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**Agricultural Trade Modeling – The State of Practice and  
Research Issues**

Liu, K. and R. Seeley, eds.

Proceedings of a Meeting of the  
International Agricultural Trade Research Consortium  
December, 1985, Vancouver, British Columbia, Canada



THE INTERNATIONAL AGRICULTURAL TRADE RESEARCH CONSORTIUM: AGRICULTURAL TRADE MODELING, THE STATE OF PRACTICE AND RESEARCH ISSUES. Karen Liu and Ralph Seeley, editors, International Economics Division, Economic Research Service, U.S. Department of Agriculture. Staff Report No. AGES861215

#### ABSTRACT

This report contains papers presented at the December 1985 meeting of the International Agricultural Trade Research Consortium in Vancouver, British Columbia, Canada. The program theme of this meeting focused on the current practice and future research agenda of agricultural trade modeling. The report discusses and illustrates some major existing agricultural trade models by exercising them on a common set of scenarios. Comparison of the results from existing models can serve as a guide to the future improvement of trade models. The report also explores research issues that need to be addressed in future trade modeling work in the area of government policies and macro linkages to agricultural trade.

Keywords: Agricultural trade, international trade, macroeconomic linkages, models, policy modeling, trade modeling.

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## FOREWORD

This report contains papers presented at the December 1985 meeting of the Trade Research Consortium in Vancouver, British Columbia, Canada. Co-chairmen and organizers of the program theme day of this meeting were Vernon Roningen, Economic Research Service, U.S. Department of Agriculture, and Willie Meyers, Iowa State University.

The theme program on agricultural trade modeling for the Vancouver Trade Consortium meeting had two goals: to present a survey of the current state of practice of agricultural trade modeling and to explore areas requiring further research. The method used to survey current trade models posed a set of common problems to existing agricultural trade models and then compared the answers given by, or analysis done with, the models. The two problems posed for the models were:

- o What would be the impact of a 5-percent shortfall in U.S. crop production?
- o The second problem is considerably more difficult. What would full trade liberalization mean for agricultural trade and prices?

The answer to the first problem should facilitate calculation of the U.S. export demand elasticity implied by a model, while analysis of trade liberalization issues provides a view of the scope of policy questions that a model might undertake.

Two areas needing further research were explored. One concentrated on problems of modeling government policy, while the other examined ways of modeling macroeconomic linkages to agricultural trade.

The papers in this report include brief descriptions and overviews of the models and results of the analyses carried out with the models, a paper comparing the results across models, and two papers exploring research topics to be pursued in the future. The fact that the questions posed above were in some measure addressable shows that agricultural trade modeling has come a long way in the last decade, even though much remains to be done.

This meeting of the International Agriculture Trade Research Consortium (IATRC) represents the first meeting under a new and more formal environment.\* During the seventies, world agricultural trade grew rapidly and there were major changes in the pattern and structure of world agricultural trade, as well as U.S. interest in world agricultural markets. U.S. agricultural exports have declined dramatically in the eighties. These dramatic changes pose new challenges for U.S. agriculture. The Economic Research Service (ERS) has a major role to play, especially in research and commodity and country analysis, in meeting these challenges. In doing so, ERS must work closely with other agencies in the U.S. Department of Agriculture (USDA), with researchers in U.S. universities, and with researchers in universities and government research institutions in other countries.

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\*For a history of the IATRC and organization details, see: The International Agricultural Trade Research Consortium - Origins, Objectives, Organization, Operation, and Program Plan for 1985-87, Executive Committee of IATRC, unpublished paper, Agricultural Economics Dept., University of California, Davis, June 1, 1985.

The goal of increased interaction between ERS and U.S. university researchers was formalized in June 1980 by establishing the Consortium on Trade Research. USDA's Foreign Agricultural Service (FAS) joined the Consortium in 1982. Membership in the Consortium has subsequently expanded to include Agriculture Canada, researchers from several Canadian universities, and researchers from Germany and France. The more formal establishment of the IATRC took place in 1985. The objectives of the Consortium are to:

- o Foster sustained efforts in international agricultural trade research.
- o Encourage and facilitate interaction between ERS, FAS, and U.S. university and foreign trade policy researchers.
- o Provide a forum for exchanging research results and aid in identifying problems and policy issues requiring research.

The Consortium is a cooperative undertaking between ERS, FAS, various U.S. universities, Agriculture Canada, and Canadian universities. Membership in the Consortium is subject to approval by the Consortium's Executive Committee but is generally open to those in international agricultural trade research and analysis or its policy applications.

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