

# Food & Beverage, Feed & Grain Processors Industry Survey Results

## Iowa Advanced Manufacturing Innovation Network 2016

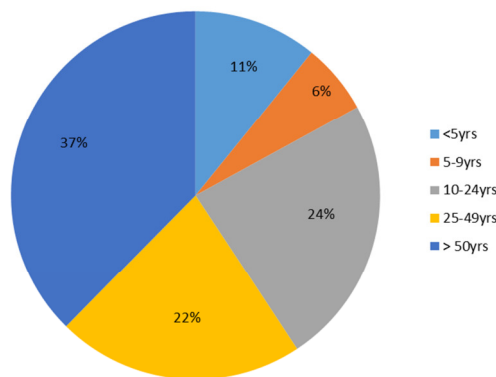
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The following is a summary of results from the Food & Beverage, Feed & Grain Processors Industry Survey conducted in 2016 by Iowa State University and the Center for Industrial Research and Service. The survey comprised 194 individual responses from 170 unique company sites.

### Company profile:

**Q1** *Is this still the official name of your company?*  
- Validation question to confirm name of company or update as appropriate.

**Q2** *How many years has your company been in business?*  
- Industry is fairly mature with the majority of respondents (59%) stating their firm has been in business for 25 years or more.



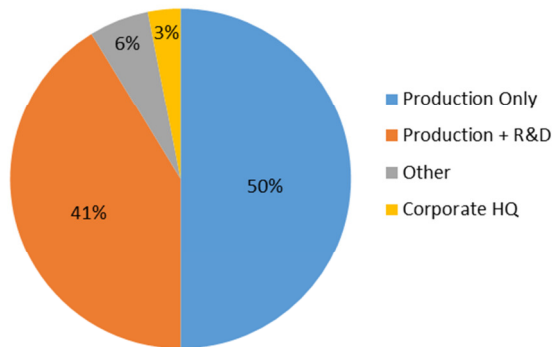
**Q3** *How would you best classify your primary business (by NAICS categories)?*  
- Provided companies option to identify their primary business by NAICS code. 'Other' (28.9%) and 'Animal Food Manufacturing' (20.1%) were the highest respondents.

3111 - Animal Food Manufacturing	3112 - Grain and Oilseed Milling	3113 - Sugar and Confectionery Product Manufacturing	3114 - Fruit and Vegetable Preserving and Specialty Food Manufacturing	3115 - Dairy Product Manufacturing	3116 - Animal Slaughtering and Processing	3117 - Seafood Product Preparation and Packaging	3118 - Bakeries and Tortilla Manufacturing	3119 - Other Food Manufacturing	3121 - Beverage Manufacturing	1123 - Chicken and Egg Production
39	22	5	6	11	28	1	8	56	10	8
20.1%	11.3%	2.6%	3.1%	5.7%	14.4%	0.5%	4.1%	28.9%	5.2%	4.1%

Q4

*Which of the following best describes this facility?*

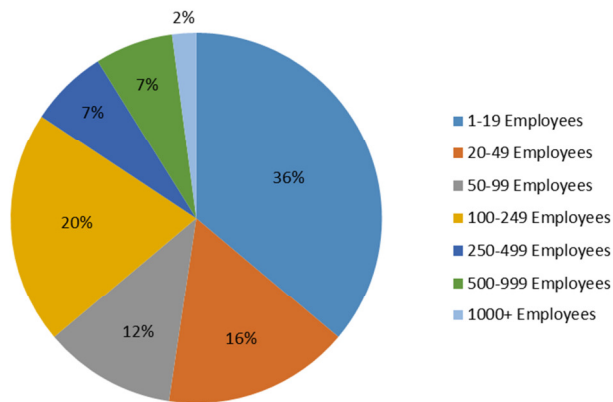
- The large majority of respondents (91%) work at production facilities. Additionally, 41% of firms have Research and Development (R&D) capabilities on site, which is a positive signal for the industry as it shows a commitment to innovation.



Q5a

*How many people does your company employ at this facility?*

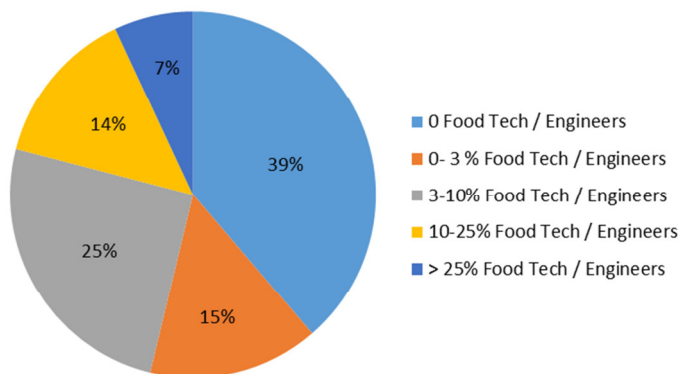
- Roughly half of firms (52%) employ 49 people or less. 16% of firms employ 250 or more people.



Q5b

*How many employees at this facility have a bachelor's degree or higher in a food technology or engineering field?*

- 39% of firms have zero employees with engineering or food technology degrees, yet 21% of respondents stated to have 10% or more employees with food technology or engineering degrees.



Q6a – Q6h *Has your company used the following resources to help develop new products, services, processes or business models?*

	Yes	% Yes
R& D tax credit	35	19.7%
Small business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) programs	6	3.5%
Iowa State University (ISU) - CIRAS Technical Assistance	58	32.6%
ISU - Food Sciences / Center for Crops Utilization Research (CCUR)	29	16.8%
ISU - Other Technical assistance	58	32.0%
University of Iowa - Technical assistance	8	4.6%
University of Northern Iowa - Technical Assistance	9	5.2%

NOTE: A survey respondent could answer 'Yes' to any or all choices. Many respondents chose not to answer parts of this question.

### Sales Growth:

Q7a – Q7i *As you develop new products, services, processes or business models, which of the following technologies do you think could help **grow your sales**?*  
 - Provided list of technologies to determine which technologies companies believed would add value to grow sales. Respondents could choose No=1, Maybe = 2 or Yes = 3 for each technology. Averaged responses to generate a score for each technology to identify which technologies were most demanded.

	Average Score
Q7a. <b>Additive Manufacturing</b> (Utilizing 3D printing or rapid prototyping to reduce costs when developing and/or producing products.)	1.32
Q7b. <b>Business Model Shift</b> (Moving from distributor model to direct model. E.g. ship direct to consumer and eliminate grocery store.)	1.49
Q7c. <b>Food Safety</b> (Sanitary design of equipment and shipping processes to increase shelf life and enable direct shipping to end consumer.)	2.23
Q7d. <b>Processing Technologies</b> (Evaluate current product/materials to find new value added products to sell for various applications.)	2.32
Q7e. <b>Unique Packaging</b> (Add value to product by packaging in a unique way to capture premium price.)	2.08
Q7f. <b>Niche Markets</b> (Developing products to target niche consumers. E.g. Non-GMO, vegan, organic, hormone-free, gluten-free, etc.)	2.23
Q7g. <b>Sensory Science</b> (Technologies to quantify taste, appearance and ease of use to grow consumer demand.)	1.84
Q7h. <b>Health and Nutritional</b> (Technologies to understand nutritional composition of current and new products to market their unique characteristics.)	2.02
Q7i. <b>Internet Marketing / Recruiting</b> (Increasing online presence through website, social media, etc. to get new business or more capacity)	2.07

## Cost Reduction:

Q8a – Q8n *As you upgrade your products, services, processes, or business models which of the following technologies do you think could help **reduce your costs**?*

- Provided list of technologies to determine which technologies companies believed would add value to reduce costs. Respondents could choose No=1, Maybe = 2 or Yes = 3 for each technology. Averaged responses to generate a score for each technology to identify which technologies were most demanded.

	Average Score
Q8a. <b>Additive Manufacturing</b> (Utilizing 3D printing to produce tools, fixtures, and molds at lower costs.)	1.35
Q8b. <b>Packaging Evaluation</b> (Reducing packaging costs by eliminating unneeded features.)	1.94
Q8c. <b>New Product Development Process Improvements</b> (Reducing scale-up costs and risk by piloting new products prior to large capital investment.)	2.10
Q8d. <b>Repurposing / Diverting</b> (Diverting current waste streams to applications that value the waste. Minimizing waste sent to landfill.)	2.02
Q8e. <b>Automation</b> (Automating processes to minimize labor and human contact with product.)	2.45
Q8f. <b>Supply Chain Management</b> (Managing suppliers to reduce minimum order quantities, improve product quality or improve delivery terms.)	2.13
Q8g. <b>Portion Size Evaluation</b> (Technologies to analyze consumer demands regarding portion size to minimize waste.)	1.55
Q8h. <b>Food Safety</b> (Sanitary design of equipment and shipping processes to increase shelf life and reduce consumer risk.)	2.20
Q8i. <b>Quality Management System</b> (Implementing a Quality Management System to improve operational processes, product consistency and customer satisfaction.)	2.27
Q8j. <b>Material Waste Reduction Technologies</b> (Technologies to reduce waste through better processes.)	2.12
Q8k. <b>Sustainability</b> (Technologies to reduce environmental impact of processing food, feed, grain or beverages.)	2.07

## Business Model and Human Resources:

Q9

*Which of the following best describes your business model for specifying product/service/process requirements?*

- Most companies use a collaborative approach with customers when specifying requirements as 93% of firms influence the specifications.

Business Model Choice	Count of Response	Percentage
1 - Customer specifies all requirements	13	7.0%
2 - Most requirements are specified by collaboration between ourselves and the customer	93	50.0%
3 - Customer specifies some requirements and we specify others	59	31.7%
4 - We specify all requirements	21	11.3%

Q10a – Q10h *Is your company actively implementing any of the following strategies?*

	Count of Yes Response
Q10a. <b>Promoting your company through community involvement</b> – (Reaching out to schools, sponsoring youth programs, tours, etc.)	125
Q10b. <b>Targeting different populations of workers</b> – (Disabled, part-time workers who would like full time, young seniors 65-69 years, etc.)	71
Q10c. <b>Recruiting women to manufacturing jobs</b> – (Promoting specific benefits of interest to women, etc.)	85
Q10d. <b>Encouraging retention by offering personal development benefits</b> – (Training, tuition reimbursement; focusing on creating a culture where people want to stay; flexible work hours, bonuses, profit sharing, etc.)	126
Q10e. <b>Sharing seasonal/part-time employees with another company</b>	24
Q10f. <b>Increasing process efficiency</b> – (Investing in automation, robotics, etc., to encourage growth)	126
Q10g. <b>Increasing operational efficiency</b> – (Reducing waste so you can do more with the same or fewer people, etc.)	150

NOTE: A survey respondent could answer 'Yes' to any or all choices.

## Summary:

Iowa State University is hosting an Innovation Summit for Iowa metal fabrication manufacturers on March 22, 2016 so you can learn about new technologies, and network with other Iowa companies and ISU experts. Attendees will be able to develop a specific project plan for their business that can help grow sales or reduce costs by using one or more of these technologies. The following questions will be used to best design the summit to meet your needs.

- Based on results below there was significant interest in the event (Q11- 56.8% interested if schedule allows). Additionally, many firms are actively working on projects to grow sales or reduce costs (Q12 and Q13).

Q11 *Would you be interested in attending this summit?*

Choice	Count of Response
1 – Not Interested	55
2 – Interested, but unable to attend. Please follow up with me	25
3 – Interested and will attend if schedule allows	105

Q12 *To **grow sales**, when are you planning to develop a new product, service, process or business model?*

Choice	Count of Response
1 – No plans	24
2 – 1 year or more in the future	31
3 – Within the next year	19
4 – Currently in process	110

Q13 *To **reduce costs**, when are you planning to replace or modify an existing product, service, process or business model?*

Choice	Count of Response
1 – No plans	37
2 – 1 year or more in the future	21
3 – Within the next year	27
4 – Currently in process	93

**Thank you for your time and assistance.**