Mississippi-Alabama Sea Grant Consortium

Projects

A national survey of consumer preferences for branded Gulf oysters and risk perceptions of Gulf seafood

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Abstract

The proposed work is a bi-state, multi-institution, multi-disciplinary effort to address the two research priorities for MASGC's Safe and Sustainable Seafood Supply Focus Area. The overall goal of the project is to evaluate branded, farm-raised oysters in the context of a choice experiment accounting for potential effects of Vibrio vulnificus and the Deepwater Horizon oil spill on consumer preferences and perceptions. Key tasks include developing and implementing a national and Gulf-regional survey instrument to evaluate consumer preferences toward branded, farm-raised oysters under various treatment combinations, conducting three qualitative surveys and taste tests at a local restaurant, at a high-end restaurant in Houston, TX, and at the 2013 International Boston Seafood Show. Key hypotheses to be tested are: oyster consumers are willing to pay a price premium for 1) geographically-branded Gulf oysters, 2) oysters with a specific suite of improved attributes, 3) farm-raised Gulf oysters; and 4) that consumer risk perceptions regarding the effect of the Deepwater Horizon oil spill and/or Vibrio vulnificus have a significant effect on WTP for Gulf oysters. The results of this work would provide Gulf oyster producers with useful information regarding market potential for alternative oyster products. Results indicating weak potential would make evident the risk associated with pursuing alternative production methods and/or marketing schemes. However, results indicating strong potential would provide useful information both on what gains are possible, but also identify specifically those product attributes that have the most potential. These results could be utilized immediately by MASGC, oyster producers, wholesalers, restaurateurs, and others concerned with the sustainability of the Gulf oyster sector. We emphasize that the intent of the proposed work is to identify and measure consumers' current perceptions, not to alter them. Such information will substantially improve the industry's understanding of the market situation for Gulf oysters.

Objectives

1. To develop, by Fall 2012, a survey instrument that can be used to evaluate consumer preferences toward branded, farm-raised oysters under various treatment combinations.
2. To administer, by Winter 2013, the instrument developed in Objective #1 to both a national and Gulf-regional panel of approximately 2000 oyster consumers.
3. To construct, by Summer 2013, a multiple regression model to test for significance of a set of product attributes that influence consumer preferences toward branded, farm-raised oysters under various treatment combinations using the data collected in Objective 2.
4. To estimate, by Summer 2013, the marginal values of product attributes as well as estimate willingness to pay (WTP) for branded, farm-raised oysters under various treatment combinations using the data collected in Objective #2.
5. To estimate, by Summer 2013, the effects of consumer perceptions regarding Vibrio vulnificus and the DWH oil spill on consumer preferences and WTP using the data collected in Objective #2.
6. To validate and compare the results of Objectives 1-5 by conducting three qualitative surveys and taste tests at 1) a local restaurant in Alabama or Mississippi in April 2012, 2) a high-end restaurant in Houston, Texas, in October 2012, and 3) at the 2013 International Boston Seafood Show (IBSS) in March 2013.
7. To provide, by the end of 2013, the results of this research to both academics (via peer-reviewed publications) and to industry stakeholders (producers, wholesalers, retailers) in a way that maximizes its usefulness to the respective group.

Methodology

A choice experiment (CE) is one of several tools used to estimate the value of both market and non-market goods, and has been used extensively (see Adamowicz et al. 1998; Brownstone and Train 1999; Boyle et al. 2001; Layton and Brown 2000; Lusk, Fox, and Roosen 2003; Revelt and Train 1998). A choice experiment is designed not to elicit preferences for a single alternative, but to elicit respondents' preferences over attributes such as quantity, quality, appearance (color, shape), brand, harvest location, and price (Adamowicz et al., 1998). Typically, each respondent is asked to evaluate several randomly-assigned scenarios, each of which is composed of several competing alternatives comprised of some set of attributes, and individuals are asked to choose the one alternative they prefer the most.

The choice experiment to be conducted in this study concerns consumption preferences over oysters with varying attributes that fall primarily into two main categories: product-specific attributes (appearance, harvest location, production type: wild versus farm-raised, branded versus non-branded) and risk-related attributes (Vibrio vulnificus-related risk information and DWH-related risk information).

Given that the national survey will be administered online, there are some limitations of the attributes that can be tested, with the obvious one being taste. Therefore, we will limit the online choice experiment to those attributes that lend themselves well to online surveying. Of course, these attributes and levels will be further scrutinized and refined by Drs. Petrolia and Walton with input solicited from an advisory panel of current industry members, including Chris Nelson (oyster processor & distributor, Bon Secour Fisheries, Alabama), Al Sunseri (oyster processor & distributor, P&J Oysters, Louisiana), Jim Gossen (distributor, Louisiana Foods, Texas), Robb Walsh (food critic

and author of Sex, Death & Oysters, Texas), and Jon Rowley (noted food critic and a leader of the 'oyster revival', Washington). Input from attendees at the 2012 taste panels also will be critical to this process.

We propose to design the survey instrument to elicit both risk preference (i.e., risk aversion) and subjective risk perception data from respondents, and to use these data as control variables and to identify the effect of information on seafood/oyster preferences. Dr. Petrolia has just recently completed a survey of Gulf Coast residents' choice to participate in the National Flood Insurance Program that utilizes a variety of means to elicit respondent risk information. For example, to elicit risk preference information, i.e., a measure of risk aversion, the approach of Holt and Laury (2002) was used which collects data via experiment where respondents make choices over real-money lotteries. This approach was successful (i.e., was found to be a significant factor with the hypothesized effect), and we propose to utilize this method in the present study as well.

We propose to contract with Knowledge Networks to administer the survey to panelists on their Knowledge Panel®. Knowledge Networks boasts of having recruited the first (and only) online research panel that is representative of the entire U.S. population. Panel members are randomly recruited by probability-based sampling that covers both the online and offline populations in the U.S. At the 2012 taste panels along the Gulf coast, we will offer a variety of oysters from the Gulf of Mexico (> 6 varieties); representing a range of brands or potential brands including typical wild-harvested unbranded 'Gulf' oysters. Consumers will be surveyed before and after tastings to determine any change in perceptions or responses. Furthermore, willingness to pay will be assessed for each variety. Routine demographic information, including industry status, will be collected to allow cross-tabulation of responses by geographic region and other major factors. This effort will be repeated in 2013, with a focus on following up on questions or topics raised in the stated-preference survey.

Rationale

The Gulf states of AL, FL, LA, MS, and TX harvested 94,068 MT of the eastern oyster during the 2000-2009 period, accounting for over 90% of total production for the U.S. Yet the value of the Gulf states' harvest represents only 76% of the total market value because Gulf oysters sell at significantly lower prices relative to those produced in non-Gulf states (National Marine Fisheries Service, 2011). Although they are the same species (eastern oyster, Crassostrea virginica), oysters marketed along the Atlantic Coast sell under regional names such as Wellfleets (from Cape Cod), Blue Points (Long Island), and Chincoteagues (Virginia). Gulf oysters are usually sold as generic oysters, as Jacobsen (2011) says, "indicative of a region that pays less attention to the nuances of different raw oysters than to their culinary possibilities." The major exceptions on the Gulf coast are Apalachicolas (Florida), which comprise the bulk of Florida's oyster harvest. Although there is no clear evidence that they sell at a premium, it is evident that a market has developed for these branded oysters.

An alternative source of oyster production is farm-raised oysters. Although they currently make up only a very small portion of production in the Gulf, they sell at a premium in high-end restaurants because of their superior aesthetic qualities. A commercial demonstration project is ongoing at Point aux Pines near Bayou La Batre, AL, where 50,000 are produced annually, grown in suspended wire cages in waist-deep water. This alternative production method allows for greater control of aesthetic

characteristics, yielding a potentially higher-value product. Currently, these oysters are being sold in high-end restaurants, and obtaining a wholesale value of over 30¢ a piece.

On the negative side, oyster producers in the Gulf have other marketing challenges to contend with, including the lingering effects of the Deepwater Horizon oil spill that severely depressed demand for Gulf seafood. The results of a consumer preference survey conducted by Harrison and Degeneffe (2010) shortly after the oil spill found that up to 60 percent of consumers indicated a reduction in their household consumption of seafood as a result of the oil spill in October 2010, although this number fell to 23% when again surveyed in December 2010. Particularly relevant to this proposal, the survey found that although households in Gulf states were more concerned with finfish consumption, over half of the non-Gulf households surveyed were concerned primarily with shellfish consumption, including oysters. Additionally, the chronic problem of the bacteria Vibrio vulnificus, and associated negative consumer perceptions, limit oyster consumption in the summer months and create an opportunity for national buyers to negotiate a lower price.

Results

"Effect of branding Gulf oysters on consumer's willingness to pay" - Thesis

Petrolia, D. R., Walton, W. C., & Yehouenou, L. (2017). Is there a market for branded Gulf of Mexico oysters? Journal of Agricultural and Applied Economics, 49(1), 56–65. doi: 10.1017/aae.2016.30

Petrolia, Daniel R. and Walton, William and Acquah, Sarah, A National Survey of Consumer Preferences for Branded Gulf Oysters and Risk Perceptions of Gulf Seafood (November 20, 2014). Available at SSRN: https://ssrn.com/abstract=2528576 or http://dx.doi.org/10.2139/ssrn.2528576

Petrolia, Daniel R., 2016. "Risk preferences, risk perceptions, and risky food," Food Policy, Elsevier, vol. 64(C), pages 37-48. DOI: 10.1016/j.foodpol.2016.09.006

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