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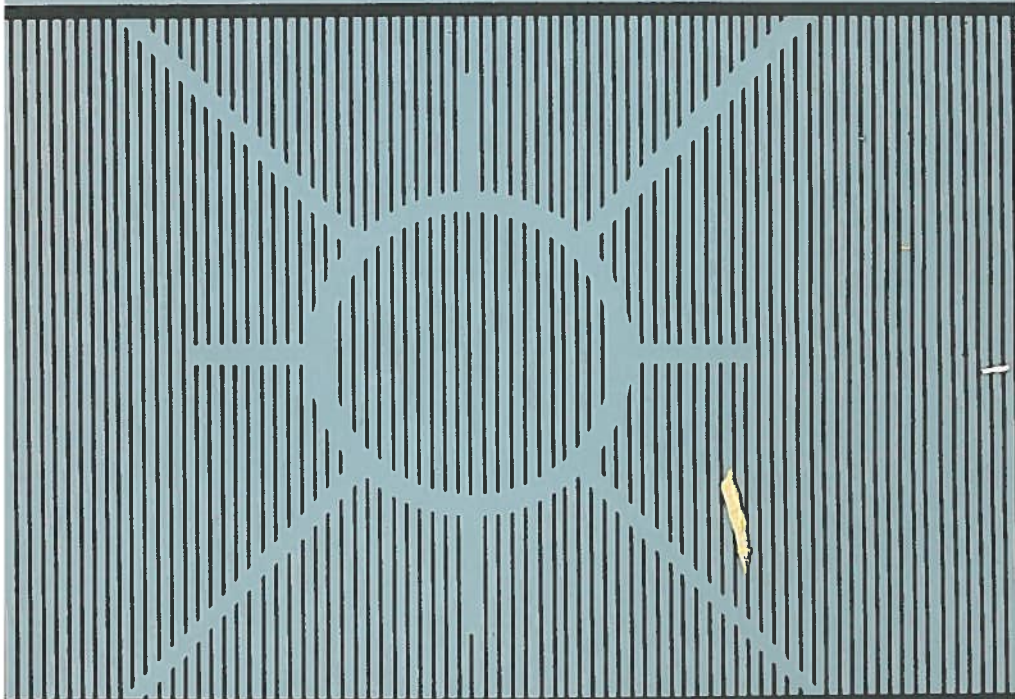
Studies of the
Organization and
Control of the U.S.
Food System

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THE TART CHERRY SUBSECTOR OF U.S. AGRICULTURE: A REVIEW OF ORGANIZATION AND PERFORMANCE



Agricultural Experiment Stations of Alaska, California, Cornell, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, New Mexico, North Dakota, Ohio, South Dakota and Wisconsin.

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The Tart Cherry Subsector of U.S. Agriculture A Review of Organization and Performance

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FOREWORD

During the last decade, the topics of subsector organization and vertical coordination have become increasingly recognized as important factors in the organization and performance of the U.S. food system. However, little research has been conducted on these topics, in part because the methodology and conceptual framework for subsector analysis is not fully developed.

The North Central Regional Research Project NC-117 is examining the organization, coordination and performance of several commodity subsectors. Monographs 5, 6 and 8 provided comprehensive analyses of the U.S. dairy, egg and citrus subsectors, respectively. This volume provides a similar analysis of the U.S. tart cherry subsector. Future monographs will analyze the beef and pork subsectors.

The individuals and organizations participating in NC-117 are listed on page iv.

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PREFACE

The organization and coordination of many agricultural commodity subsectors have undergone significant changes in recent years. For a variety of reasons, some subsectors have moved from loosely organized arrays of small firms linked by spot markets toward more tightly organized systems frequently linked by contracts, vertical ownership or joint ventures. Large nonfarm firms play an increasingly important role in the control and coordination of many subsectors.

Changes in organization and coordination of subsectors particularly raise questions about:

1. The control of subsectors—regardless of the observable effects on performance, it is important to understand who has control over strategic aspects of a subsector and the degree, if any, that control is shifting.
2. The effects of alternative vertical organization and control patterns on subsector performance, particularly:
 - a. The extent to which supply offerings match demand preferences: quantity, quality, timing, and location.
 - b. Technical and operational efficiency of entire subsector.
 - c. Equity of distribution of returns, rights, risks, information and responsibilities.
 - d. Access to subsector, including the widening or narrowing of markets, market foreclosure, vertical “squeezing” opportunities, and the conditions of entry.
 - e. The reliability and stability of subsector performance.

These are some of the concerns that led North Central Regional Project 117 to include the analysis of subsector organization and coordination as one of its principal areas of inquiry. The early work of this committee revealed two important obstacles that prevent answers to the above questions:

1. There is inadequate information on the organization of various commodity subsectors and the extent to which these have changed in recent years.
2. Subsector analysis is a relatively recent undertaking for economists. Although there are a variety of theories about firm and market behavior, there are no well-developed theories of subsector organization and performance.

In an effort to remove the first obstacle, several task forces were organized to develop comprehensive descriptive reports on selected subsectors. This report attempts to summarize what is known about the organization, coordination, and performance of the tart cherry subsector.

ANALYTICAL FRAMEWORK

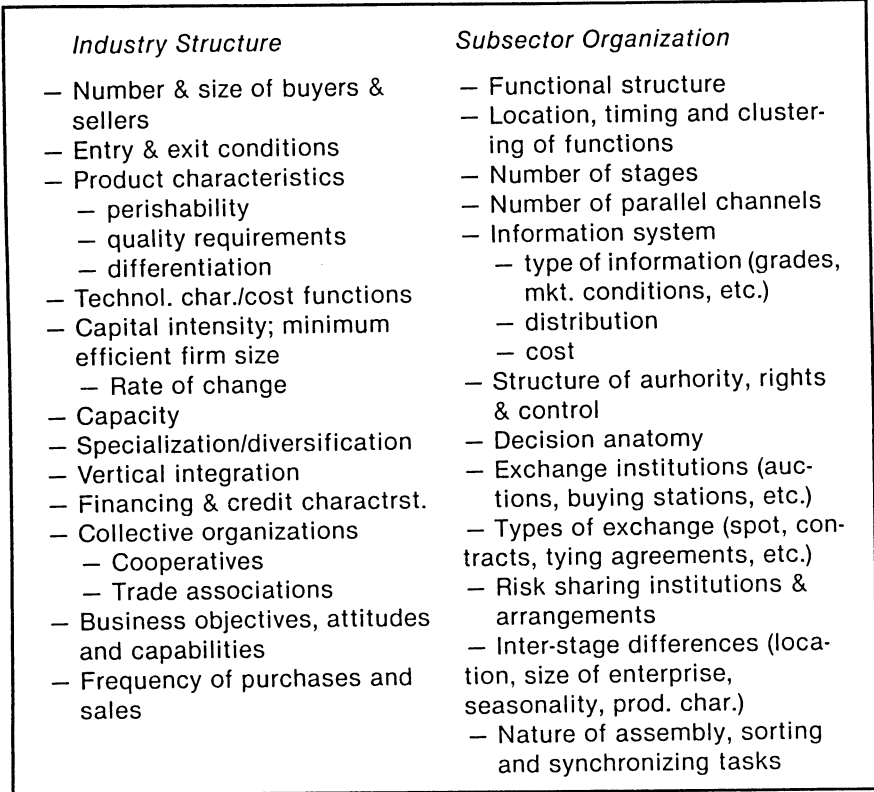
For this report, an agricultural subsector is viewed as an interdependent array of organizations, resources, laws, and institutions involved in producing, processing, and distributing an agricultural commodity. A subsector normally includes several industries (firms that are similar in functions performed and products produced), such as the butter manufacturing or food retailing industries. Subsector analysis is more than an analysis of the various industries that are part of a subsector, however. Although such industry analysis may be useful, the essential characteristic of subsector analysis is focusing in on the total vertical complex as a *system*.

Viewed as a system, a subsector is analogous to a pipeline with inlets, outlets, and valves; or, assembly line in which functions are performed and value added at several succeeding stages. This view focuses attention on the total vertical value adding process leading to the final products of the subsector, on control of critical parts of the subsector, and on the coordination needed to efficiently integrate the contributions of each stage and to ensure that what comes off the end of the assembly line is in fact what is demanded.

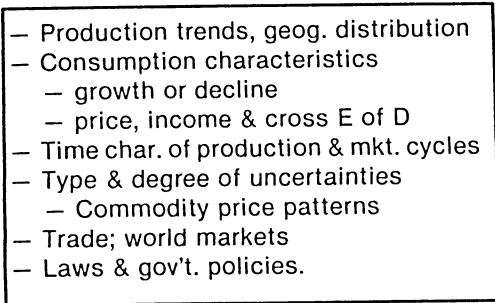
Efforts by NC-117 researchers to develop a conceptual framework for subsector analysis have met with modest success. Henderson and Marion have attempted to adapt the structure-conduct-performance paradigm of industrial organization theory to subsector analysis. Figure i is one result of these efforts. This is the general framework and classification scheme that has been used by the task force which produced this report as well as by other NC-117 subsector task forces. Although Figure i suggests certain casual relationships, the testing of these relationships will largely occur in future research. The present report may provide clues to such relationships. However, it is primarily intended to lay the groundwork for future analysis of subsector organization-performance relationships.

Figure i. Subsector structure, conduct, and performance paradigm.

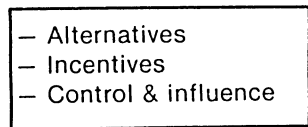
STRUCTURE



BASIC CONDITIONS



FIRM DECISION ENVIRONMENT



PERFORMANCE

| <i>Industry</i> | <i>Subsector</i> |
|--|--|
| <ul style="list-style-type: none"> – Technical & operational efficiency – Pricing efficiency (profit & output levels) – Product characteristics <ul style="list-style-type: none"> – quality/wholesomeness – variety – Progressiveness (process & product) – Selling activities <ul style="list-style-type: none"> – Expense – Influence on consumption pattern & social values – Market access and/or foreclosure | <ul style="list-style-type: none"> – Allocative accuracy – Extent to which S offerings match D preferences re: quantity, quality, timing & location – Stability of output, prices & profits – Technical & operational efficiency <ul style="list-style-type: none"> – at each stage and in linking stages (transaction costs) – Equity re: distribution <ul style="list-style-type: none"> – Returns vs: investments and risks – Rights and control vs. investments and risk – Accuracy, adequacy & equity of information distributed – Subsector adaptability – Level & type of employment – Waste & spoilage <ul style="list-style-type: none"> – Product waste – Resource conservation – Capacity utilization |

CONDUCT

| <i>Industry</i> | <i>Subsector</i> |
|---|--|
| <ul style="list-style-type: none"> – Product strategy – Pricing behavior – Advertising – Research & innovation – Mergers & divestitures – Risk mgt. practices | <ul style="list-style-type: none"> – Efforts to shift control <ul style="list-style-type: none"> – Type of exchange used – Coordination activities <ul style="list-style-type: none"> – Prediction of future S, D, and price – Information communicated – Quality specification – Scheduling and timing synchronization – Efforts to influence inter-stage cooperation/conflict – Process of determining terms of exchange (private treaty, administered bid-offer-acceptance, etc.) – Response to change forces |