or very important to their future profitability. The less tangible factors of organic certification, meat from specific breeds, and "natural" production practices are important to only one-quarter or less of the respondents. Processors said that an improved supply of high quality hogs would have a positive but relatively small impact on their profitability.

Meat Processors Focus Groups. In addition to the quantitative data summarized above, the SRC also conducted two phone conferences with six processors from around the state. These conversations suggested that many independent processors have stable, long-term relationships with local producers, that local production is important to their customers, and that they can extract a price premium from their shoppers so long as they can provide a superior pork product. For independent pork producers, these conversations suggest that there is potential for improving profitability through closer links to independent processors if quality and consistency issues can be resolved. Building these relations will likely require significant time by individual producers in one-on-one negotiations with processors.

Survey Purpose

Bill Gnatzig, Steve Bach, and Lynn Harrison opted to work with the Survey Research Center (SRC) at the University of Wisconsin – River Falls to implement their Agriculture Development and Diversification project on improving the supply of quality hogs to Wisconsin's meat processors.

In the first part of this study, the SRC surveyed members of the Wisconsin Association of Meat Processors (WAMP) and other, non-WAMP meat processors, about key hog supply issues they face. In a second part of the study, the SRC conducted two phone conferences with six processors from around the state.

Survey Methods

The SRC received mailing lists of WAMP and non-WAMP members from WAMP and the Wisconsin Department of Agriculture, Trade, and Consumer Protection. Pre-survey notifications, cover letters, and surveys, developed collaboratively by the SRC and Bill Gnatzig, Steve Bach, and Lynn Harrison, were sent to 124 WAMP members and 155 non-WAMP members. The SRC received 77 usable responses from WAMP members (62% response rate) and 47 useable responses from non-WAMP members (30% response rate). Given these response rates, the estimates in this report should be accurate to within plus/minus 6.9% for WAMP members and plus/minus 12% for non-WAMP members with 95% confidence.

Any survey has to be concerned with "non-response bias." Non-response bias refers to a situation in which people who don't return a questionnaire have opinions that are systematically different from the opinions of those who return their surveys. For example, one part of Question 7 of the survey asked the respondent how important organic certification of the hogs they process is to the profitability of their business. If only meat processors who were strong promoters of organic products answered the survey and few who felt otherwise bothered to respond, the answers reported would suffer from non-response bias. They would overstate the importance of organic certification in this hypothetical example.

The standard way to test for non-response bias is a T-test that compares the responses of those who return the first mailing of a questionnaire to those who return the second mailing. Those who return the second questionnaire are, in effect, a sample of non-respondents (to the first mailing), and we assume that they are representative of that group. Based on this analysis**, the SRC concludes that non-response bias is unlikely to be an issue for these two sample populations.** A more complete summary of this analysis is included as Appendix A to this report.

In addition to the numeric responses, respondents provided additional written comments, which were compiled by the SRC. **Appendix B to this report contains the complete compilation of comments.**

Appendix C contains a copy of the survey questionnaire with a quantitative summary of responses by question.

Profile of Respondents

Table 1 summarizes the demographic information collected from WAMP (W in Table 1) and non-WAMP respondents (NW in Table 1). The table indicates that WAMP members:

- are slightly younger – 66% of WAMP members are younger than 55 vs. 60% for non-WAMP respondents.
- have slightly more formal education – 17% of WAMP members have a 4-year college degree or more compared to 9% of non-WAMP respondents.
- have owned their business for fewer years than non-WAMP respondents – 24% of WAMP members have owned their business for fewer than 10 years vs. 16% of non-WAMP respondents.

Table 1: Demographic Profile of Respondents

	34 and Under		35–44		45–54		55–64		65+	
Age	**W**	**NW**	**W**	**NW**	**W**	**NW**	**W**	**NW**	**W**	**NW**
	4%	4%	17%	16%	49%	40%	26%	33%	5%	7%

	Less than high school		High school diploma		Some college/ tech	
Highest level of Education	**W**	**NW**	**W**	**NW**	**W**	**NW**
	0%	0%	38%	40%	31%	27%
	Tech college graduate		**Bachelor's degree**		**Grad or professional degree**	
	W	**NW**	**W**	**NW**	**W**	**NW**
	15%	24%	14%	9%	3%	0%

	0 to 5 years		5.1 – 10 years		11 to 20 years		Over 20 years	
How many years have you had your business?	**WAMP**	**Non-W**	**WAMP**	**Non-W**	**WAMP**	**Non-W**	**WAMP**	**Non-W**
	9%	7%	15%	9%	24%	30%	51%	54%

Throughout the report, the SRC will note when there are significant differences of opinion between WAMP and non-WAMP respondents or differences by different demographic groups (e.g. older vs. younger respondents). Given the relatively small numbers of total respondents, we have grouped the demographic categories as follows:

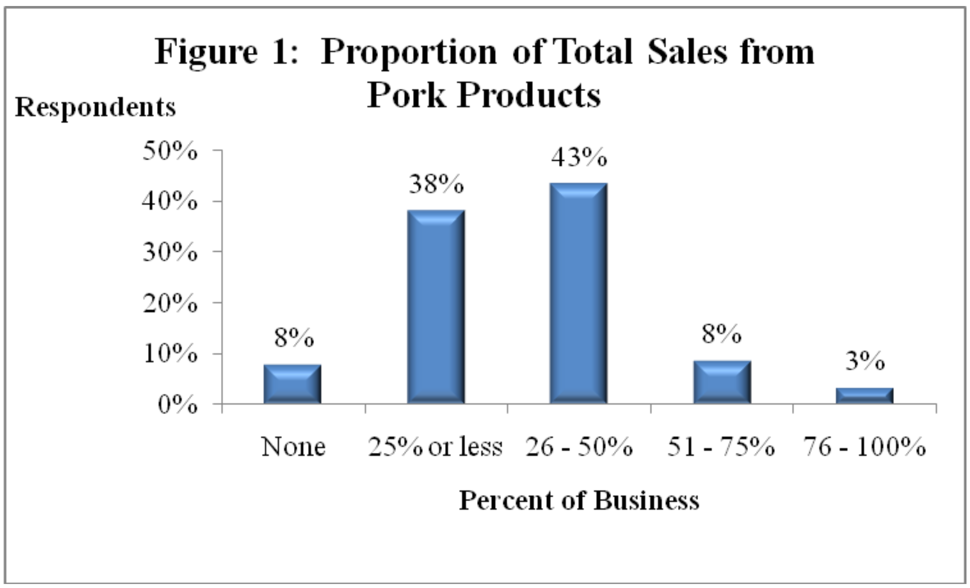
- Age: young (under 45), middle (45-54) and older (55+)
- Education: non post-secondary (high school or some college/tech) and post secondary (tech college, bachelor's or graduate degree)
- Years in business: newer (under 20 years) and longer (20+ years)

The SRC also tested for differences of opinion/preferences between processors reporting that they have larger hog processing capacity versus those with less capacity. The median size processing capacity for the 56 respondents who answered this question was 80 head per month. In our statistical analysis, the SRC divided respondents into two groups – small if their slaughter capacity was less than 80 head per month (26 respondents) and large if their monthly slaughter capacity is greater than or equal to 80 head (30 operations).

Meat Processors' Operations

The first section of the questionnaire gathered information about the operations of Wisconsin's meat processors.

As indicated by Figure 1, there are roughly equal proportions of businesses for which the sale of pork products make up less than one-quarter of their sales (38%) and those in the quarter to half of total sales category (43%). Pork is, in short, a component of most of the businesses in this sample but is not the sole or primary product focus.



Pork sales are significantly more important for WAMP members than for non-WAMP meat processors. Half of the WAMP members said pork makes up between one-quarter and one-half of their business (vs. 30% for non-WAMP respondents) and 15% said pork products account for more than half their sales (vs. 6% for non-WAMP). There were no other statistically significant differences across demographic groups in terms of the importance of pork in overall sales.

Figure 2: Percent of Pork Sales from Various Sources

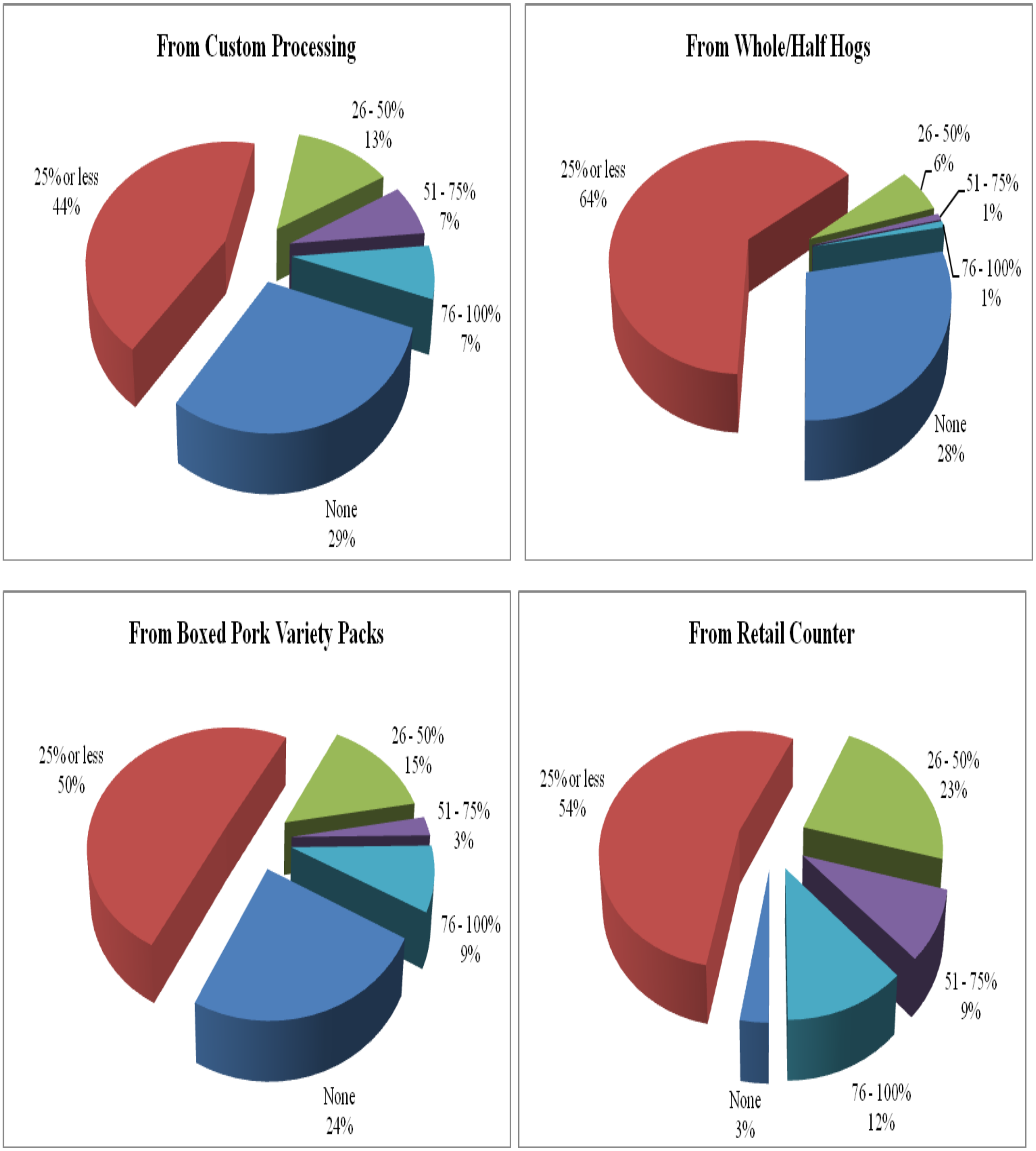


Figure 2 illustrates the percentage of pork sales respondents reported coming from four sources. Approximately one of every four respondents reported no sales from custom processing of hogs, sales of whole or half hogs to customers, and boxed pork variety packs. In contrast, only 3% reported no individual counter sales of pork.

Figure 2 indicates that sales of whole or half carcasses is a relatively uncommon practice in Wisconsin, with fewer than 10% of the respondents saying this activity makes up more than one-quarter of their pork sales. Whole or half carcass sales are more important for processors reporting larger slaughter capacity than for those with less capacity.

For both custom processing and sales of boxed variety packs, roughly one-quarter of the respondents said these activities make up no part of their pork sales, half said they comprise up to one-quarter of their sales, and the final quarter said more than one-quarter of pork sales come from these activities.

Clearly, the biggest variation in terms of the importance of pork sales to these respondents is with respect to counter sales of individual packages of pork. Again, about half said counter sales comprise one-quarter or less of their pork sales but about one-quarter said they are up to half of their total pork sales and about one in five said they account for a majority of their pork sales.

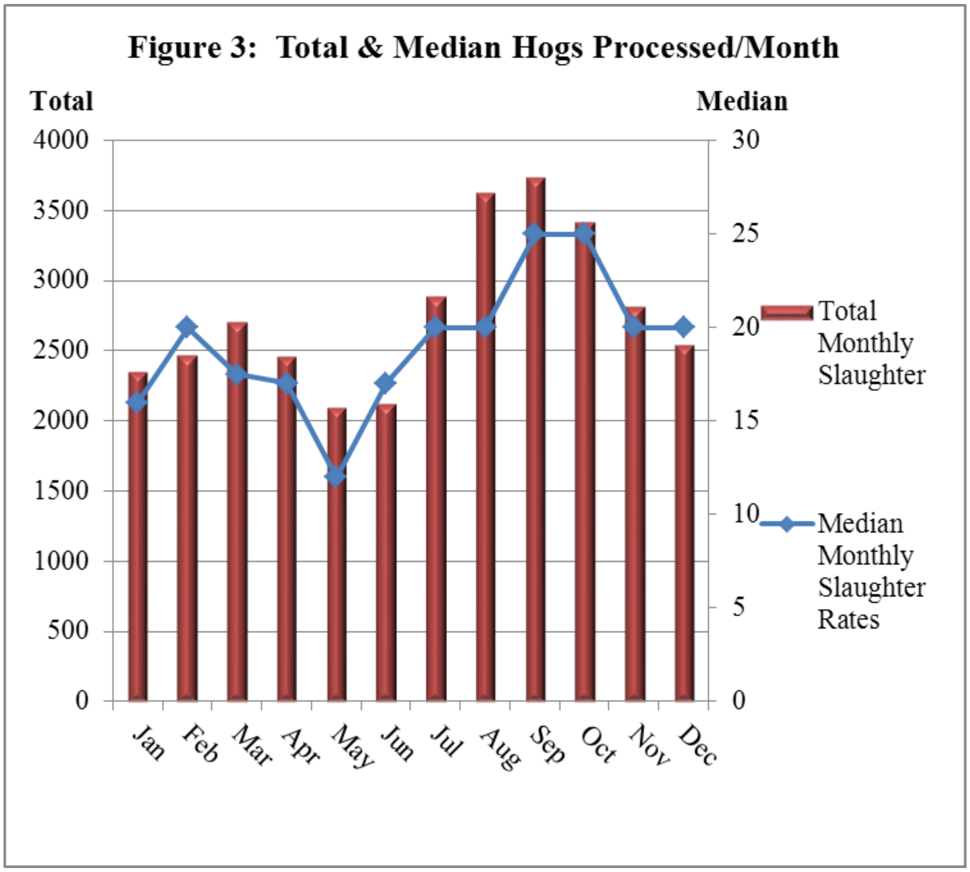
There were only two statistically significant demographic differences in the pork sales options considered in Figure 2.

- Custom processing is less important to meat processors who have been in the business for more than 20 years than it is to those with fewer years in the sector. More than one-third (36%) of those with 20+ years of experience reported no pork sales from custom processing compared to only 19% of those with 20 or fewer years of experience.
- Boxed pork variety packs are less important to WAMP members than they are to non-WAMP processors. Nearly one-third of WAMP members (29%) said they had no boxed pork sales compared to only 19% of non-WAMP respondents.

Respondents were asked to provide information about the number of hogs slaughtered each month and their maximum monthly slaughter capacity. In Figure 3, we have plotted the total number of hogs respondents said they slaughter each month (bars) with the scale on the left. The median number of hogs slaughtered each month is plotted as a line with its scale on the right in Figure 3. The median measures the midpoint in the range of the number of hogs slaughtered each month – half the respondents slaughter more than the median value and half slaughter less each month.

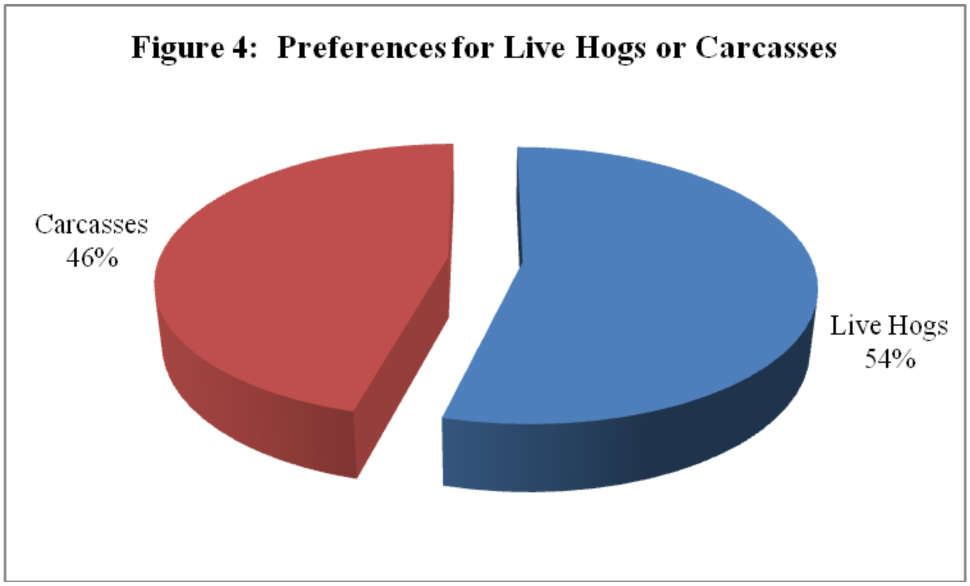
Figure 3 shows that the 124 processors who completed the survey process between 2,500 and 3,500 hogs in most months. There is a pronounced dip in processing in May-June and a spike in processing during the August – October period. The median processing per plant, naturally, follows a similar pattern and indicates that the typical processor uses slightly less than 20 hogs in an "average month." The typical processor's needs vary from barely 10 hogs in May to nearly 25 hogs in September and October.

There were no statistically significant demographic differences in terms of hogs slaughtered per month. Those with more formal education were <u>not</u> any more likely to have larger facilities than those with less, those who were older were <u>no more likely</u> to have larger facilities than those who were younger and those who had been in the business for more years were <u>no more likely</u> to slaughter more hogs than newer entrants. However, WAMP members were consistently more likely to slaughter more than the median number of hogs per month and reported significantly greater demand in 7 of the 12 months.



Respondents were also asked to indicate the maximum head of hogs their facility could slaughter in a month (their maximum capacity). The SRC has concerns about the quality of these data. Of the 54 who answered this question, 10 reported a maximum monthly processing capacity that was <u>less</u> than the number of hogs they said they typically process in their busiest month. At the other end of the spectrum, three firms reported that they are using at most 1% of their slaughter capacity (e.g. one said they could process more than 12,000 head of hogs in their facility but said the most they typically process in their busiest month was 100). If these data are to be believed, nearly 60% of meat processing businesses are using less than 75% of their slaughter capacity in their busiest month. This suggests a good deal of capacity to expand processing should demand warrant it.

Finally, respondents were asked if they had a choice and could get a dependable supply of consistent quality, would they prefer live hogs or carcasses. Figure 4 shows that respondents were nearly equally split on this question with 46% preferring carcasses and 54% preferring live hogs. Despite this nearly even split overall, there is a very significant difference in the preferences of WAMP versus non-WAMP members. WAMP members prefer live hogs by a wide margin (63% live hogs vs. 37% carcasses), whereas non-WAMP members are almost exactly the opposite (33% live hogs vs. 67% carcasses). Respondents with larger slaughter capacity also have a statistically significant preference for live hogs than do those with less capacity.

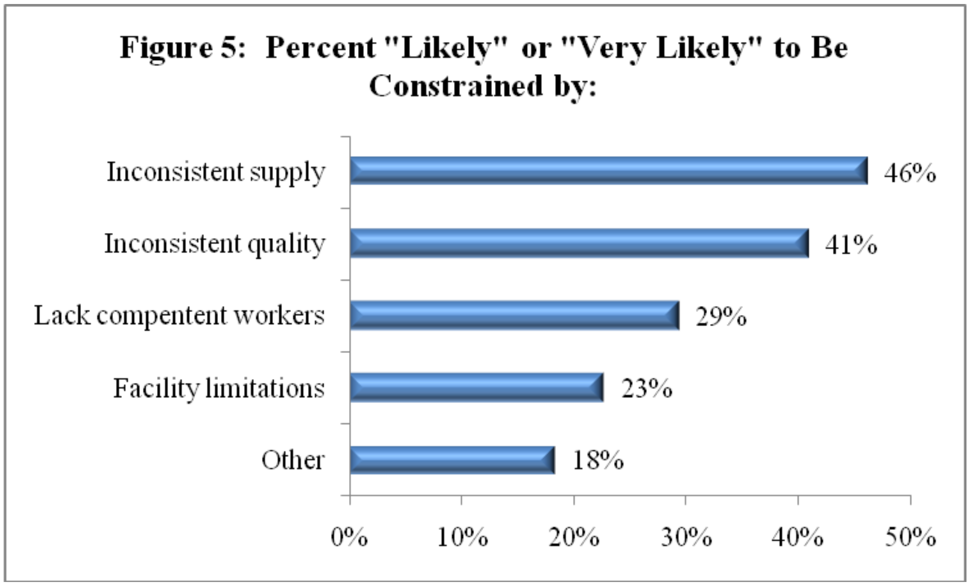


There appear to be a number of statistically significant differences in the operations of WAMP members and non-WAMP meat processors:

- Pork sales are more important to WAMP members' businesses
- Boxed pork sales are less important to WAMP members
- WAMP members slaughter more hogs per month
- WAMP members prefer live hogs over carcasses

Meat Processors' Challenges and Opportunities

Respondents were asked if the factors shown in Figure 5 are likely to limit their ability to meet demand for pork-related products over the next five years. In Figure 5, we have combined the proportion who said that the particular factor was either "likely" or "very likely" to be a limiting factor for them. Supply concerns clearly dominate the issues facing Wisconsin's pork processors. Just short of half said that inconsistent supply is likely to be a problem for them in coming years. Nearly as many said that inconsistent quality of the hogs they have available to them will be an issue for them in coming years. The cost of hogs was the primary "other" factor noted in Figure 5 as likely to be a serious constraint in coming years.

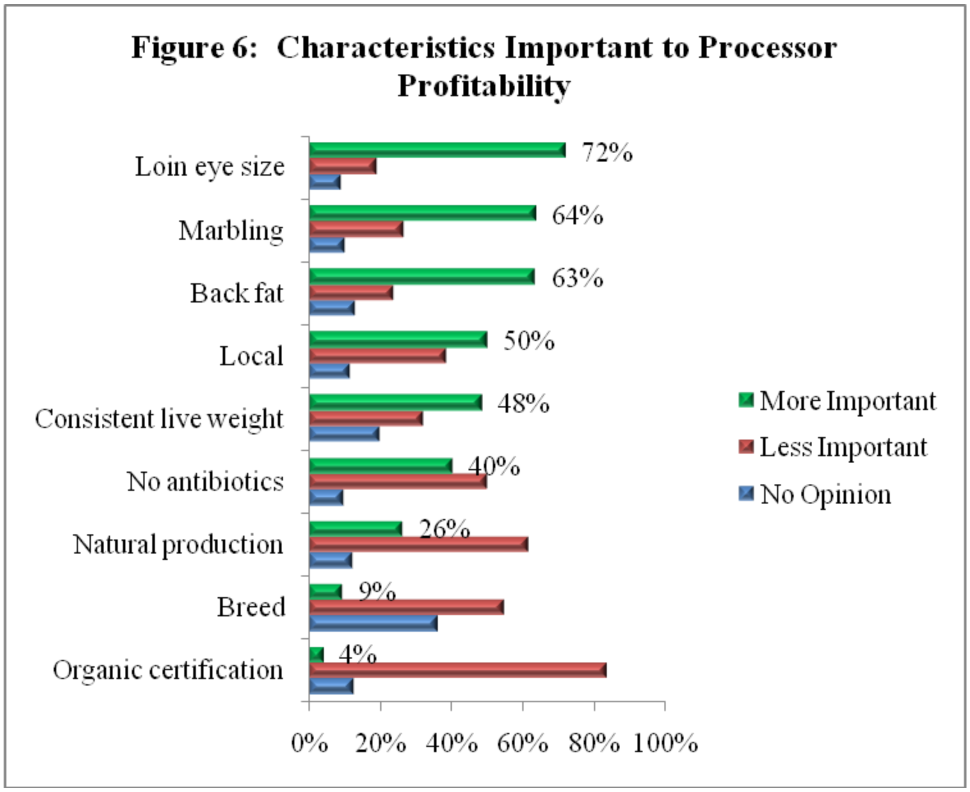


The only statistically significant differences across demographic groups are that older respondents are more concerned about inconsistent quality and the supply of competent workers than are younger processors. While not statistically significant, WAMP members are:

- More concerned about consistent supply: 49% say this is likely or very likely to be a constraining factor compared to 40% of non-WAMP respondents
- More concerned about consistent quality: 45% say this is likely or very likely to be a constraining factor compared to 34% of non-WAMP respondents
- More concerned about a competent workforce: 32% say this is likely or very likely to be a constraining factor compared to 23% of non-WAMP respondents

Respondents were asked to rate the importance of a number of hog/carcass characteristics in terms of how each is likely to affect their profitability over the next five years. Answer options were "very important," "important," "somewhat important," "not important," and no opinion. In Figure 6 the SRC combined the "very important" and "important" categories into a "more important" category (top bar in the chart) and created a less important category ("somewhat important" plus "not important"), which is the middle bar in the chart. The percentages of "no opinion" responses are shown in the bottom bar. The hog/carcass characteristics are sorted in descending order of importance to respondents in Figure 6.

From Figure 6, it is clear that the more physical characteristics of the hog are substantially more important to processors than are their less tangible aspects. Roughly two-thirds of respondents said that the loin eye size, the degree of marbling, and back fat that is consistently an inch or less are important or very important to their future profitability. The less tangible factors of organic certification, meat from specific breeds (Yorkshire was the most common breed mentioned - 5 respondents), and "natural" production practices are important to only one-quarter or less of the respondents. The ability to market pork as locally produced, being produced without antibiotics and animals of a consistent live weight occupy a middle level of importance in the 40-50% range.

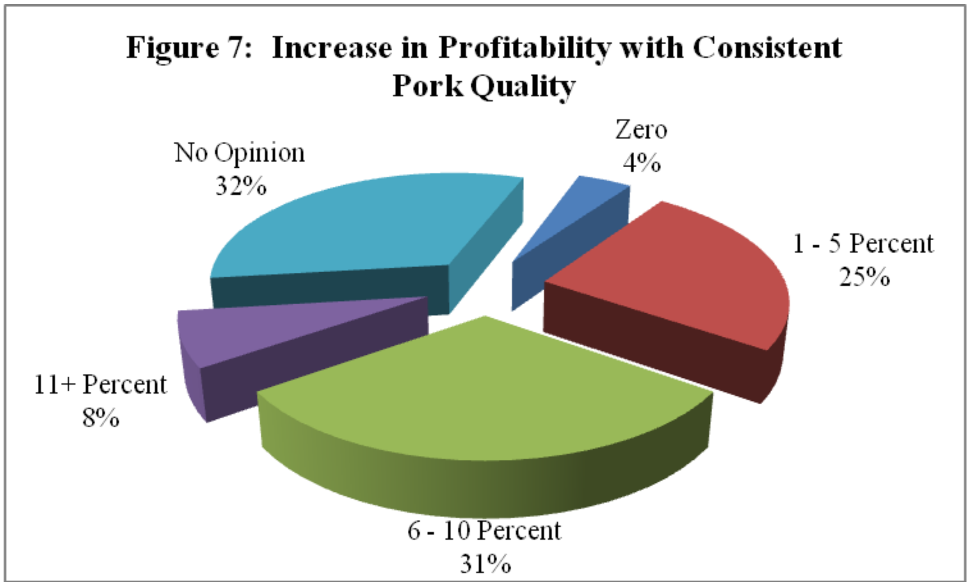


There were a few demographic differences in terms of characteristics of importance to different processor groups.

- Consistent weight and hogs raised without antibiotics are significantly more important to WAMP members than non-WAMP processors.
- Operations with larger monthly slaughter capacity care significantly more about consistent live weight, adequate marbling, and loin eye size than do smaller processors.
- Those who've been in the business for more than 20 years care more about marbling and loin eye size than those with less than 20 years of operations.

The final quantitative question asked respondents to estimate the amount by which the profitability of their pork business would increase if they could buy live or carcass pork at current market prices and be assured it would have the characteristics they feel are very important (as indicated by their answer to the items in Figure 6). Figure 7 summarizes the responses of Wisconsin's pork processors.

There is both good news and disappointing news contained in Figure 7. The good news is that very few respondents (4%) felt that their profitability would not change if they could be assured of a supply of hogs or carcasses with characteristics they value. This suggests that there is an opportunity for producers and processors to work together to produce hogs that could improve the profitability of both. The less good news is that relatively few (8%) believe that a consistent supply of hogs with their preferred characteristics would improve their profitability by more than 10% and roughly one-third offered no opinion about this. These results indicate that the returns due to collaboration may not be large (sharing in something less than a 10% increase in profits) and the transactions costs may be significant. Transactions costs are expenses that aren't directly related to the production costs of the good or service being marketed. In this instance, one-third of the target market for hogs of consistent superior quality appear to need additional information prior to forming an opinion about the financial viability of this initiative. Delivering that information to this audience could involve significant transactions costs for someone.



In terms of different demographic groups' opinions about the impact on their profitability from an assured supply of hogs with desirable qualities, the only significant differences are with respect to WAMP vs. non-WAMP members and between operations with more vs. less slaughter capacity.

- WAMP members (11%) are much more optimistic about consistent high quality hogs boosting their profitability by more than 10 percent than are non-WAMP members (2%). Similarly, much lower proportions of WAMP members (27%) have no opinion about the profit boosting potential of consistent, high quality hogs than do non-members (42%).

- Firms with more slaughter capacity are even more optimistic about the ability of consistent, high-quality hogs boosting their profits by more than 10 percent (13%) and fewer need additional information prior to forming an opinion (10%). The comparable numbers for firms with smaller slaughter capacity are 0% feel their profits would increase by more than 10 percent and 36% reported they had no opinion about this.

A majority of Wisconsin's pork processors don't feel any of the factors included in the survey are likely to be constraints over the next 5 years, but consistent hog supply and quality were identified as likely or very likely constraints by nearly half the respondents.   WAMP members seem more concerned about these factors than non-WAMP members.

The hog characteristics that processors feel are most likely to influence their profitability over the next 5 years are focused on physical qualities (loin eye size, marbling, back fat) than on less tangible features (natural or organic production, breed). The expected impact of an improved supply of high quality hogs on processors profits is positive but relatively small and a good deal of uncertainty exists about this among processors.

Geographic Analysis

Finally, upon the request of Messrs. Gnatzig, Harrison, and Bach, the SRC tested for differences based on what part of the state in which a processor was located. Processors north of a line running from La Crosse to Green Bay were compared to those south of that line. There were a total of 61 processors north and 59 south of this line. There were remarkably few statistically significant differences between processors in these two regions of Wisconsin. Those south of the dividing line felt somewhat more strongly about the importance of having an inch or less of backfat in the hogs they process. Southern processers were both more likely to be new to the industry (15% of those in southern Wisconsin had been in the business for fewer than 5 years compared to only 3.5% in the north) and long-term processors (57% of the southern processors had been in the business for more than 20 years compared to only 46% in the north). With respect to all other issues examined in this report, there were no statistically significant differences between northern and southern processors.

Additional Comments

Respondents were asked if they had any additional thoughts about pork processing in Wisconsin and a total of 24 comments (15 from WAMP and 9 from non-WAMP) were received.

Quality concerns were the focus of 7 comments (3 by WAMP members and 4 by non-members), including:

> *Customers comment that "Pork does not taste like it used to."*

Seven comments (6 from WAMP, 1 non-WAMP) focused on lack of supply of hogs, particularly from local sources. A typical comment on this topic included:

> *It is a concern that there is a lack of pork producers in our area. It seems that it is very difficult for small producers to be profitable.*

The remaining comments were spread over a range of topics (their own profitability, pork marketing efforts, price of hogs, etc.).

Focus Group Results

On the evenings of November 9th and 10th, 2011, the SRC arranged and managed two phone conferences with meat processors from around Wisconsin. Initially, the SRC had expected to conduct face-to-face focus groups in two or three Wisconsin venues but it proved impossible to get a reasonable number of processors to commit to these events. Six or seven agreed to participate each of the phone conferences but, in the event, only three participated each night. This section of the report will summarize the key points from these two events. Appendix D includes the question sequence used in these phone conferences.

The first question asked the processors to identify the most important problem or problems they face in the pork portion of their business. Several of the processors indicated that it was becoming more difficult to source pork locally because of the shrinking number of hog producers in their area. Most said they had longer-term relationships with one or two local producers who supply them with the hogs they need. Those who purchased boxed pork rather than slaughtering their own felt that the quality of the pork they were buying was not always what they wanted. In some instances, the processors felt that the "lean genetics" had gone too far and that we now have pork that is too dry and tough. In other instances, the processor had to trim one-sixth of a pork belly to get it to the desired standard. As one participant said,

> "*Once in awhile we do have to go outside of that and it's a large difference from one farm to the other when you order in pigs if you don't get a chance to look at them on a consistent basis. And I would also agree with what John is saying, they are quite lean. We actually have customers come in and try to find something fatter so it is more tender.*"

Processors were asked if there were actions that local independent hog producers and processors could do together that would benefit both groups. The processors couldn't directly identify specific actions that would benefit both groups. The one thing that several noted is that they would benefit from a more certain supply of hogs of consistent quality. As noted, most processors who have on-site slaughter capacity have longer term relationships with one or two hog producers. Some said that when they get hogs from other producers, there is often significant variation in quality from what they are used to. Variation in quality was also the factor that these processors identified as the primary constraint to expanding their pork business. This suggests some potential for mutual benefit if independent hog producers could develop production protocols that resulted in an animal with consistent marbling in the meat cuts and consistent fat layers in the bacon. As an example of this set of issues, one participant commented that:

> *"I want to be able to buy a load of 50 hogs on a week-to-week basis at our hog sale and know that every one of those hogs isn't going to vary but a hill of beans. You know what I'm saying? They're going to look down that rail and they are all going to be the same length, the same fat cover, same loin eye if you had to come in and judge them. Everything would be just perfect, just beautiful. I guess to me I don't want to go around in my local area and buy 5 from him and 5 from him and 10 from him. You never know what you're going to get."*

The target customer for the processors with whom we talked seemed to be people who are driven somewhat more by quality than price. Most of the six participants indicated that they have been in business a long time and have a loyal customer base. So long as they have a premium product, they can charge slightly higher prices than local supermarkets. Their customers seem to like the old-fashioned feel of their specialty shops and they cater to their needs by providing special cuts, partial preparation of the meets, and other services. They noted an increasing interest among their customers in whether or not the pork they sell was grown locally. However, their customers appear to have little concern about organic or natural production, product traceability, or whether or not antibiotics were used in producing the hog. Clearly, the growing importance of local production in these businesses represents an opportunity for local, independent pork producers.

> "*But they* [consumers] *are looking for some* [hogs] *that are locally, humanely raised and feel that they are supporting the local economy with it and not someone down in Georgia or wherever that is the big factory farm."*

The likely impact of the new policy that will allow state-inspected pork to be shipped across state lines seems largely to depend upon the geographic location of the processor. Some of the processors who participated were near the border with Minnesota and they saw some potential for expanding their sales once interstate shipments are allowed. Those further from a state border generally felt this policy change would have little or no impact on their businesses. There was some frustration evident with the pace of implementation of this new policy and concerns about the complexity of qualifying for interstate shipments.

When asked about their interest in more of a closed-loop supply chain between local producers and processors, several processors noted that they basically have that right now. They have long term, informal arrangements with local hog producers. They indicated that price volatility has not been as big an issue to them as the aforementioned variation in quality. For those without a long-standing relationship with a local producer, there was some interest in a closed-loop supply chain. There was, however, concern that many independent processors don't do a high enough volume of business to support a producer, meaning a given producer would have to have a network of businesses they supply.

An issue that came up in one discussion focused on the need for additional supplies of specific cuts of pork, rather than whole animals. In addition to the one-on-one personal connections that independent pork producers seem to have forged with many local processors, the creation of some sort of cooperative exchange might be an opportunity for independent hog producers to supply these specific cuts. Again, for many of these cuts, tight quality controls would be needed to ensure processors that they would get consistent products from such an exchange.

> *"I buy pallets of bellies in and they all come from Canada. I never buy any loins. I always have enough loins. Sometimes I have to buy hams. And trim, I buy pallets of trim every other week."*

In sum, many independent processors seem to have established closed-loop supply chains with local producers. These arrangements appear to have great value to these processors (consistent quality hogs, flexibility in hog supply, ability to promote the meat as locally produced) and to be a source of some anxiety (few local suppliers raises the prospect of supply disruptions because of production problems on that farm or because the producer retires). Based on these two conversations, there appears to be interest in closer ties between producers and processors and that these links could be profitable for both parties if the quality and consistency issues raised by these processors can be addressed.

Conclusions

This survey of more than 120 Wisconsin meat processors found that most do have pork sales, but that pork is generally a minority part of their overall business. Counter sales (rather than custom harvesting, sales of boxed pork variety packs or whole/half hogs) is the most common form of pork sales for this set of processors. There is also a pronounced seasonal pattern to hog slaughter among these processors, reaching a low in late spring/early summer and a peak in late summer/early fall. The survey also revealed several significant differences between WAMP and non-WAMP processors – WAMP members tend to be more dependent on pork sales, process larger numbers of hogs, and prefer live hogs to carcasses.

At this point, Wisconsin meat processors do not seem to be overly concerned about future hog supplies (in terms of quantity or quality), competent employee supply, or their own facilities' limitations. In terms of hog characteristics that processors feel would increase their profitability, physical characteristics (loin eye size, marbling, and consistently low back fat) appear to be much more important than less tangible ones (organic, natural, breed). If they could get a consistent supply of hogs with the characteristics they most value, processors believe that their profitability would increase but by relatively modest amounts.

The telephone conversations with processors tended to confirm the quantitative measures from the survey. They, and their customers, place a value on "local" production and they see some potential for improved profitability if they could get a consistent supply of quality hogs. Many already have something like closed-loop supply chains with local producers.

Appendix A – Non-Response Bias Test

Any survey has to be concerned with "non-response bias." Non-response bias refers to a situation in which people who don't return a questionnaire have opinions that are systematically different from the opinions of those who return their surveys. For example, one part of Question 7 of the survey asked the respondent how important organic certification of the hogs they process is to the profitability of their business. If only meat processors who were strong promoters of organic products answered the survey and few who felt otherwise bothered to respond, the answers reported would suffer from non-response bias. They would overstate the importance of organic certification in this hypothetical example.

The standard way to test for non-response bias is a T-test that compares the responses of those who return the first mailing of a questionnaire to those who return the second mailing. Those who return the second questionnaire are, in effect, a sample of non-respondents (to the first mailing), and we assume that they are representative of that group. If there is a pattern of statistically significant differences in the responses to the first and second mailing of the survey, non-response bias is indicated.

This survey had two populations, members of the Wisconsin Association of Meat Processors (WAMP) and meat processors who are not members of WAMP. The SRC tested for non-response bias in each group.

Of the 38 variables tested, there were no statistically significant differences in the responses of the 55 WAMP members who completed the first survey mailed and the 22 who responded to the second mailing. For non-WAMP members there was a single statistically significant difference in the responses to the first mailing (25 respondents) versus the second mailing (21 respondents). Non-WAMP respondents to the second mailing indicated that "locally-produced" will be a less important factor in their profitability over the next five years than respondents to the first mailing.

Given these results, the SRC concludes that non-response bias is unlikely to be an issue for these two sample populations.

Appendix B – Written Comments

6. How likely will the following factors limit your ability to meet anticipated demand for your pork-related business over the next 5 years?

6e. (Other-Specify) WAMP Members

- Price (4x)
- Can't get live hogs
- Cost
- Low demand at this time
- Quality of workmanship on butchering and processing and curing.

6e. (Other-Specify) Non-WAMP Members

- Price

7. How important are the following characteristics to the profitability of your business over the next 5 years?

7i. (Specific Breed) WAMP Members

- Yorkshire (2x)
- Berkshire
- Chester White
- Duroc
- Hampshire
- Herefords makes great pork
- Landrace, Yorkshire
- York/Hampshire

7i. (Specific Breed) Non-WAMP Members

- Yorkshire

7j. (Other-Specify) WAMP Members

- Local, to me is 15 to 20 miles, people know the producers helps out a lot.
- Meat quality genetics
- Picnic trim
- Price (will people spend)

7j. (Other-Specify) Non-WAMP Members

- Consistency

12. If you have any additional thoughts, questions or comments about pork processing in Wisconsin, please share them in the box below.

12. WAMP Members *(15 Comments)*

Lack of local producers/hog availability ***(6 Comments)***

- Can't get live hogs for our needs
- It is a concern that there is a lack of pork producers in our area. It seems that it is very difficult for small producers to be profitable.
- Need more good pork producers
- We need more hogs raised in Wisconsin-buying foreign pork does not help local markets. Lets buy local and produce for our local consumers. I am not going to forget the local farmer and consumer who supports us. Other processors like Hillshire/Rahns & Nueske's have and that's not right for our local farmers. We would even pay a premium for local pork, beef and lamb.
- We would like to see a more consistent producer. There are times when we are not happy to be placing pork products in our retail counter.
- Work on increasing prices paid to the local hog farmer. Profitability now is 0%

Quality ***(3 comments)***

- Quality of pork begins at the farm! How they are fed, handled, raised, and housed. "The quality of life." If all of these are achieved, it is up to the processor to do the rest. Live hanging of hogs, "very important". Stunning and bleeding of hogs. A person that knows what he or she is doing not the clean up boy or the first timer. Skilled kill floor butchers, to produce nice looking carcasses. Nice looking carcass will make you want to buy and eat pork. Cooler in good working order to cool pork carcass rapidly skilled processing, people to make pork cuts look good! Not the speed of processing, "Hack and Wack" go home. Packaging not a really big thing! People will remember the look of the cut and how good it tastes.
- Some of our local fairs are going to a hog that is too lean for good retail sale, meat is too watery.
- Freshness and quantity and price are our biggest factors. How to cook and what is new is also big.

Low profitability/Demand ***(2 comments)***

- Because of large hog farm contracts with large meat plants the processing costs of us small processors really drives up the prices of our finished product. The labor and rendering biggest problems. Large companies make money on everything. We can't sell the things they pay their labor with!!
- The hogs we buy now have all the characteristics of the questions you have asked and still every year our pork sales go down.

Federal Inspection ***(1 comment)***

- It would be nice to have a federal pork plant in the state to buy trim and bellies from Abbyland and Brato (sow kills do not count for us)

Marketing ***(1 comment)***

- Promote specialty products made from pork! Like what we make at our plant, sausage, jerky, and cooked meat products for catering!

Employee retention ***(1 comment)***

- The hog numbers cut for farmers just aren't there in the winter months. We could cut more hogs in the summer and fall but are too busy doing other things. Finding hard working employees can be more limiting than other things.

Miscellaneous ***(1 comment)***

- We slaughter all of our own pork. We have a hog farmer that raises for us and they are very consistent hogs.

12. Non-WAMP Members *(9 Comments)*

Quality ***(4 comments)***

- Customers comment that "Pork does not taste like it used to"
- It would be great if the meat would be consistently lean because when it is, it sells very well. Price is not that big of a factor. Eye appeal is everything, if it looks nice people (customers) will buy it. If it comes in trimmed 1/4" or less, it saves us lots of time from trimming. We buy strictly boxed pork, we are a retail grocery store with over 20% meat dist. so it is a very big part of our business. Customers want lean meat.
- The quality of the boxed pork we bag is good.
- I think it is important that consumers understand how important fat content is for pork products to help maintain delicious flavor and moisture content! Fat=Flavor!

Marketing ***(2 comments)***

- I would like to see more marketing for Wisconsin Pork Producers. I did a survey on my own, 8 out of 10 people do not want antibiotics or hormones in their meat.
- We are a retail grocery store. Most of our sales of pork come from box pork. Pork industry should do a better job of educating younger generation w/ recipes, advertising. Quite simply, they want it all prepared for them. There is a chance w/ this economy for them to get back to basics of cooking.

Lack of hog availability ***(1 comment)***

- Hogs are getting harder and harder to find to butcher. Small farms went out of business so the hog supply is very low. I have to pay $10.00 over market price just to get the hogs.

Price ***(1 comment)***

- Why are pork prices rising as much as they are? Where's it going to stop?

Miscellaneous ***(1 comment)***

- This is a retail store only!

Appendix C: Quantitative Summary of Responses by Question

Wisconsin Pork Business Survey – 2011
****Please return by February 23, 2011****

Using blue or black ink, please fill the circle that most closely matches your response on the following questions.

Like this: ● Not like this: ✓ X /

THIS SECTION WE WANT TO GATHER SOME INFORMATION ABOUT YOUR OPERATION

Sales of pork products make up approximately what percentage of your business?	None		1 – 25%		26 – 50%		51 – 75%		76 – 100%	
	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W
	5%	12%	30%	51%	51%	31%	10%	6%	5%	0%

If you sell no pork products, please stop here and return your survey in the enclosed envelope. Thank you for your time.

What percentage of your pork sales consist of	None		1 – 25%		26 – 50%		51 – 75%		76 – 100%	
	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W
Custom processing of customer provided hogs	26%	34%	42%	47%	18%	3%	7%	8%	7%	8%
Half/Whole hogs you provide for customers	24%	38%	66%	59%	8%	3%	1%	0%	1%	0%
Boxed pork variety packs	29%	16%	56%	42%	13%	18%	1%	4%	1%	20%
Individual retail counter purchases	0%	8%	53%	55%	25%	18%	10%	8%	12%	11%

Approximately how many live or carcass hogs do you process per month? (median values for each group)

Month	Number WAMP	Number Non-W	Month	Number WAMP	Number Non-W	Month	Number WAMP	Number Non-W	Month	Number WAMP	Number Non-W
Jan	20	11	Apr	24	8	Jul	25	10	Oct	35	10
Feb	20	6.5	May	20	8	Aug	25	10	Nov	28	11
Mar	24	7	Jun	20	7	Sept	40	10	Dec	24.5	12

	Live Hogs		Carcasses	
	W	NW	W	NW
Given a choice and a dependable supply of consistent quality, would you prefer to start with live hogs or carcasses?	63%	33%	37%	67%

If you have no slaughter capacity, skip to Question 6

How many hogs per month are you currently able to slaughter in your facility - what is your maximum capacity? (median value for each group)	**WAMP**	**Non-W**
	45	45

IN THIS SECTION WE WILL BE ASKING FOR YOUR OPINIONS ABOUT YOUR BUSINESS

How likely will the following factors limit your ability to meet anticipated demand for your pork-related business over the next 5 years?	**Very Likely**		**Likely**		**Somewhat Likely**		**Not Likely**		**No Opinion**	
	W	**NW**	**W**	**NW**	**W**	**NW**	**W**	**NW**	**W**	**NW**
Lack of a consistent supply of live or carcass pork.	24%	23%	25%	18%	25%	16%	19%	32%	7%	11%
Lack of consistent quality live or carcass pork.	19%	14%	26%	20%	21%	23%	27%	34%	7%	9%
Difficulty finding competent employees.	7%	9%	27%	14%	24%	18%	40%	50%	3%	9%
Facility limitations (e.g. cooler space, aging equipment)	9%	9%	15%	11%	25%	25%	48%	50%	3%	5%
Other (specify) ___________________________	14%	0%	14%	6%	0%	0%	9%	13%	64%	81%

How important are the following characteristics to the profitability of your business over the next 5 years?	**Very Important**		**Important**		**Somewhat Important**		**Not Important**		**No Opinion**	
	W	**NW**	**W**	**NW**	**W**	**NW**	**W**	**NW**	**W**	**NW**
Consistent live weight	22%	13%	36%	20%	14%	13%	16%	22%	12%	33%
Back fat consistently 1 inch or less	26%	26%	39%	35%	13%	4%	13%	15%	9%	20%
Adequate marbling	25%	20%	43%	36%	21%	16%	5%	11%	6%	16%
Loin eye size	33%	24%	41%	44%	16%	16%	4%	2%	7%	13%
Organic certification	1%	0%	3%	4%	20%	27%	67%	51%	9%	18%
"Natural" production	9%	4%	19%	18%	27%	36%	36%	22%	8%	20%
Raised without antibiotics	26%	9%	18%	24%	30%	41%	20%	9%	5%	17%
Local (produced within 100 miles of your business)	30%	16%	27%	225	17%	18%	18%	27%	8%	18%
Specific breed, please specify ______________	2%	0%	12%	3%	12%	11%	46%	39%	28%	47%
Other, please specify _____________________	11%	0%	4%	4%	4%	0%	18%	9%	64%	87%

If you could consistently buy live or carcass pork at current market prices that has the characteristics you indicated are "very important" in Question 7, by how much do you think the profitability of your pork business would increase?

0%		1 – 5%		6 – 10%		11+%		No Opinion	
WAMP	Non-W	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W	WAMP	Non- W
1%	9%	24%	26%	36%	21%	11%	2%	27%	42%

DEMOGRAPHICS

	18–24		25–34		35–44		45–54		55–64		65+	
Age	W	NW	W	NW	W	NW	W	NW	W	NW	W	NW
	0%	0%	4%	4%	17%	16%	49%	40%	26%	33%	5%	7%

	Less than high school		High school diploma		Some college/ tech		Tech college graduate		Bachelor's degree		Grad or professional degree	
Highest level of Education	W	NW	W	NW	W	NW	W	NW	W	NW	W	NW
	0%	0%	38%	40%	31%	27%	15%	24%	14%	9%	3%	0%

	0 to 5 years		5.1 – 10 years		11 to 20 years		Over 20 years	
How many years have you had your business?	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W	WAMP	Non-W
	9%	7%	15%	9%	24%	30%	51%	54%

14. If you have any additional thoughts, questions or comments about pork processing in Wisconsin, please share them in the box below.

Thank you for taking the time to complete this survey!

Please return your survey in the enclosed postage-paid envelope to:

Survey Research Center,
University of Wisconsin – River Falls
124 Regional Development Institute
410 S. Third Street, River Falls, WI 54022-5001

Appendix D: Question Sequence for Focus Groups

Introduction

Thank you for agreeing to participate in this focus group. Today we will be examining issues of importance to independent meat processors and hog producers. As you well know, most of the hog industry has rapidly consolidated into vertically coordinated systems with relatively little of the country's hog production passing through competitive markets. You also know that the hog industry in Wisconsin has shrunk considerably in the past few years. According to USDA estimates, the Dec 1 inventory of all market hogs on farms in Wisconsin in 2007 was 390,000 and by 2010 the inventory had fallen to 295,000. So, today's conversation is meant to explore possibilities for improving the profitability of Wisconsin's independent hog producers and processors.

Let's start by introducing ourselves. I'm Dave Trechter and I am the chair of the department of agricultural economics at UW-River Falls and will be facilitating this focus group today. This project is funded by an ADD grant from DATCP. If each of you could tell us your name, where you are from, the name of your business, and how long you've been in business.

1. The first question I have for you is to ask what you see as the most important problem(s) you face with respect to the pork portion of your business? Possible follow-up questions may be:
    a. What is your major problem with respect to sourcing hogs?
    b. What is your major problem with respect to processing hogs?
    c. What is your major problem with respect to selling pork products to your customers?

2. With respect to any challenges you are facing sourcing hogs for your business, what actions do you think independent processors such as yourselves and independent hog producers could jointly take that would improve the profitability of both groups?

3. How would you describe your target customers – what is your niche? Possible follow-up questions may be:
    a. If your customers could be guaranteed to get the type of pork products they want, do you think they would be willing to pay a premium for that quality? How price-sensitive do you think they are?

4. What do you think those customers value the most? Possible follow-up questions may be:
    a. How important is "local" production to them?
    b. How important is organic or "natural" production to them?
    c. How important is product verification/traceability to them?
    d. How important is the use of antibiotics in hog production to your customers/you?

5. What would be most helpful to you in terms of increasing the size of your customer base/sales? Possible follow-up questions may be:
    a. Are there hog quality or quantity constraints that would need to be addressed?
    b. Are there hog slaughter/processing constraints that would need to be addressed?
    c. Are there marketing or other retail management issues that would need to be addressed?

6. How do you think the target market for your pork products will change because of the new policy that allow us to ship state-inspected products across state lines?

7. We all know that hog prices tend to be quite volatile. How would you prefer to manage your price risks? Possible follow-up question:
    a. What do you see as the pros and cons of creating more of a closed-loop supply chain (controlling hog genetics, feed regimes, carcass quality, etc.) of independent hog producers and processors in which price risks are shared within the system?