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## INTERNATIONAL BEEF<sup>1</sup> AND PORK<sup>2</sup> QUALITY AUDITS

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**INTRODUCTION.** As a consequence of the increasing pursuit of Western culture and culinary habits by those in other countries, U.S. beef and pork exports have risen dramatically, thus providing an outlet for -- and a stabilization effect on -- the U.S. meat industry. In 1993, because of the hard work packers, purveyors and those in the U.S. Meat Export Federation (USMEF), the Agricultural Marketing Service (AMS-USDA) and the National Pork Producers Council (NPPC), the U.S. was exceptionally successful in selling beef and pork to other countries. As a result, prices for U.S. cattle were higher by \$12 per cwt. for feeder cattle, by \$8 per cwt. for slaughter cattle and \$6 per cwt. for block-beef carcasses. The same scenario holds true for pork exports in that producers received approximately \$6.33 per head for each market hog sold, because exports raised the value for all swine. Currently, the U.S. presently exports nearly 10% and 2.5% of its beef and pork production, respectively. And the feeling is that if we -- as a country -- could develop an "export mentality," perhaps even more of our beef and pork could find ready opportunities in world markets. Having an export mentality means "to not just meet, but to exceed the needs of our export customers."

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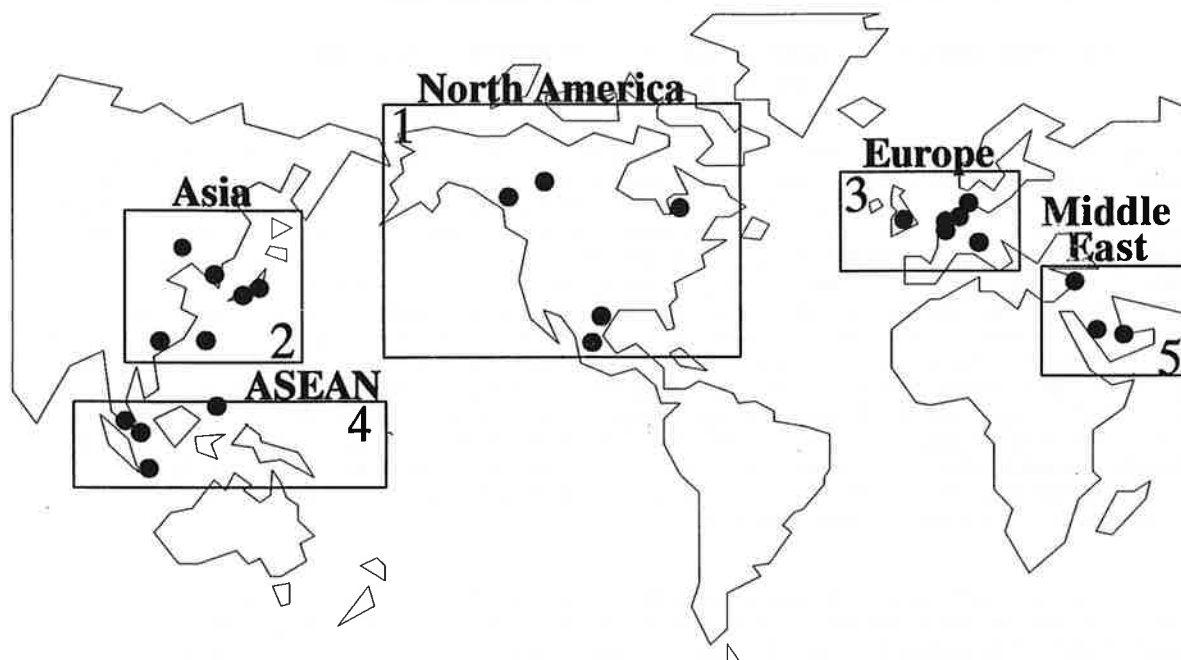
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In order to expand our export market, it is crucial to ascertain opinions of our export customers about U.S. beef and pork items, to gain an understanding of the positive and negative quality attributes associated with U.S. along with its export competitors beef and pork items and to determine where additional export opportunities exist. The objectives of the International Beef (IBQA) and Pork Quality Audits (IPQA) were to: 1) identify the components of quality affecting the overall desirability of U.S. high-quality beef and pork, 2) determine, via personal, on-site interviews, the positive and negative components of U.S. beef and pork items as judged by food service, retail and trader/wholesaler industries in selected foreign markets, and 3) develop a database, by individual foreign market, of the characteristics used in evaluating the quality of U.S. beef and pork as compared to the quality of competitive beef and pork products.

**METHODOLOGY:** Countries were categorized by geographical region (Figure 1): Region 1: Mexico and Canada; Region 2: China, Hong Kong, Japan, South Korea and Taiwan; Region 3: Austria, Belgium, Denmark, Great Britain, Germany and the Netherlands; Region 4: Indonesia, Malaysia, Philippines and Singapore; and, Region 5: Israel, Saudi Arabia and the United Arab Emirates. Traders/wholesalers, retail operators, hotel and restaurant managers/chefs and trade/promotion organization officials -- representing 20 countries from all 5 regions -- were surveyed (n = 275) by means of personal interviews during March through December of 1994 for the IBQA. Results of the IPQA were generated from 88 businesses/organizations representing Regions one through four. The companies in each region selected for the interviews were chosen by USMEF overseas personnel.

A standardized questionnaire was developed prior to the study; the instrument contained questions that facilitated quantification of the components of quality for which changes could be made that would enhance the desirability of U.S. beef and pork in the export trade. Comparative data (contrasting beef and pork from the U.S. with that of other countries) were obtained for the following nine specific characteristics: (1) box condition; (2) integrity of vacuum packaging; (3) overall workmanship; (4) overall appearance; (5) overall eating satisfaction; (6) presence of pathogens; (7) pesticide/antibiotic residues; (8) product storage and display life; and (9) customer service. The questions were asked by two-member trained interview teams; one person was designated to ask questions and one person served as a recorder.

Figure 1. Selected countries by geographical region



**RESULTS OF THE INTERNATIONAL BEEF QUALITY AUDIT (IBQA):** The IBQA and IPQA were conducted to quantify the components of quality for which changes can be made to enhance desirability of our product in the export trade by capitalizing upon genetic attributes of U.S. livestock and production practices used in the United States. "Quality" can be defined in many ways and can include many variables. To understand the needs and wants of our export customers, the U.S. meat industries must be able to identify accurately the parameters used in evaluating "quality" attributes that customers consider when comparing U.S. beef and pork to other competitive meat sources.

Results of the IBQA determined that the principle reasons foreign beef importers purchase U.S. beef are as follows:

1) *Ability of the United States to supply individual beef cuts and offal items:* Worldwide, customers (i.e., end-users) are able to purchase an abundant supply of individual beef cuts without the requirement of buying "full sets" (combinations of all the different primal/subprimal cuts that come from a beef carcass). According to several interviewees, "The U.S. is the only place in the world from which I can consistently purchase -- for example -- 40,000 pounds of rounds or variety meats (i.e., hearts, livers, beef lips, etc.)."

2) *Tenderness and flavor of United States beef:* Tenderness and flavor of U.S. beef is the second most important reason it is purchased around the world. The United States has always been regarded as the world's leader in high-quality beef production due to the fact that it grain-finishes young steers and heifers. According to the results of the IBQA, U.S. beef products far surpassed beef products of competitors (for example, Australia, New Zealand, Canada and South America) in overall eating satisfaction. In 97 percent of the cases, end-users were more satisfied with the tenderness and flavor of U.S. beef, whereas one out of four (23 percent) of the interviewees was dissatisfied with the eating quality of beef from Australia. New Zealand beef, although more acceptable than Australian beef, was behind that from the United States with only 86 percent of the respondents satisfied with its eating quality.

3) *Perception of value associated with U.S. beef:* Perception of value, or the benefit received in relation to the money invested, was very important to companies interviewed by the research team. Results of the IBQA indicated that export customers feel the price they pay for U.S. high-quality beef is justified by the value of the product they receive. For example, in Region 2 (specifically in Japan), prior to U.S. Prime and U.S. Choice beef entering the Japanese market, the only high-quality beef consumed there was beef from Wagyu cattle -- which is extremely expensive. Beef consumption in Japan has increased with increased availability of U.S. beef, at least in part because U.S. beef is more moderately priced (one-eighth the cost of Wagyu beef) yet very acceptable in palatability.

4) *Overall product quality in U.S. beef:* Overall product quality included many different characteristics of beef that were itemized by end-users and included color of the lean and fat, lean quality and amount of marbling. Among end-users who were

interviewed, 97 percent said U.S. beef was acceptable in overall appearance while 81 percent said competitors' (from other beef exporting countries) beef was acceptable in overall appearance.

5) (tie) *Image of the United States and its beef quality grading system:* According to U.S. export customers, the U.S. beef quality grading system is the benchmark for quality/palatability in beef. The "U.S. Choice" designation was termed the "international yardstick for palatability" by many of those interviewed during the IBQA, because of its reliability and its assurance of quality. The word "Choice" is used around the world, not only by the United States, but also by other countries, as a merchandising tool when trying to inform customers about attributes of the beef they are purchasing. The United States must protect the integrity of the USDA grades. People around the world used words such as "excellent," "preferred," "superior," "exclusive," "superlative" and "the finest" to describe U.S. Choice beef.

5) (tie) *Confidence in the safety of U.S. beef:* Confidence in product safety was an important factor in explaining why foreign customers purchase U.S. beef. Foreign beef customers appreciate, and understand the importance of, the controls that the United States applies to the processing and handling of live cattle, carcasses and beef produced in the United States. Recognized worldwide, the Food Safety and Inspection Service of USDA and its Residue Monitoring Program along with the Beef Quality Assurance Program activities of American cattle producers give customers in other countries, as well as those in the United States, assurance and a feeling of safety about U.S. beef.

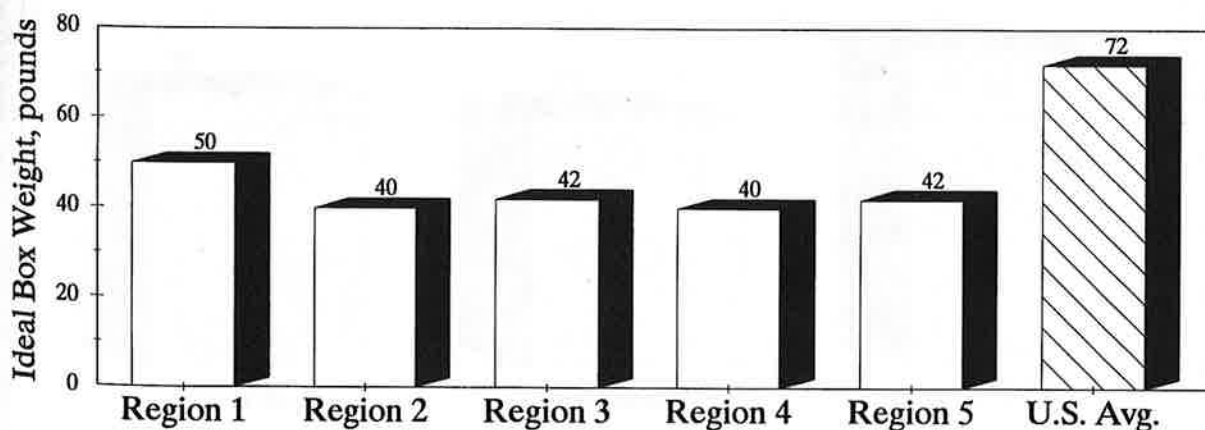
While U.S. beef has numerous positive characteristics that were identified by export customers, those interviewed during the IBQA also identified a number of challenges/opportunities faced by the U.S. beef industry. Continuous improvement in U.S. will always be needed, and those interviewed during this audit identified several specific areas in which the United States can improve its beef products. Researchers determined that it is the responsibility of everyone in the U.S. beef production chain -- producers, feeders, packers, purveyors, brokers and shippers -- to make improvements, to address problems and to respond to end-user criticisms to prevent the loss of market share in the export trade.

The areas in which U.S. beef for export needs to be improved are as follows:

1) (tie) *External fat in excess of purchase criteria:* Export customers are concerned about the amount of external fat on U.S. beef cuts they are receiving -- a problem that was also identified by the National Beef Quality Audit as one of the most important concerns of domestic customers. According to the results of the IBQA, customers want beef products that meet their specific purchase criteria for external fat trim, and the U.S. product does not always meet those criteria. Fat thickness often exceeds the specification by one-half inch -- according to the results of the IBQA -- even though the export customers were paying for "packer-trimmed" product. Other countries produce cattle using different management methods thus providing leaner beef, so the interviewees had the attitude of, "Why can't the United States do the same?"

1) (tie) *Excessive box weight and whole muscle weight:* Current box weights and whole-muscle weights associated with U.S. beef products are too heavy for many in the export market (Figure 2). Many foreign companies along with foreign countries have placed limits of approximately 45 pounds for the amount of weight an employee can lift. Boxes that weigh 100 pounds, such as many from the United States, obviously far exceed that limit. Additionally, a stronger, smaller box -- specifically designed for use in the export trade -- and a box which can withstand the rigors of transportation is needed.

Figure 2. Ideal box weights of U.S. beef desired by region

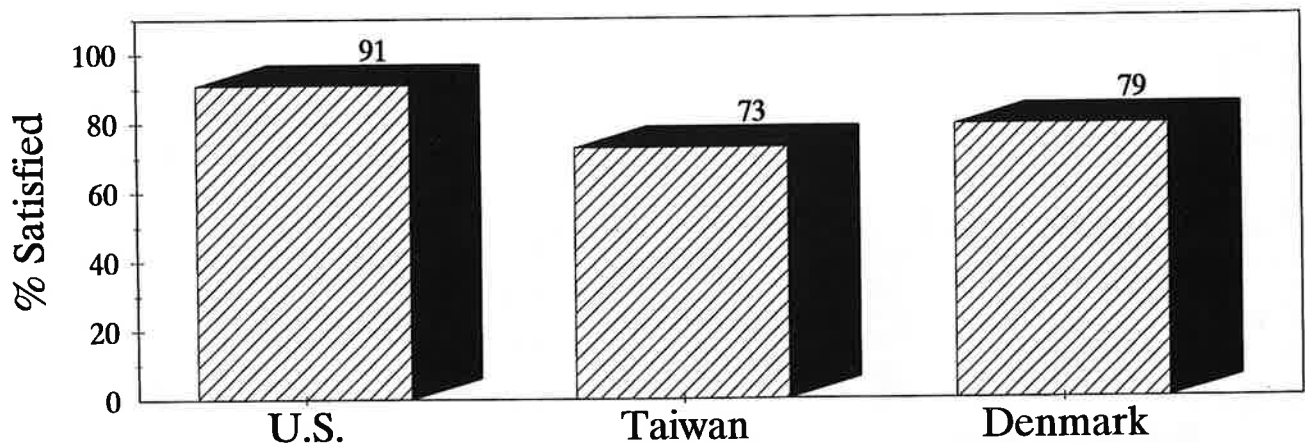


- 3) *Inadequate customer service:* Sales is one thing and customer service is another! The United States has made terrific inroads in the beef in the beef sales area, but -- too often -- U.S. beef salespersons forget that the relationship with buyers and end-users must be nurtured and improved with customer service. Many foreign customers said, "I just want to be treated like a normal customer, domestic customer" and to some export customers such treatment would be an improvement.
- 4) *Excessive seam fat:* Too often, U.S. beef contains too much fat between the muscles. Care must be taken to avoid shipping such product to foreign customers.
- 5) *Inadequate shelf-life:* Shelf-life was identified as an area in which U.S. beef needs to be improved. Those interviewed expressed a desire to purchase beef products with extended shelf-life.
- 6) *Excessive purge accumulation:* U.S. beef exporters can decrease purge (i.e., drip loss) by controlling temperature prior to packaging, and -- with the help of transporters -- during overseas shipment.
- 7) *Unsatisfactory box conditions:* U.S. beef exporters need to use boxes which can withstand the rigors of overseas or long-distance transportation.
- 8) *Inadequate vacuum packaging:* Far too many leaker packages occur at export destination; work must be done in the United States to improve vacuum-packaging materials and technologies. Care must also be exercised when handling boxed beef to prevent rupture of vacuum packages.
- 9) *Poor overall workmanship:* U.S. beef packers and purveyors must "attend to detail" making sure that workers take pride in preparing product for sale to our foreign customers.
- 10) *Inadequate label information:* Much improvement can be made in what U.S. suppliers include on box labels; more information can be provided and such data should be seen and understood.

**RESULTS OF THE INTERNATIONAL PORK QUALITY AUDIT (IPQA):** As was above mentioned regarding the IBQA, the overall common objective of the IPQA was to determine what "quality" factor(s) our export customers consider when comparing U.S. pork to other competitive sources of pork. The IPQA determined that the principle reasons U.S. pork is purchased by global customers are as follows:

- 1) *Confidence in product safety:* Many of the meat traders interviewed considered product safety as the primary reason they purchase U.S. pork. The USDA-FSIS (Food Safety and Inspection Service) was found to instill trust in the minds of foreign customers regarding the safety of U.S. pork products. Many customers interviewed commented that they don't even consider product safety for U.S. pork products -- it's a given.
- 2) *Competitive prices:* Numerous global customers feel that U.S. pork is priced competitively with that of other pork suppliers. In the Philippines, U.S. pork is one-half the price of domestic pork and, in Japan, the "Japanese brand" pork is twice the price of U.S. pork.
- 3) *Palatability (i.e., tenderness):* The third most important reason U.S. pork is purchased by company representatives throughout the world is the superior taste, flavor and especially tenderness. Results of the IPQA indicated that the palatability of U.S. pork far surpasses that of other exporting countries (Figure 3).

Figure 3. Palatability ratings of U.S. and competitors pork



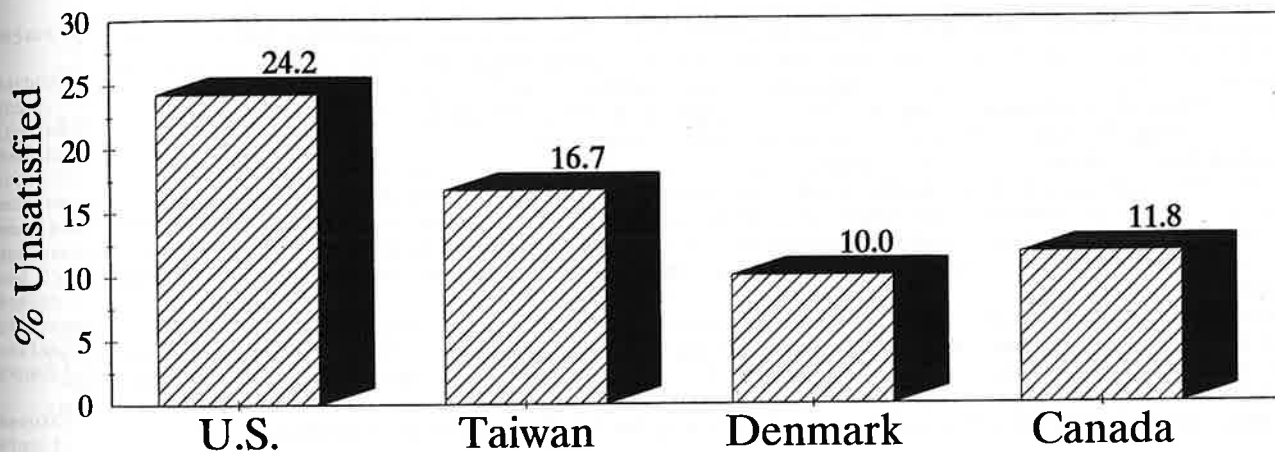
4) **Positive perception/image of the United States:** The positive image and high perception of the United States of America contributes to increased sales of U.S. pork worldwide. The U.S. beef industry has set a mental benchmark for quality and due to its success in export markets, customers are receptive to U.S. pork products. It is now in the hands of the U.S. pork industry to maintain that demand by meeting and/or exceeding customers' expectations.

5) **Availability of individual cuts:** Customers worldwide appreciate the availability of individual U.S. pork cuts in large quantities. End-users are able to purchase an abundant supply of pork items without "coupling" products. Customers can purchase any amount of individual pork items only from the U.S.

While U.S. pork has numerous positive characteristics that were identified by export customers, those interviewed during the IPQA also identified a number of challenges/opportunities that should be addressed by the U.S. pork industry. The ten most important areas in which U.S. pork needs to be improved are:

1) **Lean quality characteristics:** For a high percentage of persons interviewed, the lean quality of U.S. pork is inferior to that of other competitors (Figure 4). Lean quality includes amount of purge, color of lean, and overall appearance of the products. Results of the IPQA indicate that U.S. pork products are very pale in color and many have a pale, soft and exudative (PSE) appearance. One customer said he returns approximately 12 percent of his U.S. pork imports, claiming reimbursement because of product that is PSE.

Figure 4. Lean quality ratings of U.S. and competitors pork



2) **Customer service:** Many of the business persons interviewed feel that U.S. pork suppliers are supply-driven and not customer-driven. Customers feel that some U.S. pork suppliers lack an "export-mentality" and that the competitors of the U.S. -- Denmark and Taiwan, for example -- far surpass the U.S. in customer service. Due to the fact that most U.S. pork suppliers do not customize pork products for their export customers, customer service is essential. For example, Danish pork producers go out of their way to provide excellent customer service to the Germans because although the Danish do customize pork export items for some major markets like Japan, it is difficult for them to meet the specifications of the German customer. However, the Germans continue to purchase Danish

pork because the excellent service compensates for the inability to produce to German specifications. A customer stated, "The U.S. needs to become export-minded and to concentrate on long-lasting relationships."

3) (tie) *Elimination of abscesses/bruises/foreign material:* A large percentage of those interviewed in the IPQA complained about the presence of abscesses, bruises and/or foreign materials in U.S. pork products. Customers worldwide have discovered scar tissue, bones, metal, hair and other foreign objects associated with U.S. pork products.

3) (tie) *Seam fat:* For many of the export customers interviewed, U.S. pork has excessive amounts of seam fat (fat between the muscles). These end-users feel that the U.S. needs to correct this problem through improved swine genetics.

5) *Cut size and consistency:* Many of the company representatives interviewed in the present study thought U.S. pork subprimals, when sliced to a normal thickness, yielded cuts which exceeded the acceptable portion size of the consumer. In addition to the preference for smaller-size pork cuts, export customers would also like to receive cuts of a consistent size. Advanced animal genetics in the U.S. has led to significantly larger animals thus yielding larger primal cuts and inconsistent cut size.

6) *Label placement and information:* Results of the IPQA show that some of the business persons interviewed feel that U.S. pork suppliers are inconsistent in the labeling of pork boxes. U.S. pork suppliers place the label in different areas or locations on the boxes and, at times, do not comply with the labeling requirements of specific importing countries. Foreign language labels are rarely used and generally only when required by customers or importing countries.

7) *Marbling:* A significant number of customers that were interviewed complained that there is too much marbling in U.S. pork cuts. Many consumers feel that any marbling in pork cuts indicates that the product is too fat.

8) *Adherence to purchase specifications:* For some of the interviewed end-users, U.S. pork suppliers fail to adhere to purchase criteria. Danish pork suppliers excel over U.S. pork suppliers in regard to adherence to purchase specifications. In order to compete in the global market the U.S. pork suppliers must adhere to the purchase specifications of the international customer. As it is, customers have to settle for U.S. specifications which many times do not meet their desired specifications.

9) *Packaging:* Some of the export customers interviewed indicated that the vacuum packaging and boxing of U.S. pork items is adequate. Many importers of U.S. pork see a great deal of purge inside the packages and, in some cases, the U.S. pork boxes are not strong enough and are torn and/or crushed. U.S. pork suppliers must provide boxes that can withstand the rigors of transportation and they need to use stronger packaging materials.

10) *External fat in excess of purchase criteria:* Many of the respondents said that the U.S. pork suppliers do not adhere to requested fat-trim levels. U.S. pork consistently arrives to these customers with excessive fat which not only decreases their cutting-yields but also costs them money since they have to pay a premium for specific fat trim levels and, then, they don't receive product that was appropriately trimmed.

**CONCLUSIONS:** In order to improve its beef and pork products, the U.S. industries needs to develop an "export mentality." As previously highlighted, "Export mentality" means to not just meet, but to exceed the needs of our export customers. We in the U.S. beef and pork industries are trained to take care of ourselves (domestic needs) -- but taking care of ourselves also means looking ahead and down different paths (including export needs) for the future. Beef and pork exports currently account for approximately 10 and 4 percent, respectively of their total U.S. production; however, these values are projected to double and even possibly triple by the year 2000. Developing an "export mentality" can be beneficial to the U.S. beef and pork industries in terms of realizing increased profits, but the first step is to truly understand each individual market and its customers/consumers. Our competitors in the beef and pork export markets don't have any magic tricks, but they do use the basic fundamentals of sales, marketing and production to deliver products that the customers and end-users desire. Hopefully, the information gained from the IBQA and IPQA will serve as blueprints for convincing U.S. producers, packers, traders, shippers and trade-organizations personnel of the importance of servicing our export market in order to expand the export base of the U.S. beef and pork industries.