

A White Paper
on Marketing Research Needs
for the North Central Region

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INTRODUCTION AND JUSTIFICATION OF THE DOCUMENT

The Board of Directors for the North Central Regional Aquaculture Center (NCRAC) has commissioned a marketing white paper that will help the Center establish marketing research priorities. The Board directed that the paper not be an exhaustive literature review, but rather a working document that clearly sets marketing research priorities. It is recognized that some of the priorities may change as the aquaculture industry and demands in the North Central Region (NCR) evolve.

ROLE OF MARKETING IN AQUACULTURE

Review of past NCRAC research related to aquaculture reveals a strong production focus, leaving many marketing questions unanswered. The purpose of this white paper is to list potential marketing research topics as they relate to NCR aquaculture producers' marketing needs.

The need to place special emphasis on marketing research derives from the strategic challenges that the aquaculture industry faces. Like producers in many commodity industries, aquaculture producers are faced with dramatic increases in global supply (most especially in China), mature demand in the developed world, and falling prices overall. Industry profitability has suffered as a result.

Three broad strategies exist for responding to these forces. First, NCR aquaculture producers could focus their entire attention on becoming the low cost producers of their products and compete on the basis of price. Given some built-in cost disadvantages (high land and labor costs) versus some other producing areas in the world, this strategy is not likely to be effective. Second, NCR producers could become much more consumer responsive in their marketing strategies and compete on the high level of consumer benefits that they deliver. For this strategy to succeed, much additional research is needed into all aspects of product marketing to differentiate NCR aquaculture products. Third, non-business actions could be taken by the industry to increase protectionism and create direct government support of the industry. In the current political environment of limits to protectionism globally and tight state and federal budgets domestically, this third strategy would seem to have a low probability of success. Given inherent problems with the first and third strategic options, the second strategy of being consumer responsive appears to be a critical one for helping aquaculture producers reach business and profit goals. Marketing research to support this strategic option is thus crucial for NCRAC to pursue.

Within this second option, a number of more specific business strategies are possible. For example, aquaculture producers in the NCR are geographically well positioned to capitalize on the market potential arising from the region's large population base and the proximity of production to urban markets. Marketing strategies based in part on local origin may thus be effective to overcome the somewhat higher production costs in the NCR. Some states already have programs that promote local products directly to consumers. There is also a need for marketing efforts directed at increasing the presence and sales of locally produced fish to restaurants and other hospitality businesses either through direct contracting with restaurants or indirectly through wholesalers and suppliers.

Other potential options exist to create value-added products with premium prices based on differentiation. Options for differentiation include (but are not limited to): higher quality, greater safety assurance, more attractive species of fish, creation of brand/reputation, and service provision to the supply chain. The NCR aquaculture industry has been operating for many years, however, few efforts have been made to distinguish farm-raised NCR products from those of competitors whether they are capture fishers or aquaculturists.

Further processing may be critical to differentiating NCR products. Live fish sold directly to the consumer usually results in the highest price, but requires more time and interaction with the public. Live fish sold to processors usually brings the lowest market price, but large volumes and specific, short harvest times somewhat offset this price difference. Selling processed fish is a value-added strategy that can increase market options and market price, but also increases labor and regulatory requirements. The role of value-added processing in aquaculture marketing thus involves trade offs that need to be carefully considered and studied.

Beyond connecting to the consuming public itself, NCR producers need to efficiently coordinate or integrate with processors and wholesale/retail so that farmed fish is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system-wide costs while satisfying service level requests and strengthening bargaining power. Careful exploration needs to be made of increasing the breadth and depth of product line in order to increase chances of producers or producer groups becoming a supplier of choice to those in processing, distribution, and retail. Perhaps even a strategy as radical as a dual marketing mode of offering wild products and farmed products within a portfolio of product offerings might be effective in becoming a full-line supplier to the distribution channels.

Marketing is necessary to bring the aquaculture producer, the supply chain, and the consumer together to determine what differentiating attributes make sense. Market research helps interpret the potential market demand within the region and other markets that may become important. What kind of fish do people buy, how much of it and how much are they willing to pay for it? What proportion is purchased wild and farmed, fresh, and value-added processed? What variables affect purchase and consumption? What distribution channels best deliver product to customers? What media best influence targeted customers? These and other questions need to be answered so NCR aquaculture producers can fully exploit market potential. Thorough knowledge of consumers then allows for effective decisions about level of product quality and value-added processing, species farmed, and branding/advertising campaigns.

Marketing strategy has the potential to improve the economic success of NCR aquaculture producers, but only if it is formulated and implemented effectively at the producer and supply chain levels. Marketing research supported by NCRAC could substantially enhance the ability of the region's producers to adopt marketing strategies that make economic sense for consumers, other supply chain participants, and the producers themselves.

PROPOSED MARKETING RESEARCH AGENDA

The analysis of aquaculture industry conditions found in the prior section leads to the identification of the important marketing topics in this section. These research topics are clustered into the following four groups: consumer preference for aquaculture, supply chain

structure for aquaculture, marketing strategies for aquaculture, and producer capabilities to pursue marketing strategies. The four categories logically arise from a need to understand what consumers want, what supply chain structure is needed to deliver what they want, what business strategies are responsive to what they want, and how can producers be positioned to actually implement the strategies that make sense.

For each of the four groups, the suggested list of research topics is not intended to be exhaustive. Rather, each list provides a breadth of topics to guide research and not to artificially constrain it. Further, it is critical that research should not be narrowly construed in regard to these topics. In particular, any research done under this agenda should not be considered complete unless it also provides practical applications and recommendations for extension programming.

CONSUMER PREFERENCE FOR AQUACULTURE

The purpose of this research category is to increase understanding of consumer preferences and trends in demand for aquaculture products. Information about consumer behavior is utilized to prepare effective marketing strategy that involves development of desired product and delivery to desired location at prices customers are willing to pay. Following is the proposed group of important research topics focusing on customer preference.

- Comparative analysis of consumer perception and preference for locally originated versus out-of-the-NCR-region and out-of-country.
- Consumer perception and willingness to pay a premium price for a local/regional brand.
- Comparative analysis on consumer perception, preference and willingness to pay premium for aquacultured versus wild versus wild eco-labeled versus organic aquacultured.
- Development of organic aquaculture standards.
- Examination of preferred form of fish: fresh, refrigerated, frozen, processed (fillet, smoked fish), and canned.
- Examination of consumer quality expectation.
- Examination of price elasticity and consumption substitution effect.
- Factors influencing consumer purchase of aquaculture products.
- What other possible benefits and attributes NCR aquaculture products can offer to consumers.
- Identification of niche market location and potential for specific/unique aquaculture species.
- Examine location and potential of market demand for live aquaculture fish.
- Identification of bait fish distributors as customers of aquaculture fish.
- Summary of regulations and requirements regarding use of aquaculture fish for stocking and pay-fishing.
- Identification of market potential for lake and pond stocking in NCR.
- Identification of market potential of pay-fishing operations in NCR.
- Exploring opportunities for NCR aqua-agritourism.
- Analyze the product attributes needed by stocking customers.
- Compare and contrast the needs of customers for tablefare fish and stocking fish.
- Determine what specific product attributes drive consumer selection either in total or segment by segment.
- Study connections between cultural and ethnic backgrounds and demand for particular

species and product forms.

- Determine role of culinary history of various consumer groups in their propensity to demand a particular product.
- Determine the attitudes or organoleptic triggers in the role of aquaculture purchase decisions.

SUPPLY CHAIN STRUCTURE FOR AQUACULTURE

This group of research topics deals with the aquaculture supply chain—the distribution of a product from its sourcing to its delivery to the end consumer. The supply chain begins with the customer in mind and ends with the customer. The position of the producer in the supply chain determines cooperation with and influence on other players and ability to continuously satisfy end customers. Proposed research questions are designed to identify ways to strengthen aquaculture producer position within evolving supply chains.

- Gather listings of possible NCR distribution channels that deliver to desired end customers at desired speed, reliability and cost.
- Determine preference for full line (increased product line breadth and depth) supplier by wholesale and retail.
- Explore potential of dual mode producer (farmed and wild fish) and impact on bargaining power and becoming preferred supplier by wholesale and retail preference.
- Find alternative ways of becoming preferred supplier of aquaculture product to these distribution channels and defending against competitors.
- Explore ways of cooperation within NCR distribution channels on promotion of benefits of regional aquaculture products to end consumer.
- Identify large-scale efficient NCR processors and their preference for dual mode (farmed, wild) supplier.
- Evaluate pros and cons of different levels of horizontal coordination/integration in aquaculture industry in survival and growth terms.
- Identify market potential and creative ways to supply to NCR hospitality industry.
- Identify market potential and creative ways to supply to NCR city/farmers' markets.
- Access distribution channels for markets outside the NCR region.
- Prepare benefit/cost analysis of selling to retailer/hospitality direct versus wholesale.
- Search for NCR and outside NCR alternative outlets for aquaculture fish for other than human consumption.
- Determine what firm attributes encourage or discourage customer actions at all points on the supply chain.
- Define and analyze the supply chain for stocking fish.
- Compare and contrast the supply chain for tablefare fish and stocking fish, including among other characteristics the relative profitability of either chain.
- Study the probable industry and individual firms' response to growing the industry or various segments within it.
- Determine what effect growth has on marketing schemes and supply chain performance.
- Analyze to what extent, if any, collective action is needed either horizontally or vertically in the supply chain.
- Identify product preservation issues and their effects on the supply chain.
- Examine the role and effectiveness of product differentiation within the existing supply chains in the industry.

MARKETING STRATEGIES FOR AQUACULTURE

Marketing strategy focuses on developing a unique long-run competitive position in the market by assessing consumer needs and the producer's potential for gaining competitive advantage. This is implemented by creating segmentation and positioning objectives for products. Following is the proposed group of important research topics exploring marketing strategies.

- Find out what customer segments can be identified within and outside NCR region and which segments to serve.
- Determine marketing strategies according to customer types using customer matrix model.
- What media best influence targeted customer.
- Benefits/cost analysis of general/targeted advertising and promotion.
- Marketing strategies focused on aquaculture products specifically and which will increase awareness and acceptance of aquaculture products.
- Assessing existing and new products in terms of their market potential, and thereby implying strategic action for these products in each category.
- Evaluate strategic growth options and their potential for the NCR aquaculture producers.
- Tradeoffs among product, place, promotion and price.
- Development of aquaculture marketing models, guidelines and strategies.
- Study the links between firms' marketing strategy and consumers' psychology.
- Develop complete marketing strategies for stocking fish.
- Compare and contrast marketing strategies for tablefare fish and stocking fish.
- Need for and development of marketing strategies and tactics to educate consumers about assessing quality attributes of aquaculture products and their use.
- Examine what marketing strategies, if anything, will differentiate NCR aquaculture products.
- Determine what specific marketing messages trigger market response by various types of consumers (e.g., those with heart health concerns, vegetarians, sport fishers, non-fish eaters, different ethnic groups) and then show how such triggers can be defined and refined to fit into industry or single firm marketing strategies.

PRODUCER CAPABILITIES TO PURSUE MARKETING STRATEGIES

Once familiar with plausible marketing strategic options, an aquaculture producer's capability to pursue selected marketing strategic options needs to be assessed. Following is the proposed group of important research topics evaluating producer capabilities to pursue marketing strategies.

- Implementation of quality control to ensure highest quality in order to have a competitive advantage in competing with imports, and exploration of benefits of third-party quality certification system to ensure an industry-wide consistent product.
- Exploration of benefits of cooperation among aquaculture producers in purchasing, promotion and selling.
- Exploration of benefits of cooperation between aquaculture producers and land grant universities' marketing specialists.
- Investigate the potential for development of an aquaculture industry NCR product promotion

council.

- Assessment of managerial and financial needs for implementation of marketing strategy.
- Assess knowledge and skill sets re: marketing and build programs from there.
- Assess NCR producers', processors', and educators' knowledge of and skill sets in marketing, and then articulate needs for continuing education in marketing.
- Evaluate NCR producers' ability to increase breadth and depth of product line.
- Evaluate NCR producers' ability to pursue dual production mode.
- Evaluate sustainability of the NCR aquaculture production as related to environmental impact and regulations.
- Explore the benefits, costs, and risks of region-wide quality testing and certification.
- Examine funding mechanisms (e.g., voluntary check-off programs, pursuit of legislative earmarked funds) for industry-wide or region-wide collective marketing strategies.
- Define producer marketing capabilities needed to pursue stocking fish markets.
- Compare and contrast producer capabilities needed for marketing tablefare fish versus stocking fish.
- Assess aquaculture producer/processor learning styles and educational method preferences.

CONCLUSION

As indicated in other NCRAC white papers, prioritizations in this non-exhaustive list of research topics could be subjective and it is unlikely that any ordering would reach consensus among either aquaculture producers or extension specialists. Therefore, proposed research topics are not listed in order according to importance and only suggest the breadth of possible topics. The four areas of research do point to the critical four issues that research should address: what consumers want, what supply chain structure is needed to deliver what they want, what business strategies are responsive to what they want, and how can producers be positioned to actually implement the strategies that make sense. The earlier of these topics (consumer preference and supply chain structure) probably need exploring first as they form the basis of decisions related to the later topics (marketing strategy and preparing producers to implement such strategy). In this day and age, priority would also likely be advised for work on fuller product lines instead of single-species marketing. Breadth and depth of product line would provide competitive advantage and a better opportunity of becoming preferred suppliers to processor, wholesaler and retailer. Also, a dual marketing mode of offering a portfolio of both farmed products and wild products might further enhance chances of survival as competitive forces increase and bargaining power shifts towards the consumer end of the supply chain. Verification of these two hypotheses would appear rather urgent to allow for effective strategic decisions among the NCR aquaculture producers. These and many other hypotheses, however, remain to be empirically tested. What is not in need of testing is the importance of marketing research to enhance the fortunes of the aquaculture industry being served by NCRAC.

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