

International Meat Marketing: Decreasing Regulatory Trade Barriers Through Research

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During the past two decades, the export of livestock and poultry products has been a bright spot in the overall agricultural trade picture. In 1981, these items led the way to higher export earnings, gaining 9.3 percent in the value of shipments to \$4.1 billion. Further gains for agricultural exports must be achieved under increased restrictive world market conditions and increased competition from other suppliers.

Our job in the Export Coordination side of International Programs of the Food Safety Inspection Service (FSIS) is to reduce regulatory barriers for the export of meat and poultry products. As foreign countries begin to build local meat and poultry industries, regulatory protectionism begins to develop. Often, by the time we recognize this protectionism, it is too late, the gears are in motion and the U.S. export system is damaged. Foreign governments' meat and poultry inspection services are charged with protecting their population from unsafe or unwholesome product and generally do not recognize the part they play in economic protectionism. This makes our job all the more difficult as arguments of protectionism fall on deaf ears. The goal of our program is to recognize trade barriers as such and to overcome regulatory barriers, both domestic and foreign, to the trade of meat and poultry products in international markets.

The role of scientific research may be an increasingly important tool in overcoming regulatory trade barriers to international trade. Early this year, the Assistant Secretary of Marketing and Inspection Services wrote a letter to the Ministry of Agriculture, Fisheries and Food in the United Kingdom (U.K.) protesting the results of a recent U.K. review and evaluation of the U.S. Meat and Poultry Inspection Program. The report of this visit alleged many deficiencies in U.S. plants relating to the enforcement of U.K. requirements. Most of these requirements are different from those normally enforced by FSIS. The review suggested that USDA begin strictly enforcing the U.K. requirements for exports. Implementation of such a request would result in either major changes to the U.S. inspection system, or greater costs to U.S. exporters. Therefore, USDA protested the review on the basis that the U.S. inspection system, although not the same as that in the U.K., is an equivalent system which provides public health protection. The strict enforcement of the U.K.

requirements would neither improve the U.S. system, nor are they necessary to insure safe and wholesome export product.

The U.K. response, signed by Mr. E. J. G. Smith, Deputy Secretary for Land and Resources, to this portion of Mr. McMillan's letter stated: "I understand the USDA may not agree with the scientific basis for some of our requirements. I agree, of course, that there is a continuous need to review and update requirements of this sort. The U.K. is always ready to consider any scientific evidence suggesting the need for a change in these requirements . . ."

Over the past few years, we have had some success in reducing regulatory barriers to international meat and poultry trade through scientific research. One example of this success is the lowering of temperature requirements for cooked roast beef to the United Kingdom. Only after extensive scientific evidence was presented would the U.K. reduce their requirement for cooked roast beef temperatures from 176° F to 145° F. Another country which we feel is very receptive to accepting scientific evidence is Japan, the number one importer of both U.S. red meat items and poultry items. Although we have no current examples of science reducing the export requirements of the Japanese inspection service, we feel confident that these technically minded people would be receptive to this type of response.

The following examples will give you some insight into the types of regulatory issues which, we feel, result in trade barriers and which would benefit from innovative scientific research.

United Kingdom — Canning Requirements

The U.K. requirements relating to meat and poultry canning state that the following measures must be taken for can and seam evaluations: seam length, seam thickness, countersink depth, end and body plate thickness, body hook length and cover hook length. Critical parameters for double seaming are listed for: free space, percentage overlap, sides seam, juncture rating, counterside depth and tightness rating. The USDA inspection program relies on tightness and thickness measurements to assure a proper seam. The program does not require the measurement of free space, nor do we think the measurement is necessary. In relating this information to the U.K., we cited that neither the U.S. Food and Drug Administration, nor Codex standards nor domestic U.S. container manufacturers recommend free space measures. Feeling that this measurement is not necessary for safe and wholesome product, we therefore sought

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relief from this requirement for product exports to the United Kingdom.

The U.K. responded to this request by stating that they "... consider that the only objective method of assessing seam thickness is by calculation of free space. However, if the USDA can provide details of an equally objective method, the U.K. will be prepared to consider this." Therefore, it appears that the U.S. needs scientific research on the types of measurements needed to assess can container integrity before the U.K. will consider relaxing this requirement.

A second U.K. canning requirement which would benefit from scientific investigation deals with chlorine added to recycled retort cooling water. Current requirements from the U.K. state that chlorine added to retort water must receive at least a 20 minute contact time. We expressed, in our letter to the U.K., that this requirement does not take into account a number of factors and therefore is too strict. Depending on the type of chlorine compound used and other compounds added, 20 minutes may or may not be sufficient. Not all chlorine complexes require 20 minutes to assure proper dispersal and effectiveness. USDA, therefore, suggested that the U.K. adopt a more flexible position to chlorine contact time, similar to that used by our Meat and Poultry Inspection program.

FSIS evaluates a recirculation system, including the type and quantity of chlorine compound being used, before determining what contact time is sufficient. We feel that this case-by-case approach to determine chlorine contact time provides adequate protection to insure safe and wholesome product.

The U.K. response to this "case-by-case" approach was as follows: "... The U.K. requirement that chlorine added to can cooling water must receive at least a 20 minute contact time is based on advice from the U.K. Health Departments and canning experts ... the information now provided (by USDA) in relation to the 20 minute contact time is insufficient to allow the U.K. to make a proper assessment. It is therefore suggested that FSIS should write, giving full details of what they consider to be equivalent systems, including details of the type and quantity of chlorine compounds intended to be used. The matter will then be referred to the Health Departments for their observations, but in the meantime, we can offer no relaxation regarding this requirement." This, then, becomes a second area where scientific research can provide information leading to a relaxation of what we currently believe to be a major obstacle to international meat and poultry trade.

EEC Directive On Chiller Water

Since May 1, 1980, the United Kingdom has required that poultry plants certified to export be equipped with immersion chilling systems which meet EEC standards of a "true counterflow." These standards, which are now also being enforced by West Germany, will eventually be required and enforced by all EEC member nations. A counterflow system is designed so that freshly slaughtered poultry is propelled through cooling water flowing in a direction opposite to the flow of product. U.S. regulations do not require counterflow of immersion chill water because there is no evidence that this procedure substantially reduces microbiological contamina-

tion of the finished product. We have been in negotiation with the United Kingdom and the Federal Republic of Germany on this issue over the past few years. These negotiations have utilized various arguments, ranging from ecological concerns that counterflow requires greater water flows which ultimately wastes energy and increases effluent volumes, to scientific studies that conclude that chiller input volumes at 50 percent of current U.S. requirements resulted in carcass quality as good as that resulting from current requirements. Confirmatory USDA studies indicate that the inverse relationship of microbial population on the carcass to the volume of water used, while certainly present, existed in a ratio no greater than one to one. That is, with a 50 percent decrease in water volume, microbial populations increased by less than two times.

However, EEC member countries, in particular the United Kingdom and West Germany, have not accepted these discussions as evidence to support the relaxation of counterflow requirements. We accept the conclusion of the EEC study which was used as basis for the implementation of counterflow. The study demonstrated that no objection can be made as to the use of immersion chilling from the hygienic point of view, provided these chilling systems are operated properly. We do, however, take exception with the finding that a counterflow system is superior to throughflow as practiced in the U.S. system. Over the years, there has been an accumulation of work to ascertain the hygienic level of poultry processing and, in some cases, specifically referencing immersion chilling. Unfortunately, most of it cannot be directly compared to the EEC work because of differences in emphasis or design. Thus, we find a third example where meat and poultry exports would benefit from directed and innovative scientific investigation.

Saudi Arabian Shelf Life

The Saudi Arabian Standards Organization (SASO) was formed several years ago to establish standards in that nation. This year, that organization is undergoing expansion and is being renamed the Gulf Arab Standards and Measurements Organization. It has been charged with setting "technical rules to increase confidence in commodities produced in the member countries and to encourage local products so they can compete with foreign products." The standards organization is just beginning to work on food standards, including those for meat and poultry. The first standards to be studied that would affect U.S. meat and poultry exports have dealt with the shelf life of various processed products. The Saudi's initially proposed a four to nine-month shelf life for various frozen meat and poultry products. A four-month shelf life would have been a barrier to U.S. exports to the Middle East because of transport time. At the time that the shelf life proposal was announced, the Export Coordination Division had a staff officer stationed on 90-day temporary duty in Saudi Arabia. Despite good communications, we were still extremely pressed for time and had only four weeks to provide comments on these standards. The U.S. does not have shelf life standards; therefore, no scientific literature was available specific to the products of interest.

With such a short time frame and no immediately available data, we were lucky to be able to call on the Agricultural

Research Service. Dr. Brad Berry and his staff were able to produce a protocol and in a very short period of time provide some results with which we could go back to the Saudi Arabians. Dr. Berry obtained sample products representing various periods of frozen storage from the meat and poultry industry. Unfortunately, all of the products obtained had been stored for the first 45 days in a non-frozen state; however, the total storage time ranged between 17 and 38 weeks. The tested products included beef, turkey or chicken items and were classified as either fresh sausage, sliced luncheon meat, emulsified or chunked and formed product. Sensory and thiobarbituric-acid evaluations were conducted for all products. Two ten-member panels tested product for three sensory characteristics and each product was evaluated by panelists on five separate occasions. Dr. Berry found few, if any, problems associated with either rancidity or the presence of other flavors associated with storage. Therefore, we were able to conclude that the products tested have a shelf life of at least nine months. This study protocol and its results were forwarded to SASO and to the Ministry of Commerce in Saudi Arabia for review and final decision within the requested four-week time span. The immediate need for these data and the fact that we can anticipate a further need for this type of information for either additional product classes or to confirm these findings, identifies the fourth example of a need for scientific investigation to avoid regulatory barriers to international trade.

Conclusion

Although we have just discussed four examples where scientific research may be a useful and an important tool to overcome regulatory trade barriers, many more issues could have been selected and discussed. Additional topics where scientific research would be useful to FSIS for the purpose of reducing trade barriers include the areas of: Microbiological standards; Newcastle vaccination, as a method of disease control; and aerosol contamination caused by the presence of wood in exposed product areas. I will be happy to discuss these additional research interests or any other ideas you

may have, individually after this session.

Now that you have heard the good news that the Food Safety and Inspection Service has identified these research needs, I have to inject a little bad news. Unfortunately, we have little or no money to pay you for this needed innovative research. The Food Safety and Inspection Service is a regulatory agency whose main goal is to insure a wholesome and safe meat and poultry supply. Our priority, of course, is toward our primary mission of meat and poultry inspection. However, there may be some other prospects for funding for those of you who may be interested in the type of research I have discussed today.

The first place you may wish to look for funding should be private industry. The importance of meat and poultry exports continues to grow in relation to the economic health of the U.S. processing and packing industries. The dependence on exports to raise the industries' sales volume to acceptable levels has increased in recent years. As this has taken place, it has become more important to the industry to minimize regulatory barriers. The larger meat and poultry exporters or the industry trade associations should have a definite interest in research that might be used to reduce these barriers.

Another possibility for funding to promote exports would be through other agencies in the Department which are oriented more toward agricultural research. These agencies might include the Foreign Agricultural Service, the Agricultural Research Service and the Office of International Cooperation and Development.

Summary

To summarize, further gains in the international trade of meat and poultry products will have to be achieved under increasingly restrictive world market conditions. Although the Meat and Poultry Inspection program has an Export Coordination Division, designed to reduce regulatory trade barriers, we often need support from the academic community to overcome these problems. We look forward to your innovative and timely efforts in this area.