

# DigiSow

Bacon saving technologies.

Iowa State University  
National Agri-Marketing Association

## INTRODUCTION

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Piglet crushing, also known as lay-on, is the number one cause of piglet mortality before weaning within the swine industry. Each year, 160 million piglets are lost due to piglet crushing where the sow lays on her offspring resulting in suffocation.<sup>6</sup> Not only do producers lose revenue as a result of crushing, but a loss of valuable meat to the market also occurs. An estimated 30 billion pounds of useful meat is lost each year due to piglet crushing.<sup>2</sup> To accommodate the growing demand for pork, the top 40 U.S. pork producing companies brought roughly 200,000 more sows into production in 2018.<sup>9</sup>

Pork Pro, based in Cedar Rapids, Iowa, developed DigiSow, a product to reduce piglet crushing while increasing producer productivity and revenue. Pork Pro's founder used his unique background in swine production and engineering degree to develop the perfect product for swine producers involved in farrowing operations.



DigiSow consists of four pieces: a disposable adhesive patch, muscle stimulation unit, monitor, and an app accessible via the web or mobile device. The muscle stimulation unit is placed directly on the farrowing sow's flank with an adhesive patch to alert her with a light vibration if she is going to lay on her offspring. Light vibrations are produced by a reusable muscle stimulation unit similar to those used by chiropractors. The monitor uses audio recordings and proprietary algorithms to determine when a piglet is in distress. Should a sow not respond to the light vibration, workers inside of the farrowing unit are notified through app push notifications. Within the first three days of life, DigiSow saves 59% more piglets from crushing than a traditional farrowing crate. DigiSow not only increases revenues and reduces the number of deaths, but it also provides data on the sow's health with better monitoring and tracking of temperature, health, and behavior. These factors are beneficial for improving a producer's farrowing operation.<sup>6</sup>

## INDUSTRY TRENDS

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During 2019, an estimated 27.3 billion pounds of pork will be produced, a growth of 4% from 2018.<sup>11</sup> As of December 2018, the U.S. had 74.6 million head of swine in production, up 2% from 2017. Roughly 8.5%, or 6.3 million head, were strictly for breeding purposes.<sup>12</sup> Today's top 40 swine producers alone brought an additional 200,000 sows into production in 2018.<sup>9</sup> The swine industry over the past several years has seen fewer operations with increasing sizes. In order to be more efficient and reduce costs, the industry is made up of many vertically integrated (farrow-to-finish) companies or specialized independent producers (farrow-to-wean) with production contracts for a larger swine company.<sup>13</sup> Roughly 47% of all breeding hogs are owned by operations with over 5,000 head, but raised by contracted independent producers.<sup>12</sup>

According to *National Hog Farmer*, pre-weaning mortality range from 2.2%-28.8%, with an average of 12.68%. Operations with 1,000 sows or more see higher pre-wean mortality rates than their smaller peers.<sup>4</sup> Crushing accounts for over 80% of pre-weaning mortality rates.<sup>5</sup> On average, 10% of all piglets die due to crushing.<sup>7</sup> 33% of producers consider crushing to be a major issue within their operation. 50% of those producers have tried hiring additional labor to prevent crushing from happening with little success. Additionally, adding labor comes at a price - \$22 per hour.<sup>8</sup> This creates an opportunity for technology to be used to keep mortality rates low.

Results from a survey conducted by Boehringer Ingelheim show that producers believe technology can help replace labor in swine production.<sup>1</sup> Currently, the pork industry utilizes technology daily with benchmarking databases, automatic ventilation systems, electronic ID's, and to get alerts on their phone.<sup>10</sup> Cyclone Marketing's primary research shows that 85% of producers involved in farrowing operations use technology. To learn about new technology, these producers attend World Pork Expo and state pork producer conferences, engage with state associations and the National Pork Producers Council, as well as by reading publications from these sources. 71% of respondents were interested in technology that could reduce piglet crushing by aiding their existing employees.<sup>3</sup>

## MARKET POTENTIAL

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The market potential for DigiSow lies in operations with 1,000 hogs or more. There are 27,984 swine operations in the U.S. Roughly, 1,500 of these operations have 500 hogs or more, but own 91% of all U.S. breeding hogs. The states of Iowa, North Carolina, and Minnesota are the top three swine producing states. Combined, these states hold 39% of all breeding hogs on 700 operations with 500 hogs or more.<sup>14</sup> The potential for these states is roughly 33,500 DigiSow units and \$46.9 million in sales.

## TARGET MARKET

In year 1, DigiSow will target both vertically integrated and independent contracted producers with 1,000 sows or more involved in farrowing operations within Iowa. During year 2, DigiSow will continue to add more producers in Iowa while expanding into North Carolina. In year 3, Minnesota will be added to the targeted states while continuing to grow sales in Iowa and North Carolina.

	TARGETED STATES	NUMBER OF OPERATIONS	NUMBER OF BREEDING HOGS	UNITS SOLD	PATCHES SOLD	PROJECTED TOTAL SALES	MARKET SHARE
YEAR 1	Iowa	16	40,815	612	163	\$1.1 million	5%
YEAR 2	Iowa and North Carolina	40	136,442	1,434	546	\$2.8 million	8%
YEAR 3	Iowa, North Carolina, and Minnesota	84	267,394	1,964	1,070	\$4.4 million	12%

Table 1 data from USDA NASS 2012 Census Data<sup>14</sup>

## CUSTOMER PROFILE

Perry, an independent producer in his mid-40's located in Northwest Iowa, owns a farrow-to-wean operation with 2,000 head of sows and holds production contracts with Pipestone System. Although Perry uses farrowing crates and hires additional labor for his operation, he still struggles with piglet crushing. Perry is a tech savvy producer who utilizes a variety of technologies in his operation to increase productivity and revenue. As a contracted producer, Perry makes decisions regarding buildings and technologies related to his operation, but is motivated by Pipestone System's production incentives. In one year, DigiSow could prevent Perry from losing roughly 2,500 piglets and \$115,000 due to crushing.



Brenneman Pork, a vertically-integrated, family-owned swine operation with 32,500 sows located in Southeast Iowa, owns all hogs within its operation and takes great pride in growing their family business. With larger farrowing units, Brenneman Pork employees aren't always able to supervise the sows and piglets as much as they would like, increasing losses due to crushing. As a leading pork producing company, Brenneman Pork is constantly looking for products that give the business a competitive edge when it comes to production and profitability.



## COMPETITOR PROFILE

DigiSow exceeds its competitors by monitoring sow health and protecting piglets from crushing.

	PRICE	PRE-WEAN MORTALITY RATE	FEATURES			
			METHOD	REAL-TIME PRODUCTION STATISTICS	RECURRING EXPENSE	CHECK SOW HEALTH
DIGISOW	\$1,500 per unit	3.37%	<ul style="list-style-type: none"> <li>Vibration to sow</li> <li>Notification to labor</li> </ul>			
FARROWING CRATES	\$595 per crate	11.04%	<ul style="list-style-type: none"> <li>Flipper bar</li> </ul>			
LABOR	\$22 per hour (Benefits included) <sup>14</sup>	---	<ul style="list-style-type: none"> <li>Additional labor</li> </ul>			

## SWOT ANALYSIS



- Only technology preventing piglet crushing, increasing operation profitability and productivity
- Tracks sow's health, behavior, and temperature giving producers data to improve their operations
- Easy to apply to the sow and reusable for 3-5 years



- Limited brand awareness
- Confusion about light vibrations and muscle stimulation unit
- Recurring expense of new adhesive patches



- Swine industry is one of the most technologically advanced industries within agriculture.
- 5% increase in number of breeding sows by top 40 U.S. pork producers in 2018
- Few market competitors



- Volatile and ever changing pork prices
- Relaxation of immigration laws increasing supply of foreign labor and decreasing wages rates

## BUSINESS PROPOSITION

### PRODUCT DESCRIPTION

DigiSow utilizes proprietary algorithms and technology to determine when a piglet is in distress due to crushing. After detection, the sow is notified through a light vibration produced by a muscle stimulation unit. Should the sow not respond, a push notification is sent to laborers in the barn to assist.

### STRATEGY STATEMENT

DigiSow utilizes new technology and proprietary algorithms to increase pork producer productivity and profitability by reducing losses caused by piglet crushing during farrowing.

### KEY PLANNING ASSUMPTIONS

1. Pork producers will continue to expand their operations as demand for pork products increases.
2. The swine industry will continue to accept new technologies which improve biosecurity, safety, and production efficiency.
3. Piglet crushing will remain one of the leading causes of pre-wean mortality in farrowing operations.
4. Skilled agricultural labor supply will continue to decline while wages increase with tightening immigrant laws.
5. Pork Pro will produce enough product to keep up with demand.

### GOALS & OBJECTIVES

- Increase market share from 5% to 12% by year 3.
- By year 3, sell 1,900 units and reach \$4 million in gross sales.
- Main 95% customer satisfaction while striving for 100%.

## ACTION PLAN

### PRODUCT & POSITIONING

DigiSow will appeal to large scale farrowing operations seeking to reduce losses caused by crushing. These producers are looking for an alternative to high priced, scarce farm labor and have a desire to increase productivity within their operation.

### PRICE

DigiSow will be sold in two parts. Unit sales will include: 1 monitor, 2 muscle stimulation units, a charger, and app download. The unit cost will be \$1,400. Patches will be sold separately in packs of 500 for \$1,500.

### PLACE

Pork Pro is located in Cedar Rapids, Iowa, a powerhouse hub for local, national, and international distribution and is an ideal distribution point. DigiSow will be sold directly to producers with over 1,000 head of sows throughout Iowa, North Carolina and Minnesota.

### PROMOTIONS

**Product Launch** - Prior to official release, DigiSow hosted a soft launch consisting of product testing by five of Iowa's largest farrowing operations. An official launch of the product was announced during the Iowa Pork Congress in January 2019 and DigiSow was featured in the New Product Showcase during the two-day event.

### SALES AND SUPPORT TEAM

**Sales Representatives** - In year 1, DigiSow will hire two sales representatives to cover Iowa. To cover North Carolina, in year 2, two additional sales representatives will be added and in year 3, one sales representative will be added to Minnesota as well as the previous two states. Representatives will travel to their respective state to connect with producers, educate them on product benefits, and conduct employee trainings.

**Customer Relationship Management (CRM) System** - All sales representatives will use Salesforce as their CRM system to generate leads, nurture prospects, and close sales. The CRM will also assist with customer satisfaction and retention.

**Installation & Service Technicians** - A total of five technicians will be hired over the three years to assist with the installation and routine servicing of DigiSow units.

**Marketing Manager** - One marketing manager will be hired to focus on DigiSow's marketing strategy, create content, and carry out all promotions.

## ACTION PLAN (CONTINUED) —

**Contracting Producer Incentive Program** - DigiSow will partner with top swine companies with independent producer contractees to grow sales. Utilizing the company's network of producers, DigiSow can attract independent producers looking to receive their contracting company's productivity incentive. For each unit sold, DigiSow will give 10% of the sale to the company, two-day event.

### BRING HOME THE BACON CAMPAIGN

*Increase brand awareness and generate sales*

**Advertising** - Bi-monthly print advertisements will be placed during years 1 and 2 in the *Iowa Pork Producers* magazine. In years 2 and 3, advertisements will be placed in the *NC Pork Reports* magazine and *Minnesota Pork Checkoff Report* to mirror the targeted states in each year. Digital advertisements will be placed in the *National Hog Farmer Daily*, an e-newsletter, during years 2 and 3.

**Direct Mail** - Targeted producers will receive direct mail to inform them about DigiSow and invite them to upcoming expo appearances. Direct mail will be sent prior to rolling out in each state as well as six times during the year.

**Pork Conferences & Expos** - In addition to the launch of DigiSow at the Iowa Pork Congress in year 1, DigiSow will be present at the Iowa Pork Congress and NC Pork Council's Annual Conference during years 2 and 3. The Minnesota Pork Congress and World Pork Expo will also be added in year 3. Sales representatives will use these events to generate leads and connect with prospects. Postcards sent prior to the events will generate interest while push notifications will be used to draw attendees to the booth during each event.

**Google Ads** - Additionally, using Google Ads search campaigns, DigiSow will be promoted to the top of search engine results when the words "pre-wean mortality" or "piglet crushing" are used.

**Product Website** - DigiSow's product website will host a variety of pages allowing producers to explore DigiSow's features, view customer testimonials, estimate ROI, sign up for e-newsletters, and contact a sales representative. DigiSow's website will be designed with search engine optimization in mind.

**Social Media** - DigiSow will use Facebook and Twitter to engage with producers as well as key influencers. Short videos will be produced and shared on DigiSow's Facebook and YouTube to build brand awareness and educate about DigiSow's benefits.

TIME LINE	PROMOTION (ADDITIONS BY YEAR)
YEAR 1	- Hire 2 sales reps in Iowa
	- Product launch at Iowa Pork Congress
	- Print advertisements in Iowa Pork Producers magazine
	- Start Contracting Producer Incentive Program
YEAR 2	- Hire 2 sales reps in North Carolina
	- Print advertisements in NC Pork Reports magazine
	- Digital advertisements in National Hog Farmer Daily
	- Attend NC Pork Council's Annual Conference
YEAR 3	- Hire 1 sales rep for each state (IA, NC, MN)
	- Attend Minnesota Pork Congress and World Pork Expo
	- Print advertisements in Minnesota Pork Checkoff Report
YEARLY	- Bi-monthly direct mail distribution
	- Google Ads
	- Product Website & Social Media
	- Bacon Saver Campaign

### BACON SAVER CAMPAIGN

*Customer satisfaction and retention*

**Customer Trainings** - After the initial sale to a producer, sales representatives and technicians will set up the DigiSow units as well as work with the producer to train staff on how to use the product. Subsequent trainings will be held with producers as needed with high employee turnover rates.

**Webinars** - Monthly webinars will be produced and shared with current customers. These webinars can be used for additional employee trainings as well as to educate on pre-wean mortality prevention. DigiSow will work with a variety of key influencers, including extension specialists, veterinarians, and state and national pork association staff, to produce these webinars for their customers.

**DigiSow E-Newsletter** - Beginning in year 1, DigiSow's marketing manager will create a monthly e-newsletter for current customers. The newsletter will contain product updates as well as producer spotlights and tips. Twice a year, special e-invitations to visit the DigiShow booth at the producers' respective state conference and World Pork Expo will be sent. A code will be provided to producers to bring to the booth with them for a special gift.

**Customer Appreciation Event & Bacon Hero Award** - In each of the three years, DigiSow's producer customers will be invited to a statewide customer appreciation event. At each state event, one producer will receive the Bacon Hero Award for their use of the product and commitment to reducing piglet crushing in their operation. Customer testimonials will be collected and press releases about the award will be sent to state and national pork publications.

**#HamsAcrossAmerica Donation** - DigiSow will donate 10% of all sales made during November in the form of pork products to various food pantries in the targeted states as a part of the National Pork Board and National Pork Producers Council's #HamsAcrossAmerica campaign.

## FINANCIAL EVALUATION

INCOME STATEMENT	YEAR 1	YEAR 2	YEAR 3
UNITS SOLD	612	1,434	1,964
PATCHES SOLD	163	546	1,070
PRICE PER UNIT	\$1,400.00	\$1,400.00	\$1,400.00
PRICE PER PATCH	\$1,500.00	\$1,500.00	\$1,500.00
GROSS SALES	\$1,101,991.50	\$2,826,818.70	\$4,354,376.28
DISCOUNTS & RETURNS	\$3,673.31	\$8,606.44	\$11,785.76
NET SALES	\$1,098,318.20	\$2,818,212.26	\$4,342,590.52
WHOLESALE UNIT COST	\$600.00	\$600.00	\$600.00
WHOLESALE PATCH COST	\$1.25	\$1.25	\$1.25
COST OF GOODS SOLD	\$367,534.57	\$861,326.11	\$1,179,912.53
OPERATING EXPENSES	\$112,600.00	\$118,230.00	\$124,141.50
GROSS MARGIN	\$618,183.62	\$1,838,656.15	\$3,038,536.49
MARKETING EXPENSES	YEAR 1	YEAR 2	YEAR 3
PRODUCT LAUNCH	\$5,485.00	---	---
SALES & SUPPORT TEAM	\$313,600.00	\$933,600.00	\$1,372,742.00
MARKETING MANAGER	\$82,600.00	\$85,078.00	\$87,630.34
CREATIVE DEVELOPMENT*	\$10,000.00	\$15,000.00	\$15,000.00
INCENTIVE PROGRAM	\$85,710.45	\$200,816.91	\$275,000.96
BRING HOME THE BACON	\$101,810.10	\$28,008.12	\$34,988.00
BACON SAVER	\$21,450.28	\$44,393.82	\$75,578.59
MONITORING & MEASURING	\$55,099.58	\$141,340.94	\$217,718.81
TOTAL EXPENSE	\$675,755.41	\$1,448,237.79	\$2,078,658.71
NET PROFIT	-\$57,571.78	\$390,418.37	\$959,877.79
PROFIT MARGIN	-5.24%	13.85%	22.10%

BRING HOME THE BACON CAMPAIGN	YEAR 1	YEAR 2	YEAR 3
ADVERTISING	\$4,932.00	\$12,579.00	\$14,829.00
DIRECT MAIL	\$338.10	\$834.12	\$1,764.00
CONFERENCES & EXPOS	\$60,000.00	\$2,335.00	\$5,315.00
GOOGLE ADS	\$500.00	\$700.00	\$1,000.00
SOCIAL MEDIA	\$35,000.00	\$10,000.00	\$10,000.00
TOTAL	\$1,040.00	\$1,560.00	\$2,080.00

BACON SAVER CAMPAIGN	YEAR 1	YEAR 2	YEAR 3
CUSTOMER TRAININGS	\$5,256.65	\$7,711.93	\$14,457.42
WEBINARS	\$3,250.00	\$3,250.00	\$3,250.00
E-NEWSLETTER	\$109.67	\$211.67	\$332.10
APPRECIATION EVENT	\$3,650.70	\$9,663.40	\$21,252.60
DONATIONS	\$9,183.26	\$23,556.82	\$36,286.47
TOTAL	\$21,450.28	\$44,393.82	\$75,578.59

\* Creative Development - content generation and design for direct mail, e-newsletter, conferences, magazine advertizing, etc.

## MONITORING & MEASURING

	12% MARKET SHARE BY YEAR 3	\$4 MILLION IN GROSS SALES BY YEAR 3	MAINTAIN 95% CUSTOMER SATISFACTION
MEAN OF ANALYSIS	<ul style="list-style-type: none"> <li>Quarterly Sales &amp; Industry Reports</li> </ul>	<ul style="list-style-type: none"> <li>Analyze Monthly Sales Reports</li> </ul>	<ul style="list-style-type: none"> <li>Dialogue with Sales Representatives</li> <li>Evaluations of Product, Trainings and Webinars</li> </ul>
EXCEEDED	<ul style="list-style-type: none"> <li>Enhance research and development efforts to continue improving product and growing sales</li> </ul>	<ul style="list-style-type: none"> <li>Expand beyond the three targeted states</li> <li>Invest back into business</li> </ul>	<ul style="list-style-type: none"> <li>Utilize strong customer relationships to develop testimonials for marketing strategies</li> </ul>
LESS THAN EXCEEDED	<ul style="list-style-type: none"> <li>Evaluate marketing strategies and determine weaknesses</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate target market and pricing strategy</li> <li>Review marketing strategies</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate customer feedback to determine areas of weakness and discontent</li> </ul>



## CONCLUSION

Today's pork producers demand greater record keeping and efficiency in their operation as pork prices remain volatile. Cyclone Marketing will strategically position DigiSow as a valuable tool for growers with a farrow-to-finish and farrow-to-wean operations to enhance their profitability. By tactfully targeting both vertically integrated companies and independently contracted producers, DigiSow will establish itself as a premiere swine management tool.

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Iowa State University

Skylar Bloom  
Mitchelle Halatt  
Dylana Luett  
Lauren Mosher  
Connor Royer

Ryan Calvert  
Rebecca Ley  
Alyssa McMichael  
Ben Ostendorf  
Josie Young

Advisor: Marcie Fahn