Montana WIRED Manufacturers Survey – Final Report

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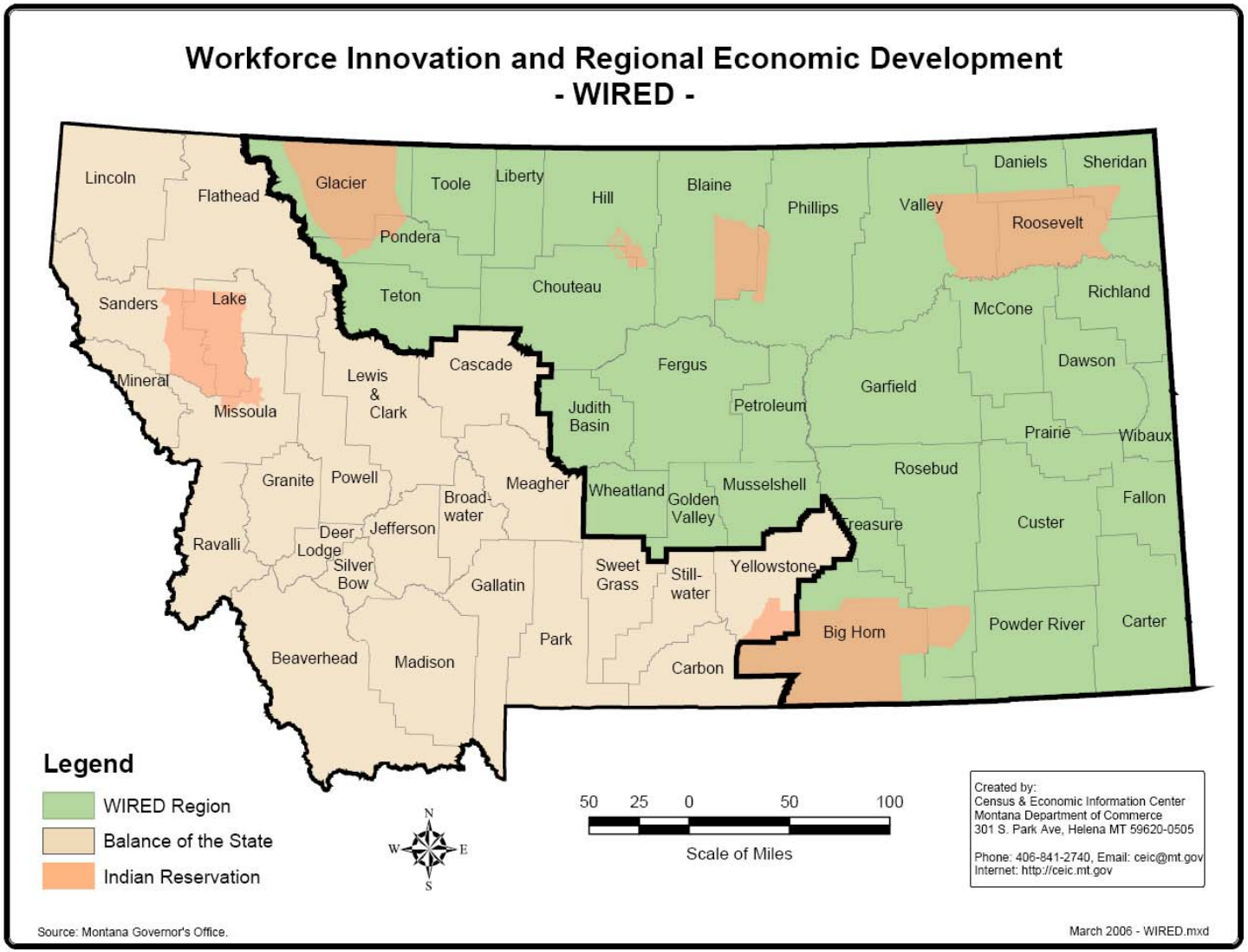
MONTANA WIRED COUNTIES MAP



METHODS SUMMARY

Purpose

This survey provides information about bio-manufacturers located in 32 rural, eastern Montana counties. Obtaining this information is an important step in the Montana Manufacturing Extension Center's (MMEC) process under the auspices of the Workforce Innovation In Regional Economic Development (WIRED) program of providing vital assistance to bio-manufacturers. Bureau of Business and Economic Research (BBER) at The University of Montana-Missoula administered questionnaires to businesses involved in bio-manufacturing to gather this information.

Study Design

The questionnaire was administered by telephone using a Computer-Assisted Telephone Interviewing (CATI) system. The population studied was a list of possible manufacturers located in the 32 Montana, WIRED program counties. A portion of the list was provided to BBER by MMEC. The Montana Arts Council also provided BBER a list of possible manufacturers. BBER then conducted a directory search to supplement the lists provided by MMEC and the Arts Council.

The study focused on bio-manufacturers. For this study the definition of bio-manufacturers was operationalized as businesses that take inputs (or raw materials) and process them by adding value before selling them where any of the inputs to the product(s) are made of any type of plant or animal-based material. Since all businesses on the final list were initially included in the study a discussion of sampling error is not relevant, there is no sampling error in this study.

The questions were developed by BBER under the supervision of MMEC. MMEC was the final approval authority for the questionnaire. The questionnaire primarily:

a. Identified bio-manufacturers in the 32 Montana WIRED counties,
b. Obtained accurate locating information for each bio-manufacturer,
c. Determined which bio-manufacturers required training assistance, and
d. Described the types of training assistance required by bio-manufacturers.

The questionnaire was tested by administering it via telephone to a small convenience sample of businesses located in the 32 WIRED counties. The questionnaire and interviewing procedures were refined based on observations made during the field test. The field test was particularly valuable in clarifying the operational definition of a bio-manufacturer. This refinement added significantly to the reliability of the final data collected.

Survey Administration

The survey was administered from January 8, 2007 through March 12, 2007. Of the 873 eligible businesses contacted 546 participated in the survey. 542 respondents (62.1%) provided a sufficient amount of data for their interview to be used in analysis. A 62.1% percent response rate is considered typical for a survey of this type. By completing interviews with a majority of this population, the probability is decreased that nonresponding businesses would provide answers to key questions that differ significantly from respondents' answers. This improves the reliability of the data.

Pre-survey letters were sent to each firm on the original list. This letter explained the project and told businesses that interviewers from BBER would contact the owner or manager of the business. The pre-survey letter also served the purpose of eliminating those firms that were no longer in business or had moved. It was determined that 469 (86.5%) of those added value to a product and were thus manufacturing firms. If a firm was a manufacturer and used organic material in its production process, the complete questionnaire was administered; the interview was terminated if a business did no manufacturing or did not use organic material. The study identified a total of 338 bio-manufacturers or 62.4% of firms that provided sufficient data for analysis.

Structure of this Report

This report is divided into five sections: the methods summary, the results summary, and three appendices. Each major section is divided into sub-sections that describe the main findings for each section.

Appendix A provides frequencies of survey responses. Appendix B provides an analysis of survey responses by two business characteristics: number of employees and year over year sales increase. Appendix C provides readers with a copy of the final questionnaire.

The detailed tabulations in Appendix B are a very powerful tool for those interested in the results of this study. Each table includes a summary of the question language used, the percentage of each response option chosen, and the number of responses for each question. In addition, each table provides a cross-tabulation of the percentage of responses by selected demographic characteristics. Chi-squared tests are provided to assist the reader in identifying patterns in the data. While tests of significance like chi-squared tests are not required because no sample was drawn for this study, it is helpful to emphasize the strongest patterns by highlighting those demographic differences that would be significant if this study were sample based.

Detailed locating information and bio-manufacturer targeting information is also provided to MMEC through the delivery of a separate, electronic database.

RESULTS SUMMARY

Bio-manufacturing Demographics in Montana WIRED Counties

338 (72.1%) of 469 manufacturers in Montana's 32 WIRED counties met the operational definition of bio-manufacturing used in this study. 270 of the manufacturers identified were classified as non-artists. 171 (63.3%) of the non-artist manufacturers fulfilled the operational definition of bio-manufacturing. This proportion includes sole proprietorships.

The WIRED Survey includes more manufacturers than some may anticipate based on a cursory glance at U.S. Census Bureau data. The WIRED Survey completed interviews with 135 non-artist bio-manufacturers who had a proprietor and at least one employee. A total of 146 manufacturing establishments with at least one employee resided in the 32 Montana WIRED counties in 2005 according the U.S. Census Bureau's County Business Patterns.

The difference is explained by two factors. First, the WIRED Survey includes sole proprietorships while County Business Patterns does not. Second, the WIRED Survey purposefully cast a wide net with its definition of manufacturing compared with County Business Patterns. The inclusive definition used in the WIRED Survey provides MMEC and other researchers with additional opportunities to study and develop bio-manufacturing in Montana.

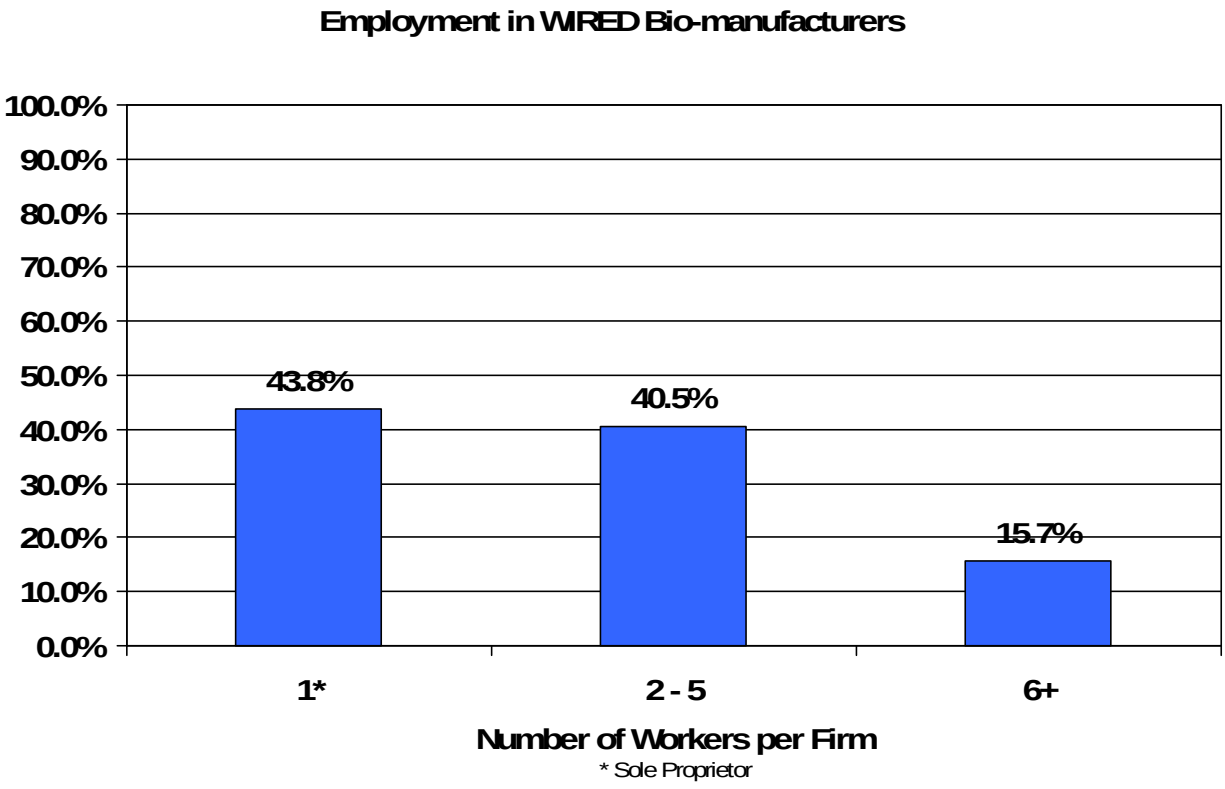


Figure 1

Most bio-manufacturers in the WIRED counties (84.3%) are sole proprietorships or they employ the proprietor and up to four additional workers (see Figure 1 above). Only 15.7 percent of WIRED bio-manufacturers employ the proprietor and five or more additional workers.

Demand for Training Assistance

13.3% of bio-manufacturers in the 32 WIRED counties (45 firms) said that they anticipate having training needs that they will be unable to meet within their own organization within the next two years (see Figure 2 below).

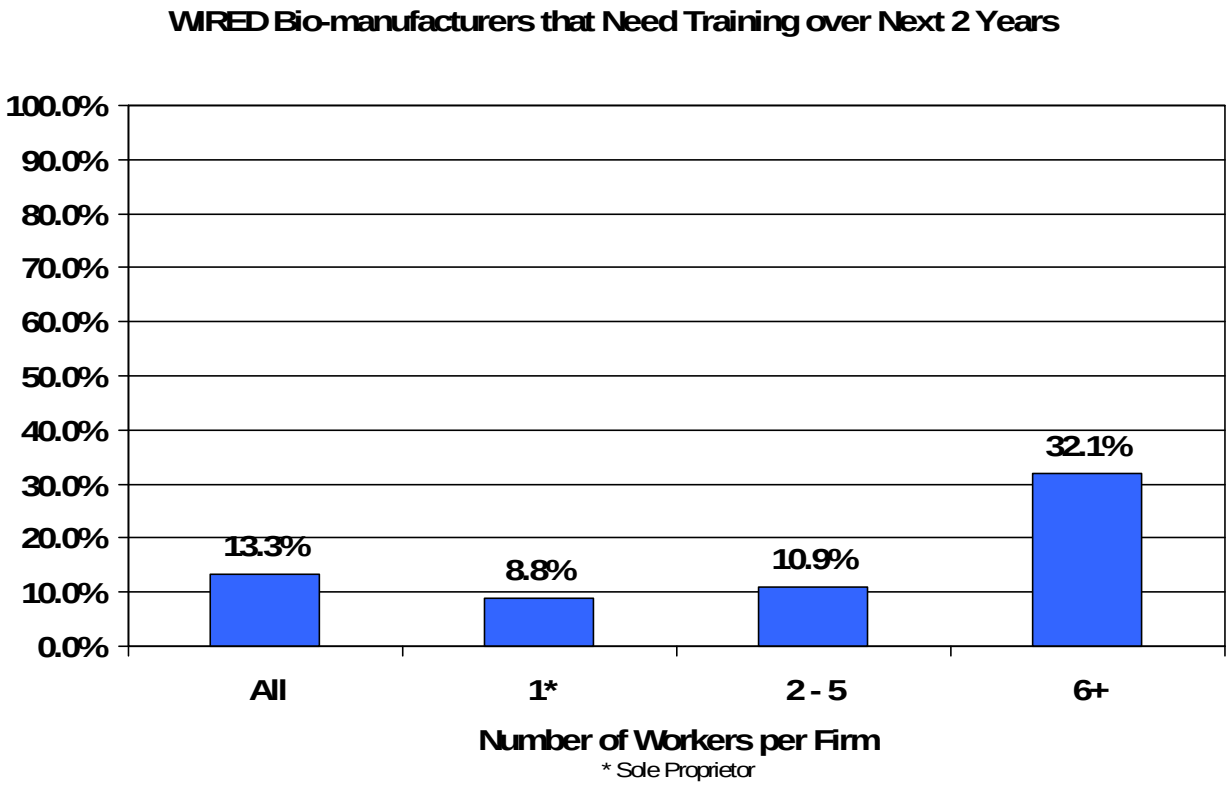


Figure 2

Firms with more employees were more likely than firms with fewer workers to anticipate unmet training needs. While 32.1% of firms with 6 or more workers anticipated having unmet training needs, only 8.8% of sole proprietors agreed. Businesses that earned increased sales in 2006 over 2005 were also more likely than firms that earned decreased sales to anticipate unmet training needs. 20.1% of businesses that experienced increased gross sales in calendar year 2006 over 2005 projected training needs that they could not meet in house, but only 10.3% of businesses with decreased sales made a similar projection.

The WIRED Survey examined two additional training demand indicators. First, only 7.7% of bio-manufacturers (26 firms) reported having current training needs that were not being met within their company. Second, nearly one in four bio-manufacturers (78 firms) projected increasing the number of positions at that establishment over the next two years, signaling a possible upcoming training need.

Types of Training Required

The WIRED Survey examined several types of training that might be used by bio-manufacturers at some time in the future. Just over three in every ten bio-manufacturers (31.4%) reported the possibility of using a computer skills training program (see Table 1 below). Nearly the same proportion (29.6%) said they might use a management skills training program. Only 16.9% of bio-manufacturers said they may require social skill training, and only 18.3% said they might use work ethic/ or personal responsibility training.

Table 1: Types of Training Required

Type of Training N = 338	Yes (%)	No (%)	Don't Know (%)
Computer skills	31.4%	62.4%	6.2%
Management skills	29.6%	65.4%	5.0%
Verbal communication	26.6%	68.3%	5.0%
Job-specific skills	23.1%	70.1%	6.8%
Math skills	21.0%	75.7%	3.3%
Written communication	19.8%	76.0%	4.1%
Work ethic/ personal responsibility	18.3%	77.5%	4.1%
Social skills	16.9%	78.4%	4.7%

Bio-manufacturers with more workers and those with increased gross sales in 2006 over 2005 were generally more likely to say they might use a specific type of training at some time in the future than were other bio-manufacturers. Just over half (50.9%) of bio-manufacturers with six or more workers said they might seek a computer training program at some time in the future, while only 23% of sole proprietors agreed. Similarly, over one in three (36.0%) of the largest bio-manufacturers said they may use a management skills program, while only 22.1% of the smallest said they would seek such a program.

Preparation of Newly Hired Workers

Overall, bio-manufacturers were evenly divided in their evaluation of the quality of the preparation of employees hired over the last year. While 48.9% said their new hires were very or somewhat prepared, 47.6% said their new hires were very or somewhat unprepared. The remainder said they weren't sure. These proportions represent only those bio-manufacturers that reported having at least one employee and having made at least one new hire during the past year.

Larger employers were more likely to rate the preparation of their past year hires negatively than were smaller employers (please see Figure 3 on the following page).

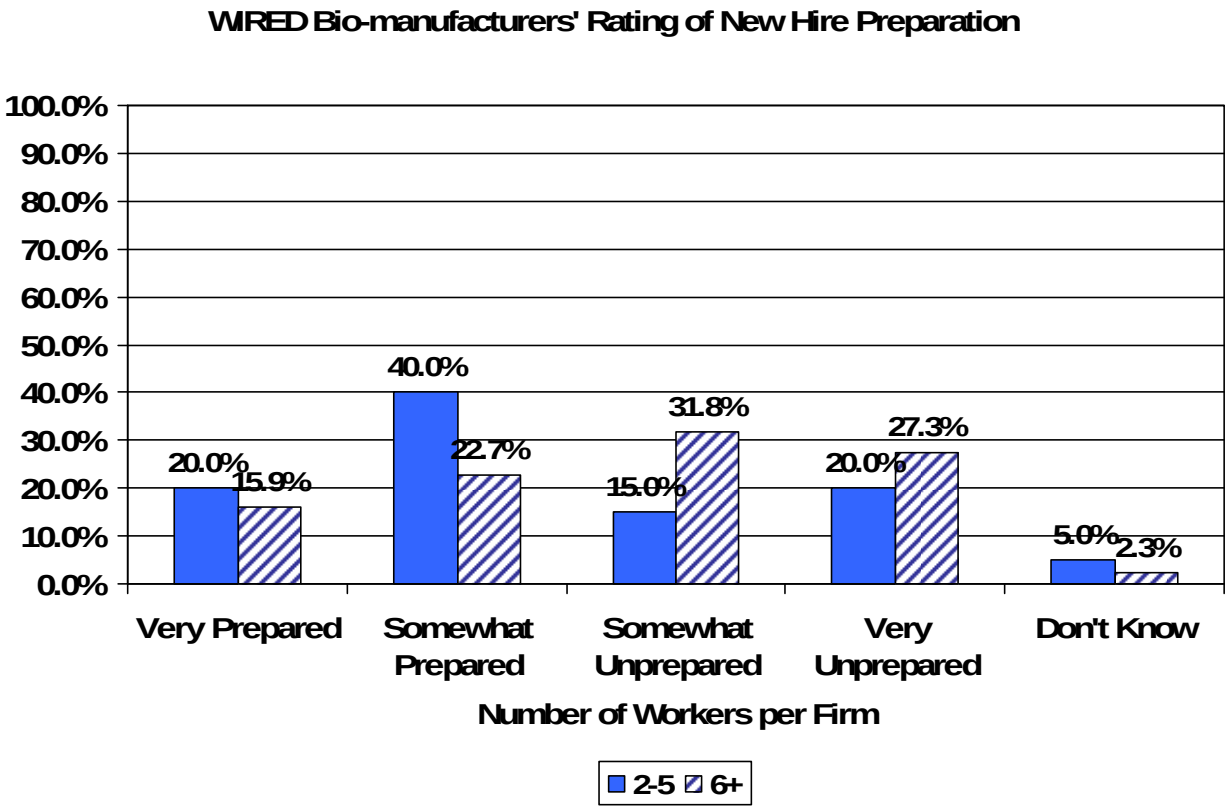


Figure 3

59.1% of bio-manufacturers with six or more workers said their new hires were somewhat or very unprepared, while 60.0% of bio-manufacturers with between two and five workers said their new hires were somewhat or very prepared.

Lower sales earning bio-manufacturers rated the quality of their past year hires significantly lower than did higher sales earning bio-manufacturers. 70% of bio-manufacturers with a past year hire that earned decreased gross sales in 2006 said their new hires were at least somewhat unprepared. Only 47.4% of those with increased 2006 gross sales said that their new hires were somewhat or very unprepared.

Skill Levels of Newly Hired Employees

The WIRED Survey explored bio-manufacturers' ratings of the skill levels of their past year hires. The survey examined eight types of workplace skill. Each skill type was rated on a four-point scale from very prepared through very unprepared. The proportions described represent only those bio-manufacturers that reported having at least one employee and having made at least one new hire during the past year.

The WIRED Survey's larger bio-manufacturers rated the preparation of their past year hires higher when asked about specific skills than when asked about the preparation of their new hires overall. While 78.6% rated their new hires somewhat or very prepared in specific areas like social skills and work ethic (see Table 2 below), only 48.9% said their new hires were somewhat or very prepared overall. The larger bio-manufacturers rated the job specific skills of their new hires lowest (34.5% somewhat or very unprepared) followed by written communication (29.8% unprepared) and math skills (28.6% unprepared).

Table 2: New Hire Skill Level Ratings

Type of Training N = 84	Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	Don't Know
Job-specific skills	25.0%	35.7%	19.0%	15.5%	4.8%
Written communication	20.2%	28.6%	17.9%	11.9%	21.4%
Math skills	20.2%	26.2%	14.3%	14.3%	25.0%
Computer skills	20.2%	21.4%	16.7%	8.3%	33.3%
Management skills	14.3%	16.7%	10.7%	11.9%	46.4%
Verbal communication	39.3%	38.1%	14.3%	4.8%	3.6%
Work ethic/ personal responsibility	40.5%	38.1%	7.1%	10.7%	3.6%
Social skills	35.7%	42.9%	8.3%	9.5%	3.6%

Bio-manufacturers with six or more workers were a bit more likely to say that their new hires were somewhat or very unprepared when compared with bio-manufacturers with between two and five workers. While 40.9% of employers with six or more workers said their new hires were somewhat or very unprepared in written communication, only 17.5% of employers with between two and five workers agreed.

Readers should notice that more respondents answered "Don't Know" to these questions than to others in the survey. This probably reflects the fact that some workplace skills, like management skills, many not apply to the employer's new hire(s). Other employers may not have evaluated some specific skills examined by these questions.

Maintaining a World-Wide Web Site

Three in ten (30.4%) of all respondents and 31.1% of bio-manufacturers maintain a world-wide web site for their business. As bio-manufacturers increase in number of workers, they are more likely to maintain a web site. While only 23.0% of sole proprietors maintain a web site, this fraction increases to 32.8% for those with between two and five workers. The proportion is highest (49.1%) for bio-manufacturers with six or more workers.

Bio-manufacturers that earned increased gross sales in 2006 over 2005 were somewhat more likely to maintain a web site than were those that earned decreased sales. 35.0% of bio-manufacturers that earned increased sales in 2006 maintain a web site, but only 26.1% of those that earned decreased sales maintain a web site.

APPENDIX A: WIRED MANUFACURTERS SURVEY RESPONSE FREQUENCIES

WIRED Manufacturers Survey Response Frequencies: All Respondents

Does your business have a world-wide web site?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	377	69.6	69.6	69.6
	Yes	165	30.4	30.4	100.0
	Total	542	100.0	100.0	

Does your business take inputs (or raw materials) and process them by adding value before selling them to your customers, or not?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	73	13.5	13.5	13.5
	Yes	469	86.5	86.5	100.0
	Total	542	100.0	100.0	

Are any of the inputs to your product(s) made of any type of plant or animal-based material, or not?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	204	37.6	37.6	37.6
	Yes	338	62.4	62.4	100.0
	Total	542	100.0	100.0	

(If No) Does your business plan on adding a product in the future that is made, at least in part, of any type of plant or animal-based material, or not?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	203	37.5	99.5	99.5
	Yes	1	.2	.5	100.0
	Total	204	37.6	100.0	
Missing	Bio-manufacturers	338	62.4		
Total		542	100.0		

Number of Full-time Employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	93	17.2	27.5	27.5
	1	114	21.0	33.7	61.2
	2	58	10.7	17.2	78.4
	3	20	3.7	5.9	84.3
	4	11	2.0	3.3	87.6
	5	9	1.7	2.7	90.2
	6	3	.6	.9	91.1
	7	7	1.3	2.1	93.2
	8	4	.7	1.2	94.4
	9	1	.2	.3	94.7
	10	1	.2	.3	95.0
	11	2	.4	.6	95.6
	12	2	.4	.6	96.2
	13	1	.2	.3	96.4
	15	1	.2	.3	96.7
	16	2	.4	.6	97.3
	20	1	.2	.3	97.6
	21	1	.2	.3	97.9
	24	2	.4	.6	98.5
	25	1	.2	.3	98.8
	35	1	.2	.3	99.1
	44	1	.2	.3	99.4
	85	1	.2	.3	99.7
	240	1	.2	.3	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Number of Part-time Employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	124	22.9	36.7	36.7
	1	122	22.5	36.1	72.8
	2	47	8.7	13.9	86.7
	3	26	4.8	7.7	94.4
	4	7	1.3	2.1	96.4
	5	5	.9	1.5	97.9
	6	2	.4	.6	98.5
	7	1	.2	.3	98.8
	10	1	.2	.3	99.1
	12	1	.2	.3	99.4
	29	1	.2	.3	99.7
	39	1	.2	.3	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Does your businesses now, or is your business capable of producing enough product to supply a wholesaler?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	84	15.5	42.6	42.6
	Yes	51	9.4	25.9	68.5
	DK	62	11.4	31.5	100.0
	Total	197	36.3	100.0	
Missing	Non-crafts	345	63.7		
Total		542	100.0		

Is your business interested in a state-wide marketing program that attempts to place your product in retail venues and promote your product, or not?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	49	9.0	24.9	24.9
	Yes	84	15.5	42.6	67.5
	DK	64	11.8	32.5	100.0
	Total	197	36.3	100.0	
Missing	Non-crafts	345	63.7		
Total		542	100.0		

In terms of education and training, how well prepared were your new hires over the last year, that is, since January 1, 2006?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	20	3.7	23.8	23.8
	Somewhat unprepared	20	3.7	23.8	47.6
	Somewhat prepared	26	4.8	31.0	78.6
	Very prepared	15	2.8	17.9	96.4
	DK/MISSING	3	.6	3.6	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Work ethic/personal responsibility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	9	1.7	10.7	10.7
	Somewhat unprepared	6	1.1	7.1	17.9
	Somewhat prepared	32	5.9	38.1	56.0
	Very prepared	34	6.3	40.5	96.4
	DK/MISSING	3	.6	3.6	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Social skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	8	1.5	9.5	9.5
	Somewhat unprepared	7	1.3	8.3	17.9
	Somewhat prepared	36	6.6	42.9	60.7
	Very prepared	30	5.5	35.7	96.4
	DK/MISSING	3	.6	3.6	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Math skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	12	2.2	14.3	14.3
	Somewhat unprepared	12	2.2	14.3	28.6
	Somewhat prepared	22	4.1	26.2	54.8
	Very prepared	17	3.1	20.2	75.0
	DK/MISSING	21	3.9	25.0	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Written communication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	10	1.8	11.9	11.9
	Somewhat unprepared	15	2.8	17.9	29.8
	Somewhat prepared	24	4.4	28.6	58.3
	Very prepared	17	3.1	20.2	78.6
	DK/MISSING	18	3.3	21.4	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Verbal communication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	4	.7	4.8	4.8
	Somewhat unprepared	12	2.2	14.3	19.0
	Somewhat prepared	32	5.9	38.1	57.1
	Very prepared	33	6.1	39.3	96.4
	DK/MISSING	3	.6	3.6	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Management skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	10	1.8	11.9	11.9
	Somewhat unprepared	9	1.7	10.7	22.6
	Somewhat prepared	14	2.6	16.7	39.3
	Very prepared	12	2.2	14.3	53.6
	DK/MISSING	39	7.2	46.4	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Computer skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	7	1.3	8.3	8.3
	Somewhat unprepared	14	2.6	16.7	25.0
	Somewhat prepared	18	3.3	21.4	46.4
	Very prepared	17	3.1	20.2	66.7
	DK/MISSING	28	5.2	33.3	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Job specific skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very unprepared	13	2.4	15.5	15.5
	Somewhat unprepared	16	3.0	19.0	34.5
	Somewhat prepared	30	5.5	35.7	70.2
	Very prepared	21	3.9	25.0	95.2
	DK/MISSING	4	.7	4.8	100.0
	Total	84	15.5	100.0	
Missing	Sole proprietor	148	27.3		
	No new hires	106	19.6		
	Non-bio	204	37.6		
	Total	458	84.5		
Total		542	100.0		

Next I'm going to ask you about specific types of training programs that could be offered. For each type I mention, please tell me whether or not your business or organization would use that program in the next two years.

Training-Work ethic/personal responsibility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	262	48.3	77.5	77.5
	Yes	62	11.4	18.3	95.9
	DK/MISSING	14	2.6	4.1	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Training-Social skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	265	48.9	78.4	78.4
	Yes	57	10.5	16.9	95.3
	DK/MISSING	16	3.0	4.7	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Training-Math skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	256	47.2	75.7	75.7
	Yes	71	13.1	21.0	96.7
	DK/MISSING	11	2.0	3.3	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Training-Written communication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	257	47.4	76.0	76.0
	Yes	67	12.4	19.8	95.9
	DK/MISSING	14	2.6	4.1	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Training-Verbal communication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	231	42.6	68.3	68.3
	Yes	90	16.6	26.6	95.0
	DK/MISSING	17	3.1	5.0	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Training-Management skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	221	40.8	65.4	65.4
	Yes	100	18.5	29.6	95.0
	DK/MISSING	17	3.1	5.0	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Training-Computer skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	211	38.9	62.4	62.4
	Yes	106	19.6	31.4	93.8
	DK/MISSING	21	3.9	6.2	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Training-Job specific skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	237	43.7	70.1	70.1
	Yes	78	14.4	23.1	93.2
	DK/MISSING	23	4.2	6.8	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Does your business or organization have any current training needs that are not being met within your organization?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	302	55.7	89.3	89.3
	Yes	26	4.8	7.7	97.0
	DK	10	1.8	3.0	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

What about over the next two years? Does your business or organization have any training needs over the next two years that you don't anticipate being able to meet within your organization?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	279	51.5	82.5	82.5
	Yes	45	8.3	13.3	95.9
	DK	14	2.6	4.1	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

I want to ask now about your future job training needs. Do you anticipate increasing the number of positions for certain jobs in the next two years?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	223	41.1	66.0	66.0
	Yes	78	14.4	23.1	89.1
	DK/MISSING	37	6.8	10.9	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Do you anticipate decreasing the number of positions for certain jobs in the next two years?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	307	56.6	90.8	90.8
	Yes	12	2.2	3.6	94.4
	DK/MISSING	19	3.5	5.6	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

For CALENDAR YEAR 2006, will your business's gross sales increase, stay about the same, or decrease from 2005?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Decrease	68	12.5	20.1	20.1
	Stay the same	108	19.9	32.0	52.1
	Increase	139	25.6	41.1	93.2
	DK/MISSING	23	4.2	6.8	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

For CALENDAR YEAR 2006, will your business's production increase, stay about the same, or decrease from 2005?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Decrease	57	10.5	16.9	16.9
	Stay the same	112	20.7	33.1	50.0
	Increase	150	27.7	44.4	94.4
	DK/MISSING	19	3.5	5.6	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

For CALENDAR YEAR 2006, will your business's profits increase, stay about the same, or decrease from 2005?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Decrease	88	16.2	26.0	26.0
	Stay the same	103	19.0	30.5	56.5
	Increase	112	20.7	33.1	89.6
	DK/MISSING	35	6.5	10.4	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

Looking ahead to CALENDAR YEAR 2007, what do you anticipate will happen to your plant's production in 2007?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Decrease	20	3.7	5.9	5.9
	Stay the same	103	19.0	30.5	36.4
	Increase	185	34.1	54.7	91.1
	DK/MISSING	30	5.5	8.9	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

What do you anticipate will happen to the prices you receive for your plant's products in 2007?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Decrease	13	2.4	3.8	3.8
	Stay the same	131	24.2	38.8	42.6
	Increase	166	30.6	49.1	91.7
	DK/MISSING	28	5.2	8.3	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

What do you anticipate will happen to your plant's gross sales in 2007?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Decrease	22	4.1	6.5	6.5
	Stay the same	85	15.7	25.1	31.7
	Increase	199	36.7	58.9	90.5
	DK/MISSING	32	5.9	9.5	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

What do you anticipate will happen to your plant's profit in 2007?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Decrease	30	5.5	8.9	8.9
	Stay the same	100	18.5	29.6	38.5
	Increase	174	32.1	51.5	89.9
	DK/MISSING	34	6.3	10.1	100.0
	Total	338	62.4	100.0	
Missing	Non-bio	204	37.6		
Total		542	100.0		

APPENDIX B: WIRED MANUFACTURERS SURVEY BUSINESS SIZE AND SALES TABLES

		Does your business have a world-wide web site?		
		Yes	No	Total
		Row N %	Row N %	Count
Number of Employees	Total	31.1%	68.9%	338
	1	23.0%	77.0%	148
	2 - 5	32.8%	67.2%	137
	6 +	49.1%	50.9%	53
Gross Sales CY 2006 over 2005	Decrease	26.1%	73.9%	69
	Stay the same	28.7%	71.3%	108
	Increase	35.0%	65.0%	140

Pearson Chi-Square Tests[1]

		Does your business have a world-wide web site?
Number of Employees	Chi-square	12.740
	df	2
	Sig.	.002(*)
Gross Sales CY 2006 over 2005	Chi-square	2.094
	df	2
	Sig.	.351

Results are based on nonempty rows and columns in each innermost subtable.
* The Chi-square statistic is significant at the 0.05 level.

[1]Chi-squared tests are provided to assist the reader in identifying patterns in the data. While tests of significance like chi-squared tests are not required because no sample was drawn for this study, it is helpful to emphasize the strongest patterns by highlighting those demographic differences that would be statistically significant if this study were sample based.

		In terms of education and training, how well prepared were your new hires over the last year, that is, since January 1, 2006?					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	17.9%	31.0%	23.8%	23.8%	3.6%	84
	2 - 5	20.0%	40.0%	15.0%	20.0%	5.0%	40
	6 +	15.9%	22.7%	31.8%	27.3%	2.3%	44
Gross Sales CY 2006 over 2005	Decrease	10.0%	20.0%	30.0%	40.0%	.0%	10
	Stay the same	18.8%	43.8%	6.3%	25.0%	6.3%	16
	Increase	19.3%	29.8%	28.1%	19.3%	3.5%	57

Pearson Chi-Square Tests

		In terms of education and training, how well prepared were your new hires over the last year, that is, since January 1, 2006?
Number of Employees	Chi-square	5.607
	df	4
	Sig.	.230(a)
Gross Sales CY 2006 over 2005	Chi-square	6.586
	df	8
	Sig.	.582(a,b)

Results are based on nonempty rows and columns in each innermost subtable.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

		Work ethic/personal responsibility					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	40.5%	38.1%	7.1%	10.7%	3.6%	84
	2 - 5	52.5%	25.0%	10.0%	7.5%	5.0%	40
	6 +	29.5%	50.0%	4.5%	13.6%	2.3%	44
Gross Sales CY 2006 over 2005	Decrease	40.0%	40.0%	.0%	20.0%	.0%	10
	Stay the same	50.0%	43.8%	.0%	.0%	6.3%	16
	Increase	38.6%	36.8%	8.8%	12.3%	3.5%	57

Pearson Chi-Square Tests

		Work ethic/personal responsibility
Number of Employees	Chi-square	8.210
	df	4
	Sig.	.084(a)
Gross Sales CY 2006 over 2005	Chi-square	6.128
	df	8
	Sig.	.633(a,b)

Results are based on nonempty rows and columns in each innermost subtable.
a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.
b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

		Social skills					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	35.7%	42.9%	8.3%	9.5%	3.6%	84
	2 - 5	47.5%	30.0%	10.0%	7.5%	5.0%	40
	6 +	25.0%	54.5%	6.8%	11.4%	2.3%	44
Gross Sales CY 2006 over 2005	Decrease	30.0%	50.0%	10.0%	10.0%	.0%	10
	Stay the same	43.8%	31.3%	6.3%	12.5%	6.3%	16
	Increase	35.1%	45.6%	8.8%	7.0%	3.5%	57

Pearson Chi-Square Tests

		Social skills
Number of Employees	Chi-square	6.935
	df	4
	Sig.	.139(a)
Gross Sales CY 2006 over 2005	Chi-square	2.364
	df	8
	Sig.	.968(a,b)

Results are based on nonempty rows and columns in each innermost subtable.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

		Math skills					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	20.2%	26.2%	14.3%	14.3%	25.0%	84
	2 - 5	32.5%	25.0%	12.5%	10.0%	20.0%	40
	6 +	9.1%	27.3%	15.9%	18.2%	29.5%	44
Gross Sales CY 2006 over 2005	Decrease	20.0%	10.0%	.0%	40.0%	30.0%	10
	Stay the same	25.0%	43.8%	6.3%	6.3%	18.8%	16
	Increase	19.3%	24.6%	19.3%	10.5%	26.3%	57

Pearson Chi-Square Tests

		Math skills
Number of Employees	Chi-square	7.630
	df	4
	Sig.	.106
Gross Sales CY 2006 over 2005	Chi-square	12.910
	df	8
	Sig.	.115(a)

Results are based on nonempty rows and columns in each innermost subtable.
a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Written communication					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	20.2%	28.6%	17.9%	11.9%	21.4%	84
	2 - 5	32.5%	25.0%	10.0%	7.5%	25.0%	40
	6 +	9.1%	31.8%	25.0%	15.9%	18.2%	44
Gross Sales CY 2006 over 2005	Decrease	20.0%	10.0%	30.0%	20.0%	20.0%	10
	Stay the same	18.8%	31.3%	18.8%	.0%	31.3%	16
	Increase	21.1%	31.6%	15.8%	12.3%	19.3%	57

Pearson Chi-Square Tests

		Written communication
Number of Employees	Chi-square	10.353
	df	4
	Sig.	.035(*)
Gross Sales CY 2006 over 2005	Chi-square	5.851
	df	8
	Sig.	.664(a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Verbal communication					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	39.3%	38.1%	14.3%	4.8%	3.6%	84
	2 - 5	47.5%	35.0%	7.5%	5.0%	5.0%	40
	6 +	31.8%	40.9%	20.5%	4.5%	2.3%	44
Gross Sales CY 2006 over 2005	Decrease	40.0%	20.0%	30.0%	10.0%	.0%	10
	Stay the same	56.3%	18.8%	18.8%	.0%	6.3%	16
	Increase	35.1%	45.6%	10.5%	5.3%	3.5%	57

Pearson Chi-Square Tests

		Verbal communication
Number of Employees	Chi-square	4.410
	df	4
	Sig.	.353(a)
Gross Sales CY 2006 over 2005	Chi-square	9.244
	df	8
	Sig.	.322(a,b)

Results are based on nonempty rows and columns in each innermost subtable.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

		Management skills					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	14.3%	16.7%	10.7%	11.9%	46.4%	84
	2 - 5	25.0%	17.5%	12.5%	5.0%	40.0%	40
	6 +	4.5%	15.9%	9.1%	18.2%	52.3%	44
Gross Sales CY 2006 over 2005	Decrease	20.0%	.0%	10.0%	30.0%	40.0%	10
	Stay the same	12.5%	25.0%	12.5%	12.5%	37.5%	16
	Increase	14.0%	17.5%	10.5%	8.8%	49.1%	57

Pearson Chi-Square Tests

		Management skills
Number of Employees	Chi-square	10.133
	df	4
	Sig.	.038(*,a)
Gross Sales CY 2006 over 2005	Chi-square	6.281
	df	8
	Sig.	.616(a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Computer skills					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	20.2%	21.4%	16.7%	8.3%	33.3%	84
	2 - 5	27.5%	17.5%	12.5%	5.0%	37.5%	40
	6 +	13.6%	25.0%	20.5%	11.4%	29.5%	44
Gross Sales CY 2006 over 2005	Decrease	20.0%	10.0%	20.0%	20.0%	30.0%	10
	Stay the same	18.8%	18.8%	18.8%	12.5%	31.3%	16
	Increase	21.1%	24.6%	15.8%	5.3%	33.3%	57

Pearson Chi-Square Tests

		Computer skills
Number of Employees	Chi-square	4.751
	df	4
	Sig.	.314(a)
Gross Sales CY 2006 over 2005	Chi-square	3.694
	df	8
	Sig.	.884(a,b)

Results are based on nonempty rows and columns in each innermost subtable.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

		Job specific skills					
		Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	25.0%	35.7%	19.0%	15.5%	4.8%	84
	2 - 5	32.5%	35.0%	17.5%	10.0%	5.0%	40
	6 +	18.2%	36.4%	20.5%	20.5%	4.5%	44
Gross Sales CY 2006 over 2005	Decrease	20.0%	40.0%	20.0%	20.0%	.0%	10
	Stay the same	31.3%	37.5%	12.5%	12.5%	6.3%	16
	Increase	24.6%	35.1%	21.1%	14.0%	5.3%	57

Pearson Chi-Square Tests

		Job specific skills
Number of Employees	Chi-square	3.314
	df	4
	Sig.	.507(a)
Gross Sales CY 2006 over 2005	Chi-square	1.726
	df	8
	Sig.	.988(a,b)

Results are based on nonempty rows and columns in each innermost subtable.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Next I'm going to ask you about specific types of training programs that could be offered. For each type I mention, please tell me whether or not your business or organization would use that program in the next two years.

		Training-Work ethic/personal responsibility			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	18.3%	77.5%	4.1%	338
	1	10.8%	82.4%	6.8%	148
	2 - 5	16.8%	81.0%	2.2%	137
	6 +	43.4%	54.7%	1.9%	53
Gross Sales CY 2006 over 2005	Decrease	11.8%	85.3%	2.9%	68
	Stay the same	14.8%	81.5%	3.7%	108
	Increase	27.3%	71.9%	.7%	139

Pearson Chi-Square Tests

		Training-Work ethic/personal responsibility
Number of Employees	Chi-square	31.481
	df	4
	Sig.	.000(*)
Gross Sales CY 2006 over 2005	Chi-square	11.526
	df	4
	Sig.	.021(*,a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Training-Social skills			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	16.9%	78.4%	4.7%	338
	1	14.2%	79.7%	6.1%	148
	2 - 5	14.6%	81.8%	3.6%	137
	6 +	30.2%	66.0%	3.8%	53
Gross Sales CY 2006 over 2005	Decrease	8.8%	89.7%	1.5%	68
	Stay the same	15.7%	78.7%	5.6%	108
	Increase	23.7%	74.8%	1.4%	139

Pearson Chi-Square Tests

		Training-Social skills
Number of Employees	Chi-square	8.899
	df	4
	Sig.	.064
Gross Sales CY 2006 over 2005	Chi-square	11.572
	df	4
	Sig.	.021(*,a)

Results are based on nonempty rows and columns in each innermost subtable.
* The Chi-square statistic is significant at the 0.05 level.
a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Training-Math skills			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	21.0%	75.7%	3.3%	338
	1	12.2%	81.1%	6.8%	148
	2 - 5	19.7%	79.6%	.7%	137
	6 +	49.1%	50.9%	.0%	53
Gross Sales CY 2006 over 2005	Decrease	17.6%	79.4%	2.9%	68
	Stay the same	20.4%	78.7%	.9%	108
	Increase	25.2%	74.1%	.7%	139

Pearson Chi-Square Tests

		Training-Math skills
Number of Employees	Chi-square	40.583
	df	4
	Sig.	.000(*,a)
Gross Sales CY 2006 over 2005	Chi-square	3.531
	df	4
	Sig.	.473(a,b)

Results are based on nonempty rows and columns in each innermost subtable.
* The Chi-square statistic is significant at the 0.05 level.
a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.
b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

		Training-Written communication			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	19.8%	76.0%	4.1%	338
	1	14.9%	77.0%	8.1%	148
	2 - 5	18.2%	81.0%	.7%	137
	6 +	37.7%	60.4%	1.9%	53
Gross Sales CY 2006 over 2005	Decrease	11.8%	85.3%	2.9%	68
	Stay the same	20.4%	78.7%	.9%	108
	Increase	25.2%	71.9%	2.9%	139

Pearson Chi-Square Tests

		Training-Written communication
Number of Employees	Chi-square	22.884
	df	4
	Sig.	.000(*)
Gross Sales CY 2006 over 2005	Chi-square	6.339
	df	4
	Sig.	.175(a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Training-Verbal communication			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	26.6%	68.3%	5.0%	338
	1	18.2%	74.3%	7.4%	148
	2 - 5	26.3%	71.5%	2.2%	137
	6 +	50.9%	43.4%	5.7%	53
Gross Sales CY 2006 over 2005	Decrease	19.1%	79.4%	1.5%	68
	Stay the same	25.0%	73.1%	1.9%	108
	Increase	33.8%	61.2%	5.0%	139

Pearson Chi-Square Tests

		Training-Verbal communication
Number of Employees	Chi-square	25.425
	df	4
	Sig.	.000(*)
Gross Sales CY 2006 over 2005	Chi-square	9.282
	df	4
	Sig.	.054(a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Training-Management skills			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	29.6%	65.4%	5.0%	338
	1	20.3%	73.0%	6.8%	148
	2 - 5	32.8%	64.2%	2.9%	137
	6 +	47.2%	47.2%	5.7%	53
Gross Sales CY 2006 over 2005	Decrease	22.1%	75.0%	2.9%	68
	Stay the same	29.6%	68.5%	1.9%	108
	Increase	36.0%	60.4%	3.6%	139

Pearson Chi-Square Tests

		Training-Management skills
Number of Employees	Chi-square	16.525
	df	4
	Sig.	.002(*)
Gross Sales CY 2006 over 2005	Chi-square	5.170
	df	4
	Sig.	.270(a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Training-Computer skills			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	31.4%	62.4%	6.2%	338
	1	23.0%	68.2%	8.8%	148
	2 - 5	32.8%	63.5%	3.6%	137
	6 +	50.9%	43.4%	5.7%	53
Gross Sales CY 2006 over 2005	Decrease	13.2%	80.9%	5.9%	68
	Stay the same	31.5%	63.9%	4.6%	108
	Increase	43.9%	53.2%	2.9%	139

Pearson Chi-Square Tests

		Training-Computer skills
Number of Employees	Chi-square	16.849
	df	4
	Sig.	.002(*)
Gross Sales CY 2006 over 2005	Chi-square	19.788
	df	4
	Sig.	.001(*,a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		Training-Job specific skills			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	23.1%	70.1%	6.8%	338
	1	13.5%	79.7%	6.8%	148
	2 - 5	24.8%	70.8%	4.4%	137
	6 +	45.3%	41.5%	13.2%	53
Gross Sales CY 2006 over 2005	Decrease	16.2%	80.9%	2.9%	68
	Stay the same	21.3%	73.1%	5.6%	108
	Increase	30.2%	64.0%	5.8%	139

Pearson Chi-Square Tests

		Training-Job specific skills
Number of Employees	Chi-square	29.894
	df	4
	Sig.	.000(*)
Gross Sales CY 2006 over 2005	Chi-square	7.022
	df	4
	Sig.	.135

Results are based on nonempty rows and columns in each innermost subtable.
* The Chi-square statistic is significant at the 0.05 level.

		Does your business or organization have any current training needs that are not being met within your organization?			
		Yes	No	DK	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	7.7%	89.3%	3.0%	338
	1	3.4%	91.2%	5.4%	148
	2 - 5	8.8%	91.2%	.0%	137
	6 +	17.0%	79.2%	3.8%	53
Gross Sales CY 2006 over 2005	Decrease	5.9%	92.6%	1.5%	68
	Stay the same	12.0%	88.0%	.0%	108
	Increase	6.5%	92.1%	1.4%	139

Pearson Chi-Square Tests

		Does your business or organization have any current training needs that are not being met within your organization?
Number of Employees	Chi-square	17.613
	df	4
	Sig.	.001(*,a)
Gross Sales CY 2006 over 2005	Chi-square	4.581
	df	4
	Sig.	.333(a,b)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

		What about over the next two years? Does your business or organization have any training needs over the next two years that you don't anticipate being able to meet within your organization?			
		Yes	No	DK	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	13.3%	82.5%	4.1%	338
	1	8.8%	85.1%	6.1%	148
	2 - 5	10.9%	86.9%	2.2%	137
	6 +	32.1%	64.2%	3.8%	53
Gross Sales CY 2006 over 2005	Decrease	10.3%	88.2%	1.5%	68
	Stay the same	8.3%	89.8%	1.9%	108
	Increase	20.1%	77.0%	2.9%	139

Pearson Chi-Square Tests

		What about over the next two years? Does your business or organization have any training needs over the next two years that you don't anticipate being able to meet within your organization?
Number of Employees	Chi-square	22.093
	df	4
	Sig.	.000(*)
Gross Sales CY 2006 over 2005	Chi-square	8.813
	df	4
	Sig.	.066(a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		I want to ask now about your future job training needs. Do you anticipate increasing the number of positions for certain jobs in the next two years?			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	23.1%	66.0%	10.9%	338
	1	10.8%	80.4%	8.8%	148
	2 - 5	27.7%	59.1%	13.1%	137
	6 +	45.3%	43.4%	11.3%	53
Gross Sales CY 2006 over 2005	Decrease	14.7%	76.5%	8.8%	68
	Stay the same	13.0%	79.6%	7.4%	108
	Increase	37.4%	51.8%	10.8%	139

Pearson Chi-Square Tests

		I want to ask now about your future job training needs. Do you anticipate increasing the number of positions for certain jobs in the next two years?
Number of Employees	Chi-square	33.246
	df	4
	Sig.	.000(*)
Gross Sales CY 2006 over 2005	Chi-square	27.327
	df	4
	Sig.	.000(*)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

		Do you anticipate decreasing the number of positions for certain jobs in the next two years?			
		Yes	No	DK-MISSING	Total
		Row N %	Row N %	Row N %	Count
Number of Employees	Total	3.6%	90.8%	5.6%	338
	1	1.4%	92.6%	6.1%	148
	2 - 5	3.6%	92.0%	4.4%	137
	6 +	9.4%	83.0%	7.5%	53
Gross Sales CY 2006 over 2005	Decrease	4.4%	91.2%	4.4%	68
	Stay the same	1.9%	96.3%	1.9%	108
	Increase	5.0%	90.6%	4.3%	139

Pearson Chi-Square Tests

		Do you anticipate decreasing the number of positions for certain jobs in the next two years?
Number of Employees	Chi-square	8.393
	df	4
	Sig.	.078(a)
Gross Sales CY 2006 over 2005	Chi-square	3.198
	df	4
	Sig.	.525(a)

Results are based on nonempty rows and columns in each innermost subtable.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		For CALENDAR YEAR 2006, will your business's gross sales increase, stay about the same, or decrease from 2005?				
		Increase	Stay the same	Decrease	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	41.1%	32.0%	20.1%	6.8%	338
	1	28.4%	33.8%	27.0%	10.8%	148
	2 - 5	43.8%	35.0%	16.1%	5.1%	137
	6 +	69.8%	18.9%	11.3%	.0%	53

Pearson Chi-Square Tests

		For CALENDAR YEAR 2006, will your business's gross sales increase, stay about the same, or decrease from 2005?
Number of Employees	Chi-square	34.441
	df	6
	Sig.	.000(*)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

		For CALENDAR YEAR 2006, will your business's production increase, stay about the same, or decrease from 2005?				
		Increase	Stay the same	Decrease	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	44.4%	33.1%	16.9%	5.6%	338
	1	35.8%	35.1%	20.3%	8.8%	148
	2 - 5	46.7%	35.0%	15.3%	2.9%	137
	6 +	62.3%	22.6%	11.3%	3.8%	53
Gross Sales CY 2006 over 2005	Decrease	8.8%	26.5%	64.7%	.0%	68
	Stay the same	21.3%	71.3%	7.4%	.0%	108
	Increase	84.2%	11.5%	2.9%	1.4%	139

Pearson Chi-Square Tests

		For CALENDAR YEAR 2006, will your business's production increase, stay about the same, or decrease from 2005?
Number of Employees	Chi-square	15.436
	df	6
	Sig.	.017(*)
Gross Sales CY 2006 over 2005	Chi-square	252.389
	df	6
	Sig.	.000(*,a,b)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

		For CALENDAR YEAR 2006, will your business's profits increase, stay about the same, or decrease from 2005?				
		Increase	Stay the same	Decrease	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	33.1%	30.5%	26.0%	10.4%	338
	1	26.4%	30.4%	29.7%	13.5%	148
	2 - 5	34.3%	32.8%	24.8%	8.0%	137
	6 +	49.1%	24.5%	18.9%	7.5%	53
Gross Sales CY 2006 over 2005	Decrease	4.4%	13.2%	82.4%	.0%	68
	Stay the same	10.2%	59.3%	22.2%	8.3%	108
	Increase	70.5%	20.1%	5.8%	3.6%	139

Pearson Chi-Square Tests

		For CALENDAR YEAR 2006, will your business's profits increase, stay about the same, or decrease from 2005?
Number of Employees	Chi-square	11.480
	df	6
	Sig.	.075
Gross Sales CY 2006 over 2005	Chi-square	229.180
	df	6
	Sig.	.000(*)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

		Looking ahead to CALENDAR YEAR 2007, what do you anticipate will happen to your plant's production in 2007?				
		Increase	Stay the same	Decrease	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	54.7%	30.5%	5.9%	8.9%	338
	1	49.3%	31.1%	6.1%	13.5%	148
	2 - 5	61.3%	27.0%	6.6%	5.1%	137
	6 +	52.8%	37.7%	3.8%	5.7%	53
Gross Sales CY 2006 over 2005	Decrease	48.5%	26.5%	14.7%	10.3%	68
	Stay the same	53.7%	37.0%	4.6%	4.6%	108
	Increase	62.6%	30.9%	2.9%	3.6%	139

Pearson Chi-Square Tests

		Looking ahead to CALENDAR YEAR 2007, what do you anticipate will happen to your plant's production in 2007?
Number of Employees	Chi-square	10.296
	df	6
	Sig.	.113
Gross Sales CY 2006 over 2005	Chi-square	18.479
	df	6
	Sig.	.005(*)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

		What do you anticipate will happen to the prices you receive for your plant's products in 2007?				
		Increase	Stay the same	Decrease	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	49.1%	38.8%	3.8%	8.3%	338
	1	38.5%	46.6%	2.7%	12.2%	148
	2 - 5	54.7%	36.5%	5.1%	3.6%	137
	6 +	64.2%	22.6%	3.8%	9.4%	53
Gross Sales CY 2006 over 2005	Decrease	47.1%	38.2%	7.4%	7.4%	68
	Stay the same	46.3%	43.5%	3.7%	6.5%	108
	Increase	56.8%	38.1%	2.9%	2.2%	139

Pearson Chi-Square Tests

		What do you anticipate will happen to the prices you receive for your plant's products in 2007?
Number of Employees	Chi-square	20.201
	df	6
	Sig.	.003(*)
Gross Sales CY 2006 over 2005	Chi-square	8.003
	df	6
	Sig.	.238(a)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

a More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

		What do you anticipate will happen to your plant's gross sales in 2007?				
		Increase	Stay the same	Decrease	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	58.9%	25.1%	6.5%	9.5%	338
	1	47.3%	27.7%	7.4%	17.6%	148
	2 - 5	67.9%	21.9%	5.8%	4.4%	137
	6 +	67.9%	26.4%	5.7%	.0%	53
Gross Sales CY 2006 over 2005	Decrease	45.6%	25.0%	19.1%	10.3%	68
	Stay the same	55.6%	34.3%	5.6%	4.6%	108
	Increase	73.4%	20.1%	1.4%	5.0%	139

Pearson Chi-Square Tests

		What do you anticipate will happen to your plant's gross sales in 2007?
Number of Employees	Chi-square	26.356
	df	6
	Sig.	.000(*)
Gross Sales CY 2006 over 2005	Chi-square	35.660
	df	6
	Sig.	.000(*)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

		What do you anticipate will happen to your plant's profit in 2007?				
		Increase	Stay the same	Decrease	DK-MISSING	Total
		Row N %	Row N %	Row N %	Row N %	Count
Number of Employees	Total	51.5%	29.6%	8.9%	10.1%	338
	1	41.2%	31.8%	10.1%	16.9%	148
	2 - 5	60.6%	26.3%	8.8%	4.4%	137
	6 +	56.6%	32.1%	5.7%	5.7%	53
Gross Sales CY 2006 over 2005	Decrease	41.2%	29.4%	22.1%	7.4%	68
	Stay the same	42.6%	40.7%	9.3%	7.4%	108
	Increase	66.9%	25.9%	2.2%	5.0%	139

Pearson Chi-Square Tests

		What do you anticipate will happen to your plant's profit in 2007?
Number of Employees	Chi-square	19.524
	df	6
	Sig.	.003(*)
Gross Sales CY 2006 over 2005	Chi-square	34.481
	df	6
	Sig.	.000(*)

Results are based on nonempty rows and columns in each innermost subtable.

* The Chi-square statistic is significant at the 0.05 level.

APPENDIX C: FINAL WIRED MANUFACTURERS QUESTIONNAIRE

Hello, my name is _____. I am calling from the University of Montana here in Missoula on behalf of the State of Montana.

We're calling businesses across the state to gather information on some of the issues Montana businesses face when producing their products or training their employees. Your participation in this study is an opportunity to inform key state leaders about these issues. The information from this survey will be used only by state agencies; it's voluntary, and usually takes about 10 minutes.

We need to speak with the owner, manager, or other person responsible for operations at your firm.

1. **Are you that person?**

Yes	1 (CONTINUE WITH Q2)
No	0 (ASK PROMPT BELOW)

IF "NO", THEN ASK: WITH WHOM SHOULD I SPEAK? {GET NAME AND PHONE NUMBER}

IF NOT AVAILABLE ASK: WHAT IS A GOOD TIME TO CALL BACK?

ONCE RESPONDENT IDENTIFIED, REPEAT INTRO, GO TO Q2

Please answer the questions in this survey for <u>your worksite only</u>. For this survey, "worksite" is defined as the physical location where you work now. This does not include branches, stores, or sites outside of your specific location, even though they may be part of your organization.

2. **What is your title at your business or organization?**

_____ JOB TITLE

3. **We need to verify the full name of your business. What is the full name of your business?**

4. **We also need to verify the address of your business. What is the address of your business? We need both mailing and physical address.**

_____ PHYSICAL ADDRESS

_____ MAILING ADDRESS

5. **Does your business have a world-wide web site?**

Yes	1	GO TO Q6
No	2	SKIP TO Q7
DK	8	SKIP TO Q7

6. **What is the address of that site?**

_____ WEB SITE ADDRESS

7. **What kind of product(s) does your business provide to customers right now?**

_____ PRODUCT(S)

8. **What is (are) the primary product(s) your business provides to customers right now?**

_____ PRIMARY PRODUCT (S)

9. **Does your business take inputs (or raw materials) and process them by <u>adding value</u> before selling them to your customers, or not?** PROMPT IF NEEDED: DOES YOUR BUSINESS TAKE RAW MATERIALS AND PROCESS THEM BEFORE SELLING THEM (INCLUDES SUB-ASSEMBLY?)

Yes	1
No	2
DK	8

10. **Are <u>any</u> of the inputs to your product(s) made of <u>any type</u> of plant or animal-based material, or not?**

Yes	1
No	2
DK	8

10a. **(If No) Does your business plan on adding a product in the future that is made, at least in part, of <u>any type</u> of plant or animal-based material, or not?**

Yes	1
No	2
DK	8

IF Q9 = 2 OR qQ0 AND Q10a = 2 THEN END INTERVIEW, ELSE CONTINUE.

11. **Please describe for me the primary manufacturing process(es) used by your business.**

_____ PRIMARY PROCESS

12. **What is (are) the main type(s) of equipment that your business uses to manufacture its product(s)?**

_____ MAIN TYPE(S) OF EQUIPMENT

13. **What is the total number of full-time (35+ hours per week) employees presently working at your location?**

_____ FULL-TIME EMPLOYEES

14. **What is the total number of part-time (less than 35 hours per week) employees presently working at your location?**

_____ PART-TIME EMPLOYEES

15. ASK ONLY IF AN ARTS AND CRAFTS BUSINESS. **Does your businesses now, or is your business capable of producing enough product to supply a wholesaler?**

Yes	1
No	2
DK	8

16. ASK ONLY IF AN ARTS AND CRAFTS BUSINESS. **Is your business interested in a state-wide marketing program that attempts to place your product in retail venues and promote your product, or not?**

Yes	1
No	2
DK	8

17. **In terms of education and training, how well prepared were your new hires over the last year, that is, since January 1, 2006?** SKIP IF SOLE PROPRIETOR.

Very well prepared	4
Somewhat well prepared	3
Somewhat unprepared	2
Very unprepared	1
SOLE PROPRIETOR	7

18. **For the workers you hired over the last year, that is, since January 1, 2006, please rate their skill level in each of the following areas.** SKIP IF SOLE PROPRIETOR.

	Very Prepared	Somewhat Prepared	Somewhat Unprepared	Very Unprep.
a. **Work ethic/personal responsibility**	4	3	2	1
b. **Social skills (appearance, working as a member of a team)**	4	3	2	1
c. **Math skills**	4	3	2	1
d. **Written communication (reading and writing)**	4	3	2	1
e. **Verbal communication (listening & speaking)**	4	3	2	1
f. **Management skills**	4	3	2	1
g. **Computer skills**	4	3	2	1
h. **Job specific skills (i.e. electrical, mechanical, machinery operation)**	4	3	2	1

19. **Next I'm going to ask you about specific types of training programs that could be offered. For each type I mention, please tell me whether or not your business or organization would use that program in the next two years.** SKIP IF SOLE PROPRIETOR.

	Yes	No
a. **Work ethic/personal responsibility**	1	2
b. **Social skills (appearance, working as a member of a team)**	1	2
c. **Math skills**	1	2
d. **Written communication (reading and writing)**	1	2
e. **Verbal communication (listening & speaking)**	1	2
f. **Management skills**	1	2
g. **Computer skills**	1	2
h. **Job specific skills (i.e. electrical, mechanical, machinery operation)**	1	2

20. **Does your business or organization have any <u>current</u> training needs that are not being met within your organization?**

Yes	1	GO TO 20A
No	2	SKIP TO 21
DK	8	SKIP TO 21

20a. **What are they?**

_____ TRAINING NEEDS

21. **What about <u>over the next two years</u>? Does your business or organization have any training needs over the next two years that you don't anticipate being able to meet within your organization?**

Yes	1	GO TO 21A
No	2	SKIP TO 22
DK	8	SKIP TO 22

21a. **What are they?**

_____ TRAINING NEEDS

22. **I want to ask now about your future job training needs. Do you anticipate increasing the number of positions for certain jobs in the next two years?**

Yes	1	GO TO 22A
No	2	SKIP TO 23
DK	8	SKIP TO 23

22a. **What are the job titles for those positions?**

_____ JOB TITLE

_____ JOB TITLE

_____ JOB TITLE

_____ JOB TITLE

_____ JOB TITLE

23. **Do you anticipate decreasing the number of positions for certain jobs in the next two years?**

Yes	1	GO TO 23A
No	2	SKIP TO 24
DK	8	SKIP TO 24

23a. **What are the job titles for those positions?**

_____ JOB TITLE

_____ JOB TITLE

_____ JOB TITLE

_____ JOB TITLE

_____ JOB TITLE

24. **Please tell me the major issues that have affected your business in 2006.**

_____
_____

25. **For CALENDAR YEAR 2006, will your business's gross sales increase, stay about the same, or decrease from 2005?**

	Increase	Stay Same	Decrease
Gross sales ……..	3	2	1

26. **For CALENDAR YEAR 2006, will your business's production increase, stay about the same, or decrease from 2005?**

	Increase	Stay Same	Decrease
Production …….	3	2	1

27. **For CALENDAR YEAR 2006, will your business's profits increase, stay about the same, or decrease from 2005?**

	Increase	Stay Same	Decrease
Profits ……	3	2	1

28. **Looking ahead to CALENDAR YEAR 2007, what do you anticipate will happen to your plant's production in 2007?**

Increase over 2006	3
Be about the same as 2006	2
Decrease from 2006	1

29. **What do you anticipate will happen to the prices you receive for your plant's products in 2007?**

Increase over 2006	3
Be about the same as 2006	2
Decrease from 2006	1

30. **What do you anticipate will happen to your plant's gross sales in 2007?**

Increase over 2006	3
Be about the same as 2006	2
Decrease from 2006	1

31. **What do you anticipate will happen to your plant's profit in 2007?**

Increase over 2006	3
Be about the same as 2006	2
Decrease from 2006	1

Thank you very much for your time and effort!