

## Introduction

Today's market hogs must be able to grow quickly and convert feed into high quality lean meat as efficiently as possible. Producers are constantly looking for new ways to improve these production traits, while keeping animal aggression low and consumer satisfaction high. All of these qualities play into the ultimate goal of pork production: delivering a delicious meal to the end consumers. Throughout the production chain, producers are looking for ways to capitalize on positive growth characteristics that achieve these goals. Intact male hogs, or boars, are the fastest growing, leanest and most efficient feed converters of boars, gilts and barrows. However, aggression with pen mates and boar taint (a disliked smell and taste in boar meat) has led to the widespread use of physical castration on commercial hog farms. These castrated males, or barrows, lack the efficient boar production traits.<sup>1</sup>

In order to obtain the positive production characteristics associated with boars, while maintaining reduced levels of aggression and boar taint, Midwest Veterinary Solutions (MVS) is introducing its newest product to the United States market, *Optimax™*. Headquartered in Chicago, Illinois, MVS is dedicated to researching, developing and marketing pharmaceutical products worldwide to meet livestock, equine and companion animal needs. *Optimax™* is the first vaccine administered during the grow-finish phase that utilizes the boars' own immune system to block the production of compounds which cause boar taint, while maintaining feed efficiency, growth rate and lean meat production. *Optimax™* has been approved in 32 countries around the globe and will dramatically change how American pork producers view boars.

## Market Analysis

### Market Size:

The market for *Optimax™* is large. In 2009, more than 53 million boars were castrated and sold as barrows in the United States, contributing to approximately half of the \$14 billion swine industry.<sup>1</sup> These animals are produced on more than 71,000 farms.

Due to the high level of vertical coordination in the swine industry, large pork production systems own most market hogs from birth to slaughter. Hogs move through several phases of production in their lifetime, including farrowing, nursery, and grow-finishing. Production at each phase can either be owned by the pork production systems or contracted out. MVS will target finishing operations for the largest 10 pork production systems in order to capture market share quickly in the first three years, as outlined in Table 1. These pork production systems market nearly 21 million male hogs annually, equating to nearly 40% of all boars in the United States.

**Table 1: Market Rollout and Potential**

Year	Firms	Potential Boars	Potential Gross Sales
One	Smithfield Foods Triumph Foods Seaboard Foods	13,566,159	\$67,830,795
Two	Iowa Select Farms The Pipestone System The Maschhoffs	3,730,500	\$18,652,500
Three	Prestage Farms Cargill The Carthage System AVMC Management Services	3,627,000	\$18,135,000



### Market Potential:

Among the targeted production systems, increasing positive growth characteristics of boars while maintaining reduced levels of boar taint is a key priority. However, Spartan Agri-Marketing research has found that these firms must be confident in usage procedures and infrastructure before expanding usage to entire boar herds. Survey results show that these firms would be willing to implement *Optimax™* in their finishing operations at an increasing rate of 10% annually if procedural and infrastructure confidence is high. Based on these findings, Spartan Agri-Marketing anticipates *Optimax™* usage in 30% of year one boars, 20% of year two boars, and 10% of year three boars by the end of the third year, which equates to 27% of all targeted boars.

<sup>1</sup> Dunshea, F. (2010). Castration in the swine industry and the impact on growth performance—Physical versus vaccination. <http://bit.ly/f5elW3>

## Market Trends:

Spartan Agri-Marketing research identifies the following key trends in the American swine industry:

- Pork consumers around the world are demanding high quality, affordable, lean meat products<sup>2</sup>
- United States hog production is highly vertically coordinated, with the largest 50 pork systems producing nearly 90% of all American hogs<sup>3</sup>
- In order to meet the efficiency demands of the pork industry, 83% of grow-finish hog operations are under contract<sup>4</sup>
- Contract grow-finishers are commonly paid based upon their feed conversion abilities<sup>5</sup>



## Customer Profile:

The target customers of *Optimax™* are the high-level decision makers within each of the 10 largest pork production systems in the United States. These decision makers, boards of directors or owners, depending on the business structure, make all choices related to animal health protocol. Their decisions are then implemented on the contracted grow-finish farms. Spartan Agri-Marketing research has found that these decision makers have a large stake in the success of the farm, from weaning to slaughter.

## Key Influencers:

### MVS Sales Representatives and Trainers

Representatives from MVS will capitalize on existing relationships to work hand-in-hand with farm decision-makers to educate them about the value and effectiveness of *Optimax™*. They will work with firms to identify the best area to implement the product into operations. These individuals will be important in providing a successful experience with *Optimax™*, resulting in repeat purchases, product expansion within targeted herds, and expansion to more pork production systems.

### Veterinarians

Large swine production systems work with multiple veterinarians to make sure animal health and production is at its best. These veterinarians collaborate with decision-makers to develop herd health plans that designate medication use, vaccination protocols, emergency action plans, and daily care. Veterinarians will be included in the vaccination implementation plans of *Optimax™* and in overseeing proper use of the product. They will also need to write the prescription for farmers to receive and use the product.

### Processors

Processors are in charge of the slaughter and subsequent processing of animal products. They have a significant interest in assuring meat quality is at its highest level and absent of boar taint, while still working to keep their operations moving as efficiently as possible. It is economically favorable for processors to have a greater percentage of higher yielding hogs with more marketable products. Effective use of *Optimax™* on-farm is imperative if processing plants are to accomplish these goals. Their feedback will be highly valuable in tracking proper vaccination.

### Contract Farmers

Contract farms are essential in the finishing of hogs. These farms are interested in ensuring the best meat quality and growth factors. They receive incentives based on feed efficiency and days to market. These contract farmers will work under the decision-makers of the firm and make suggestions on ways to improve production at the finishing stage.

## Competitive Analysis:

*Optimax™* will receive direct competition from physical castration, which serves as the current method of controlling boar taint and aggressive behavior in United States swine industry.

Sow farm employees perform physical castration within 36 hours of birth. Castration results in



Intact Male

*Optimax™* Treated

Castrated Male

### Carcass Comparison

<sup>2</sup> United States Department of Agriculture

<sup>3</sup> Interview with Dr. Ron Bates, MSU Extension Swine Specialist, December 9, 2010

<sup>4</sup> McBride, William and Nigel Key "Economic and Structural Relationships in US Hog Production"

<sup>5</sup> Michigan Professional Pork Producers Symposium, February 24, 2011.

barrows that have a lower growth rate, lower percentage of leanness, and convert feed less efficiently than intact boars. However, castration is effective in controlling boar taint and reducing aggressive behavior among male hogs. In recent years, this method has come under criticism due to the pain and stress associated with the procedure. Some countries have experimented with voluntary and mandatory anesthesia with varied results depending on the drug and technique used. Anesthesia under the supervision of a veterinarian has been found to be time- and labor-intensive and expensive.

As shown in Table 2, producers will increase daily rate of gain by more than one-half pound, leading to feed cost-savings of more than \$25 per boar when *Optimax™* is used. Additionally, product usage leads to decreased backfat and increased lean product, resulting in potential premiums from pork processors.

**Table 2: Competitive Analysis**

Advantages	<i>Optimax™</i>	Physical Castration	Physical Castration with Anesthesia
Low Cost per Male		✓	✓
High Average Daily Gain	✓		
Decreased Feed to 260 lb	✓		
Low Backfat	✓		
High % of Lean Meat	✓		
Low Pain	✓		✓
Low/No Veterinary Costs	✓	✓	
Low Labor hours		✓	
No Anesthetic	✓	✓	
High Premiums from Processors	✓		
Low Animal Welfare Conflict	✓		



*Optimax™* Treated



Intact Boars

**SWOT**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>-Maintain positive boar growth characteristics</li> <li>-Improved feed efficiency results in an increase in producer and contractor income</li> <li>-Less pain than physical castration</li> <li>-Approved in 32 other countries</li> </ul>	<ul style="list-style-type: none"> <li>-Administration of two doses requires additional time</li> <li>-Initial product cost is more than competitive options</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>-Increased consumption of “humanely produced” products</li> <li>-Potential change in legislation related to castration</li> </ul>	<ul style="list-style-type: none"> <li>-Potential change in legislation related to animal injections</li> <li>-Skepticism from processors</li> <li>-Unforeseen competitors entering the market</li> <li>-Consumer perceptions of livestock pharmaceutical use</li> <li>-Producer/key influencer unfamiliarity</li> </ul>

**Business Proposition**

**Key Planning Assumptions:**

Key planning assumptions for the *Optimax™* marketing plan include:

- Swine producers will strive to increase production efficiency by increasing feed efficiency
- Processors will continue to offer premiums for leaner, high yielding hogs

**Objectives and Goals:**

MVS has laid out 3 goals and objectives to obtain by year three:

- Reach a profit of \$ 11.5 million
- Achieve six sigma customer satisfaction at farm and processor level
- Attain 27% market share through targeted firms

**Strategy Statement:**

MVS will use a variety of tactics to market *Optimax™* with the goal of developing one-on-one relationships with farm decision-makers, employees, and key influencers. Tactics will be centered on ensuring correct product usage, positive experiences, repeat purchases, and expansion of product use.

## Action Plan

### Positioning

*Optimax™* is the first commercial vaccine that maintains the positive, natural growth characteristics associated with intact boars, while controlling boar taint and aggressive male behavior.

### Product:

*Optimax™* is sold in 250 mL and 500 mL vials, providing convenient packaging for producers. Boars must receive two 2 mL subcutaneous doses of the vaccine adhering to a specific timeline, in order to ensure effectiveness. The first 'primer' dose must be given after 8 weeks of age to prepare the boar's immune system and the second dose is administered 4 weeks after the priming dose. There is no withdrawal period for *Optimax™*.

### Price:

*Optimax™* will be sold at \$315 per 250 mL vial and \$625 per 500 mL vial. This price equates to approximately \$5 per boar and allows for a 150% markup for MVS.

### Place:

*Optimax™* will be marketed primarily to the country's 10 largest swine farms including, in order: Smithfield Foods, Triumph Foods, Seaboard Foods, Iowa Select Farms, The Pipestone System, The Maschhoffs, Prestage Farms, Cargill, The Carthage System and AVMC Management Services. All producers, including those not specifically targeted in this plan, can obtain *Optimax™* through direct purchase from MVS or through most major veterinary product suppliers with a written prescription from a veterinary.

### Promotions:

MVS' sales representatives will visit the top 10 swine production systems to promote the product on-site. MVS will also contact farms through direct mailings to inform the decision-makers of upcoming promotions and product information. These sales representatives will have access to a variety of marketing materials including informative pamphlets with product descriptions and usage details, photographs and data along with promotional products. Upon initial purchase, MVS will host training sessions and regional seminars to train vaccination crews on proper timing, safety measures, and benefits of *Optimax™*.

MVS will be present at several major conferences attended by the targeted producers. These conferences include World Pork Expo in Des Moines, IA; North American International Livestock Expo in Louisville, KY, and several regionally specific pork expos. These events attract producers from the target pork systems as well as other producers in the area and key influencers. MVS' focus will be to introduce *Optimax™* and provide information about the product. Special events will draw targeted firms, key influencers, and media to build excitement around the product. Displays will have information about improved growth rates and photo comparisons. Promotional products, brochures, and giveaways will also be available.

Print advertisements will be placed in national publications including Pork Magazine and National Hog Farmer. To spread interest and information about the product, MVS will provide press releases to major pork publications read by the targeted swine producers. The *Optimax™* webpage will provide a product overview, focusing on transparency for all visitors. Information on the page will include descriptions of the product, how it is administered, advantages of *Optimax™* as compared to other boar taint control techniques, results from research studies and Frequently Asked Questions (FAQs). MVS will also encourage word-of-mouth advertising among sales representatives and producers who are using the product to promote *Optimax™*. Additional information about MVS' promotional strategy can be found in Table 3, followed by the promotional budget in Table 4.

### Table 3: Promotional Strategies

#### Hog Production Systems:

- *Training Sessions* – Targeted farm vaccination crews will be trained by their MVS sales representative and product specialists at regional conferences. These will be day-long conferences where MVS will host approximately 300 vaccination specialists per seminar. Crew members will be provided with proper usage and safety information along with promotional giveaways.
- *Conferences* – *Optimax™* will be represented at several pork and livestock conferences/trade shows. These exhibits will focus on drawing in hog producers specifically those from larger systems. They will feature product brochures, growth comparison charts, photos illustrating treated boars, and local sales representative contact information. MVS representatives will address direct inquiries.
- *Advertisements* – MVS will strategically place promotional inserts in regional and national publications, along with web advertisements on sites used regularly by hog farmers.

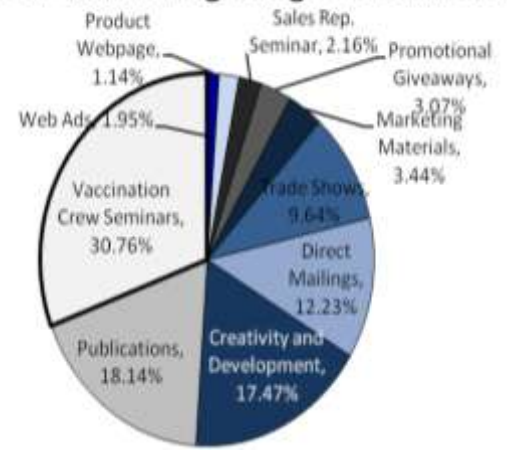
**Key Influencers –Veterinarians, Processors, Contract Farms:**

- *Website* – The MVS’ website will generate awareness of the company and product. The *Optimax™* webpage will include product descriptions, administration information, product advantages, research findings and FAQs.
- *Conferences* – Presentations at events will build recognition for *Optimax™*. Brochures, charts, diagrams, and website information will be provided for direct contact to MVS and purchasing information.

**Table 4: Promotional Budget**

Promotional Expense	Year 1	Year 2	Year 3
Creativity and Development	\$ 100,000	\$ 50,000	\$ 50,000
Direct Mailings	\$ 40,000	\$ 40,000	\$ 60,000
Publications	\$ 65,400	\$ 70,150	\$ 72,200
Web Advertisements	\$ 7,200	\$ 7,450	\$ 7,650
Product Webpage	\$ 8,000	\$ 2,500	\$ 2,500
Conferences/Trade Shows	\$ 32,320	\$ 36,400	\$ 41,700
Sales Representative Seminar	\$ 5,700	\$ 6,450	\$ 12,600
Vaccination Crew Seminars	\$ 61,950	\$ 123,900	\$ 66,400
Marketing Materials	\$ 15,000	\$ 12,000	\$ 12,400
Promotional Giveaways	\$ 8,400	\$ 14,100	\$ 12,600
<b>Total</b>	<b>\$ 343,989</b>	<b>\$ 362,950</b>	<b>\$ 438,050</b>

**3 Year Marketing Budget Breakdown**



**Financial Analysis**

	Year One	Year Two	Year Three
Gross Sales	\$ 6,783,080	\$ 15,431,409	\$ 27,928,162
Cost of Goods Sold			
<i>Packaging and Distribution</i>	\$ 2,713,232	\$ 6,172,564	\$ 11,171,265
<i>Research and Development</i>	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000
<i>Intellectual Property Rights</i>	\$ 12,810	\$ 0	\$ 0
Gross Margin	\$ 57,038	\$ 5,258,845	\$ 12,756,897
Total Expenses			
<i>Promotional Expenses</i>	\$ 343,989	\$ 362,950	\$ 438,050
<i>Sales Representatives</i>	\$ 230,492	\$ 320,738	\$ 501,230
<i>Product Research/Monitoring</i>	\$ 50,000	\$ 50,000	\$ 50,000
Net Profit Before Taxes	\$ -567,443	\$ 4,525,157	\$ 11,867,617
Return on Investment	7.72%	41.49%	73.44%

**Monitoring and Measurement**

Goal by year 3	Monitoring Method	Contingency Plan
<b>Profitability</b> \$11.5 million	<i>Evaluate quarterly financial statement and monthly sales reports</i>	Above: -Increase production and expand to new markets -Invest additional profits in promotion Below: -Assess sales representatives and consider industry hesitancy -Address inefficiencies in promotion plans and product development
<b>Customer Satisfaction</b> Maintain 99% strive for 100%	<i>Sales representatives, end user, and key influencer surveys; meet with firm decision-makers semi-annually</i>	Above: -Evaluate customer interest in other packaging sizes -Encourage word-of-mouth promotion Below: -Identify areas of dissatisfaction -Pursue further research and training
<b>Market Share</b> Gain 27% market share	<i>Analyze sales reports along with sales representative, end user, and key influencer surveys</i>	Above: -Work to expand to more contract finishers -Expand to other niche markets Below: -Work to identify hesitancies in production use -Offer additional assistance in implementing use of <i>Optimax™</i> -Reconsider product position