

Eighth Edition

FARM MANAGEMENT



Ronald D. Kay

William M. Edwards

Patricia A. Duffy

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Education

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This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 0 DOC/DOC 1 0 9 8 7 6 5

ISBN 978-0-07-340094-5

MHID 0-07-340094-7

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Cover Image Titles: *FRONT: "Case IH Early Riser®*

1255 planter with Magnum™ 380

CVT tractor and producer." BACK:

Tashner Dairy Farm Building,

DSCN7680.JPG.

Cover Image Credits: *FRONT: © Case IH, Early Riser*

1255_B-0194_05-16-13.

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Dairy Farm, 1995 Model Road,

Cuba City Wisconsin.

Composer: *Lumina Datamatics, Inc.*

Typeface: *10/12 Times Roman*

Printer: *R.R Donnelley*

All credits appearing on page or at the end of the book are considered to be an extension of the copyright page.

Library of Congress Cataloging-in-Publication Data

Kay, Ronald D., author.

Farm management / Ronald D. Kay, Professor Emeritus, Texas A&M University, William M. Edwards, Professor Emeritus, Iowa State University, Patricia A. Duffy, Professor, Auburn University. – Eighth edition.

pages cm

Includes index.

ISBN 978-0-07-340094-5 (alk. paper) – ISBN 0-07-340094-7

1. Farm management. I. Edwards, William M., author. II. Duffy, Patricia Ann, 1955– author. III. Title.

S561.K36 2014

630.68—dc23

2014035732

The Internet addresses listed in the text were accurate at the time of publication. The inclusion of a website does not indicate an endorsement by the authors or McGraw-Hill Education, and McGraw-Hill Education does not guarantee the accuracy of the information presented at these sites.

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PREFACE

Farms and ranches, like other small businesses, require sound management to survive and prosper. The continual development of new agricultural technologies means that farm and ranch managers must stay informed of the latest advances and decide whether to adopt them. Adopting a risky, unproven technology that fails to meet expectations can cause financial difficulties or even termination of the farm business. On the other hand, failing to adopt profitable new technologies will put the farm business at a competitive disadvantage that could also prove disastrous in the long run. In addition, changing public policies regarding environmental protection, taxes, and income supports can make certain alternatives and strategies more or less profitable than they have been in the past. Finally, changes in consumer tastes, the demographic makeup of our population, and world agricultural trade policies affect the demand for agricultural products.

The continual need for farm and ranch managers to keep current and update their skills motivated us to write this eighth edition.

This book is divided into six parts. Part I begins with the chapter “Farm Management Now and in the Future.” It describes some of the technological and economic forces driving the changes we see in agriculture. By reading this chapter, students will find an incentive to study farm management and an appreciation for the management skills modern farm managers must have or acquire. Part I concludes with an

explanation of the concept of management and the decision-making process, with an emphasis on the importance of strategic planning and decision making.

Part II presents the basic tools needed to measure management performance, financial progress, and the financial condition of the farm business. It discusses how to collect and organize accounting data and how to construct and analyze farm financial statements. Data from an example farm is used to demonstrate the analysis process in the chapter on farm business analysis.

Part III contains three chapters on basic microeconomic principles and cost concepts. The topics in this part provide the basic tools needed to make good management decisions. Students will learn how and when economic principles can be used in management decision making, along with the importance of the different types of economic costs in both the short run and the long run. Economies and diseconomies of size and their causes are discussed.

Practical use of budgeting as a planning tool is emphasized in Part IV. The discussion includes chapters on enterprise, partial, whole farm, and cash flow budgets. The format and use for each type of budget, sources of data to use, and break-even analysis techniques are discussed in detail.

Topics necessary to further refine a manager’s decision-making skills are included in Part V. Farm business organization and transfer, risk control, income tax management, investment analysis, and

enterprise analysis are discussed. The chapter on income tax management has been updated with the latest changes available. The chapter on investment analysis includes a discussion of the concepts of annual equivalent and capital recovery values. The final chapter discusses how to separate the whole-farm analysis into profit centers and cost centers.

Part VI discusses strategies for acquiring the resources needed on farms and ranches, including capital and credit, land, human resources, and machinery. The human resource chapter includes sections on improving managerial capacity and bridging the cultural barriers that may be encountered in managing agricultural labor.

New materials to help instructors have been incorporated into the current edition's Web site. An electronic slide presentation covering each chapter, a test question bank, class exercises, and answers to the end-of-chapter questions can be found at www.mhhe.com/kay8e.

The authors would like to thank the instructors who have adopted the previous edition for their courses and the many students who have used it both in and out of formal classrooms. Your comments and suggestions have been carefully considered and many were incorporated in this edition. Suggestions for future improvements are always welcome. A special thanks goes to the McGraw-Hill reviewers for their many thoughtful ideas and comments provided during the preparation of this edition.

New to this edition:

- 56 new and revised tables
- 16 new and revised figures
- 14 new and revised boxes
- 12 new glossary terms

Updated material about:

- Income tax brackets and rates
- 2012 Census of Agriculture data
- Current commodity price levels for examples
- Current production costs for examples
- Multiple peril crop insurance
- Land values and rental rates
- Farm financial data and benchmark values
- Agricultural labor laws

New or expanded discussion of:

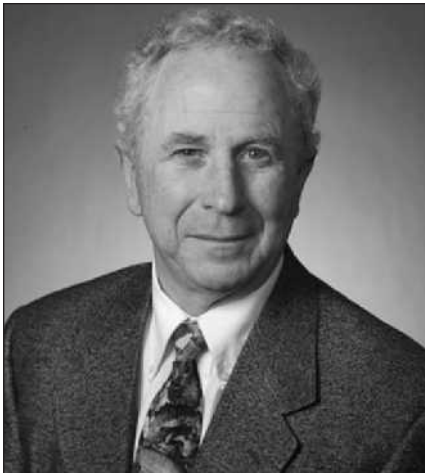
- Chart of accounts
- Treatment of forward-priced commodities on the balance sheet
- Treatment of deferred taxes and capital gains on the balance sheet
- Definitions and equations for FFSC analysis measures
- Financial repayment capacity measures
- Using calculus to find optimal input levels
- Break-even yields and prices
- Limited liability companies
- Gift and estate taxes
- Adjusting yield estimates for trends
- USDA farm commodity programs
- Amortization of balloon payment loans
- Farm lease example
- Employee benefits and bonuses

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FARM MANAGEMENT



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MANAGEMENT

Good management is a crucial factor in the success of any business. Farms and ranches are no exception. To be successful, farm and ranch managers need to spend more time making management decisions and developing management skills than their parents and grandparents did.

This is because production agriculture in the United States and other countries is changing along the following lines: more mechanization, increasing farm size, continued adoption of new production technologies, growing capital investment per worker, more borrowed or leased capital, new marketing alternatives, and increased business risk. These factors create new management problems, but also present new opportunities for managers with the right skills.

These trends will likely continue throughout the rest of the twenty-first century. Farmers will make the same type of management decisions as in the past, but will be able to make them faster and more accurately. Advances in the ability to collect, transfer, and store data about growing conditions, pest and disease problems, and product quality will give managers more signals to which to respond. Moreover, future farm and ranch operators will have to balance their personal goals for an independent lifestyle, financial security, and rural living against societal concerns about food safety, environmental quality, and agrarian values.

The long-term direction of a ranch or farm is determined through a process called strategic planning. Farm families establish goals for themselves and their businesses based on their personal values, individual skills and interests, financial and physical resources, and the economic and social conditions facing agriculture in the next generation. They can choose to emphasize wider profit margins or higher volumes of production or to produce special services and products. After identifying and selecting strategies that will help them achieve their goals, farm and ranch operators employ tactical management to carry them out. Many decisions need to be made and many alternatives analyzed. Finally, the results of those decisions must be monitored and evaluated and control measures implemented where results are not acceptable.

Chapter 1 discusses factors affecting the management of farms and ranches now and in the coming decades. These factors will require a new type of manager who can absorb, organize, and use large amounts of information—particularly information related to new technologies. Resources will be a mix of owned, rented, and borrowed assets. Products will need to be more differentiated to match consumer tastes and safety standards. Industrial uses of agricultural products will increase relative to food uses. The profitability of a new technology must be determined quickly and accurately before it is or is not adopted. A modern manager will also need new human resource skills as the number and diversity of employees increase.

Chapter 2 explains the concept of management, including strategic planning and tactical decision making. What is management? What functions do managers perform? How should managers make decisions? What knowledge and skills are needed to be a successful manager? Answers to the first three questions are discussed in Chapter 2. Answers to the last question will require studying the remainder of the book.



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FARM MANAGEMENT NOW AND IN THE FUTURE

CHAPTER OUTLINE

Structure of Farms and Ranches
New Technology
The Information Age
Controlling Assets
Human Resources
Producing to Meet Consumer Demands
Contracting and Vertical Integration
Environmental and Health Concerns
Globalization
Summary
Questions for Review and Further Thought

CHAPTER OBJECTIVES

1. Discuss how changes in the structure and technology of agriculture will affect the next generation of farm and ranch managers
2. Identify the management skills that future farmers and ranchers will need to respond to these changes

What will future farm managers be doing as we progress through the remaining decades of the twenty-first century? They will be doing what they are doing now, making decisions. They will still be using economic principles, budgets, record summaries, investment analyses, financial statements, and other management techniques to make those decisions. What types of decisions will managers be making in future decades?

They will still be deciding input and output levels and combinations and when and how to acquire additional resources. They will continue to analyze the risks and returns from adopting new technology, making new capital investments, adjusting farm size, changing enterprises, and seeking new markets for their products.

Will anything about management decisions in the future be different? Yes. While the broad

types of decisions being made will be the same, the details and information used will change. Technology will continue to provide new inputs to employ and new, more specialized products for production and marketing. Management information systems, aided by electronic innovations, will provide more accurate and timely information for use in making management decisions. Farmers and ranchers will have to compete more aggressively with nonagricultural businesses for the use of land, labor, and capital resources. As in the past, the better managers will adapt to these changes and efficiently produce commodities that consumers and industry want.

STRUCTURE OF FARMS AND RANCHES

The number of farms in the United States has been decreasing since 1940, as shown in Figure 1-1. The amount of land in farms and ranches has been relatively constant; this means the average

production per farm has increased considerably, as shown in Figure 1-2. Several factors have contributed to this change.

First, labor-saving technology in the form of larger agricultural machinery, more efficient planting and harvesting systems, automated equipment, and specialized livestock buildings has made it possible for fewer farm workers to produce more crops and livestock. Second, employment opportunities outside agriculture have become more attractive and plentiful, encouraging labor to move out of agriculture. Also during this period of change, the cost of labor has increased faster than the cost of capital, making it profitable for farm managers to substitute capital for labor in many areas of production.

Third, farm and ranch operators have aspired to earn higher levels of income and to enjoy a standard of living comparable to that of nonfarm families. One way to achieve a higher income has been for each farm family to control more resources and produce more output while holding costs per unit level or even decreasing them. Other managers, though, have

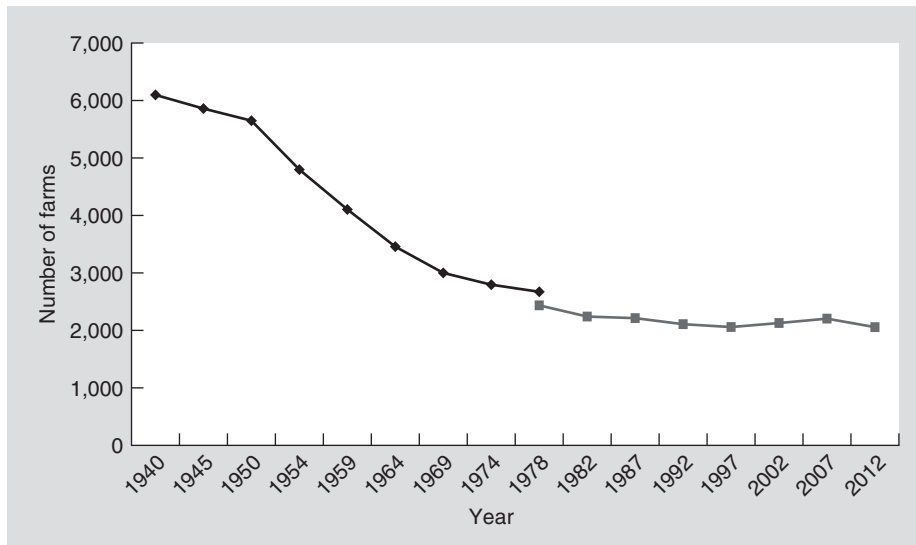


Figure 1-1 Number of farms in the United States (1000s).

Source: U.S. Census of Agriculture, USDA. Definition adjusted in 1997.

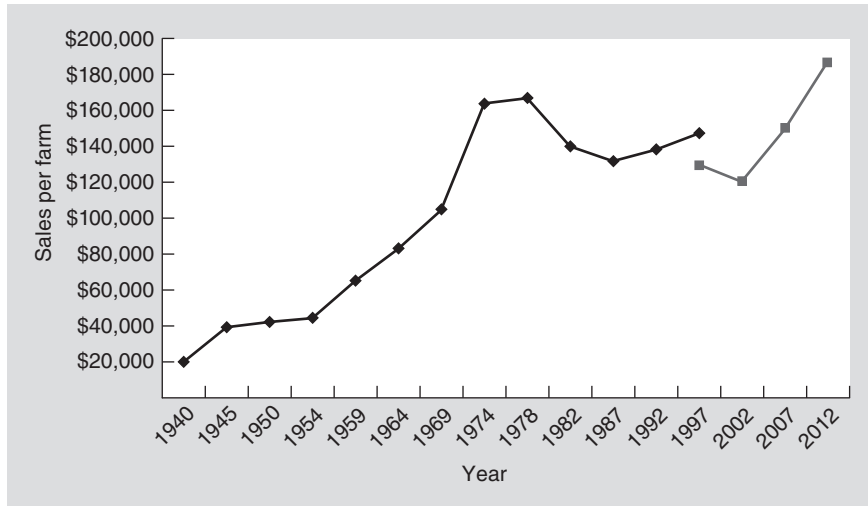


Figure 1-2 Total sales per farm in 2002 dollars.

Source: U.S. Census of Agriculture, USDA. Definition adjusted in 1997.

worked to increase profit margins per unit while keeping the size of their business the same. The desire for an improved standard of living has provided much of the motivation for increasing farm size, and new technology has provided the means for growth.

Fourth, some new technology is available only in a minimum size or scale, which encourages farmers to expand production and spread the fixed costs of the technology over enough units to be economically efficient. Examples include grain drying and handling systems, four-wheel drive tractors, large harvesting machines, confinement livestock buildings, and automated cattle feedlots. Perhaps even more important are the time and effort required for a manager to learn new skills in production, marketing, and finance. These skills also represent a fixed investment and thus generate a larger return to the operator when they are applied to more units of production. Chapter 9 contains more discussion about economies of size in agriculture.

Operators who do not wish to grow their individual businesses will look for alliances and partnerships, both formal and informal, with other producers that will allow them to achieve

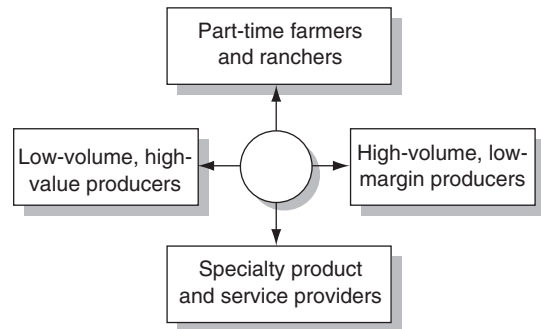


Figure 1-3 Alternative strategies for farm and ranch businesses.

the same economies as larger operations. Examples include jointly owning machinery and equipment with other producers, outsourcing some tasks such as harvesting or raising replacement breeding stock, and joining small, closed cooperatives.

As illustrated in Figure 1-3, farmers and ranchers will choose among four general business strategies: low-volume, high-value producers; high-volume, low-margin producers; specialty product and service providers; and part-time operators.