



Economics of Farm Management in a Global Setting

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Preface

The world has changed, is changing, and will continue to change. The world is much closer to us, and we to the world. In the future, farmers will have to consider world events and world markets much more than they have in the past. This is true whether they are involved directly in international trade or marketing to local consumers. The world is here physically, technologically, and competitively. It is a global economy, a global marketplace.

I have written this new book because the global economy and marketplace are forcing farmers to understand the impact of world events on the strategies needed on their farms as well as to learn new management tools and methods to respond to the increased competition from across the road and around the world. Besides the basics of farm management, this book has new and expanded sections designed to help farmers understand the greater economic integration of countries and markets around the world and the management options they have to deal with internationalization.

This book covers the basics of management, budgeting, financial analysis, whole-farm planning, investment analysis, land ownership and leasing, risk management, and human resource management. Also included are expanded chapters on topics relatively new to farm management texts: strategic management, operations management, quality management, and production contract evaluation. As products and marketing become more individualized and local, the idea of the marketing mix from general business (that is, the “four Ps”: product, price, place, promotion) has been added to the chapter on marketing basics. Since the size and financial complexity of farm businesses have grown, this book also includes a new chapter on farm succession and the development of written plans to transfer the farm business from one generation to the next. In addition, this book includes background material on lessons from microeconomics and macroeconomics and a survey of major agricultural policies in countries around the world.

I have written for managers, not record keepers or producers. Managers need to understand and use records and financial statements, but, in this competitive world, a manager who emphasizes record keeping over managing may not be in business long. Similarly, the person who just produces because he or she “knows what needs to be done,” but does not manage the farm, will have trouble surviving in the future.

Throughout this text, I use the term “manager” to refer to whoever makes decisions, whether that person is an owner, operator, partner, female, male, family, hired management, staff, supervisor,

and so on. In a multi-operator farm, the management team is the “manager.” The decision can be small or large, frequent or infrequent.

How to Use This Text

I have a few suggestions on how this book can be used for teaching farm management. For on-campus, classroom teaching, the book can be used in a beginning class and also for an advanced class in farm management. It can also be used as the reference book for a project class centered on the development of a business plan for an actual farm. In an adult education setting, the book can be used as a general background with chapter emphasis changing as the topic changes for different classes.

For a semester-length, beginning farm management class, I would emphasize only parts of this text. For an introduction, I would start with Chapter 2 and the basic economic concepts in Chapter 4 and then introduce strategic management through Chapter 7. Then I would spend considerable time on financial analysis and management in Chapters 12, 13, and 14. (For a beginning course, I would leave out the calculation steps in estimating the cost of credit.) Another major section of the course would be composed of enterprise budgets, partial budgets, and whole-farm budgeting (Chapters 15, 16, and 17). Investment analysis (Chapter 20) and land ownership and use (Chapter 21) would be next. Risk management (Chapter 22) would take several class periods, because I teach the basic methods and then return to earlier topics and work through how risk analysis and management can be incorporated into those decisions. I would then end the course with discussions on human resource management (Chapter 24) and business organization (Chapter 25). At many points, I would refer students to background material for them to read on their own (such as micro- and macroeconomics) or push them to explore advanced topics (such as strategy) but I would not be testing them on these chapters.

I would structure an advanced class around the development of a business plan (Chapter 3). The advanced class would review, presumably, and apply to farming the lessons from micro- and macroeconomics (Chapters 4 and 5) in anticipation of using this knowledge in a longer discussion of strategic management (Chapters 7–10). The expanded “Four Ps” of marketing (product, price, place, promotion in Chapter 11) would be used to develop a better marketing section for the business plan. Some details of financial analysis and management, budgets, planning, investment analysis, and land ownership and use (Chapters 12–17 and 20–21) would be reviewed very briefly, and expanded if needed in an advanced class. Since these topics will be critical for many farms in the future, considerable time would be spent on the details of operations management, quality management, and production contract evaluation (Chapters 18, 19, and 23). All these topics would be used for a very comprehensive analysis and management of risk using the concepts and tools in Chapter 22. An advanced class would also spend more time on human resource management, business organization, and the need for and process of developing a farm transfer and succession plan (Chapters 24–27).

For an activity-based project course, this book could be used as the core reference for students developing a business plan for an actual farm. The course would start with a discussion of business plans and examples from farms and general businesses. Then the students would be expected to work through the sections of the business plan, reading from this book as needed, obtaining

information from outside sources and the farm itself. The goal of the course would be the writing of a business plan. The course could include short lectures on the material in this book needed for each section of the plan, or the students could be expected to do their own reading.

In an adult education setting, the topic or issue of the meeting(s) could be centered on a certain topic or current problem or issue faced by a group of farmers. The instructor could then suggest chapters to review in preparation for understanding and solving the problem or issue considered that night. The level of detail and the amount of work expected by the adult students would be determined by the students and instructor and the time available.

Supplemental Materials

I encourage you to check my Web site for my farm management class. The Web site includes study notes for each lesson, virtual field trips to real farms, more examples, new analyses, both updated and background information, and other additions that enhance this text. You can access the Web site through my Web page: <http://www.apec.umn.edu/faculty/kolson/>.

For instructors, PowerPoint© slides with notes, instruction notes, answers and solutions for chapter review questions, and text question banks (with answers) are also available.

Acknowledgments

Many, many people have helped me learn and explore farm management. What I said in my first text is still true: I have not learned, developed, and written in isolation. I thank them all, but I can only remember the names of a few. Let me start with my late father, Norris Olson, who gave me my first lesson in farm management when I was still a preteen. As we stood by the feedlot on our family farm near Eagle Grove, Iowa, he described how the whole farm could be thought of as a set of individual businesses that needed to be planned both separately and as part of the whole farm. From that lesson, I went on to learn more about farm management from R.V. Diggins, my first agriculture teacher in high school, and Earl Heady, Ray Beneke, Sydney James, and Ron Winterboer at Iowa State University. At the University of California, Davis, and the University of Minnesota, I benefitted greatly from many discussions with all my colleagues, especially Hal Carter, Robert Craven, Vernon Eidman, Ben French, Lee Garoyan, Warren Johnston, Gordon King, Karen Klonsky, Dale Nordquist, Vernon Ruttan, and Erlin Weness. I also thank Alison Bunge and Frank Trnka for their help editing, checking, and building supplemental materials for the book. And I thank George Lobell for his encouragement and many ideas for writing and marketing this book.

I also thank the reviewers for this book and acknowledge their many suggestions for content and improvement. While they cannot be held accountable for the content and writing I have done, I did learn from their comments and the book is better for their input. They are:

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Many farmers have taught me about farm management, starting with our immediate neighbors near Eagle Grove, Iowa, and those I came to know through school, 4-H, FFA, and other contacts. To

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Over the years, my students have kept me alert and not allowed me to stop learning. Their questions, ideas, and energies are always great. I always enjoy my classes. Thank you.

To my family, Linda, Erik, and Marie, thank you for all the help, support, and love you have given me through the years and especially for your patience during the last few months of finalizing this text. Once again, Eddie, our dog, helped by always being by my side and insisting on play time.

Success comes in many designs and shapes. I hope the ideas, tools, and techniques in this book help you achieve your definition of success. I wish only the best for you.

Thanks for reading.

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Brief Contents

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Managing the Farm in an Integrated World Economy

In this chapter:

- A changed and changing world
- Overview of this book

Farm management has always been and will always be a complicated and demanding task. The farm business is surrounded by uncertainties, demands, and changing conditions in a very competitive environment. Today's farm manager has greater pressures than in the past due to greater financial requirements, increasing integration of the global economy, greater exposure to product and input price fluctuations, the development of new products, structural adjustments in the general economy, an increasing world population with changing demographics, and greater instability in critical areas in the world. Even though today's farm work and life may seem familiar in many ways to farmers when they are working in the field or with livestock, farmers are more connected with the world economy than ever before. News from around the world can affect farmers almost immediately. And the news doesn't even have to be about agriculture! All these factors create opportunities and challenges for farmers. They make for the best and worst of times.

A Changed and Changing World

The world has not gotten smaller physically, but it has certainly become closer in terms of communication and ease of travel and transportation. Technology has brought the world to us, and we to the world. Our products can be shipped—quickly if needed—to virtually every point on the globe. New communication tools allow us to monitor markets around the world. We can connect instantly to current and potential customers in almost any corner of the globe.

This global connectivity comes with many advantages and disadvantages. Improvements in communication and greater efficiencies in moving both physical and financial assets have allowed lower costs to consumers and increased profits to those farms that have been able to adapt. However, the tighter

connections have also created a downside. The ability to obtain product quickly (relative to previous years) even from other countries and the ability to deliver quickly has allowed businesses to decrease inventory levels and thus reduce inventory costs—a good thing at face value. However, these lower inventories for cost control also mean a smaller inventory to absorb fluctuations in supply due to weather problems and other interruptions in the supply chain. The inability to absorb fluctuations causes greater volatility in prices and supplies compared to eras when slower responses meant larger inventories.

Although a farmer may enjoy the benefits of the global market when delivering a higher quality, lower priced product to a new customer, the farmer can also feel the pain of that market when a competitor delivers a higher quality, better priced product to the farmer's current customer. Improved technology and communication can help everyone and does not respect current customer relationships. If farmers are not aware of what is happening elsewhere in the world, they may find that competitors in other countries are taking customers away—customers who may be just down the road from their farms. However, for the same reasons, farmers may be able to expand their markets by becoming more efficient than other suppliers.

We have also learned that a seemingly unrelated or small event in one part of the world can cause economic waves across the world. A short list of recent examples includes:

1. The financial crisis in 2008–09, caused in large part by rampant speculation and financing followed by failure in U.S. housing prices, led to
 - a. financial limits placed on many businesses including farms, and
 - b. the subsequent worldwide recession and decreased demand for agricultural products.
2. Government instability and warfare, causing disruption in and concern about energy supplies and thus a quick rise in energy costs.
3. Disease outbreaks, causing embargoes on imports when the disease is directly related to agriculture (foot and mouth disease, for example) and even when the disease is unrelated to agriculture (H1N1 flu, for example).

A business can face opportunities and threats due to events that occur in a different industry, region, or country. The uncertainty and instability caused by geo-political events occurring far away can cause great disruptions that can affect local farms adversely and at the same time can provide great opportunities.

The business climate of farming has changed considerably in recent years. The banking troubles of 2008–09 and the subsequent worldwide recession have changed many aspects of the economy even though agriculture has not felt the full brunt of those changes. Farmers have faced more requirements for obtaining credit but interest rates have been kept low (so far) by federal banks so as to not hurt the economy more and to encourage investment as businesses strive to recover. Other parts of the world economy have been hurt more, but agriculture has not been directly affected as deeply. However, income and wealth have decreased drastically, unemployment has risen to historically high levels, governments have become more integrated in the economy, businesses and banks have failed, and consumers have decreased consumption due to their uncertainty of the future—even if they could afford to keep spending.

These changes have also caused exchange rates between currencies to fluctuate. These shifts in exchange rates can greatly affect the price we receive for exports and have to pay for imports without fundamental changes in the underlying supply and demand conditions. For instance, a weak U.S. dollar means U.S. products are cheaper for a person in another country. However, a weak U.S.

dollar also means that imports such as fertilizers are more expensive for farmers in the United States. Similar stories can be told for other countries as their exchange rates fluctuate.

World trade in agricultural products continues to increase. Although growth in China, India, and other Southeast Asian countries has slowed due to the recession of 2008–09, growth of personal income in those countries has spurred their demand for grains and meat. Most of the increase in trade has been in the traditional distribution channels in which farmers sell their products locally and leave the logistics of global trade, distribution, and relationships to other businesses.

Other farmers have found opportunities in making global connections to market their products directly. These farmers face the challenges of trade regulations, GMO concerns, trade constraints due to disease (e.g., mad cow disease), and different cultural customs. However, many farmers have been successful and have learned new skills to take advantage of these opportunities.

At the same time, the interest in local food production and consumption is increasing as well. This appears to be close to but not directly connected to the interest in organic food. Even though the total demand is a small part of the whole food market, this interest in local and organic food has created an opportunity for many farmers to take advantage of new distribution channels that may include direct marketing to consumers and retailers.

Ethanol (from corn and sugar cane) and diesel from soybeans and other oil crops have created tremendous excitement and opportunity for many firms and farmers. But we have also seen how sensitive the biofuel market is to the oil market. What was a rapidly expanding industry quickly stopped as the price of oil (its chief substitute) fell, and credit for construction and operation disappeared when the financial troubles began in 2008–09. The biofuel industry has also had to deal with the debate over food versus fuel, since its main input is also used as food directly or as feed for livestock. This debate centers around the question of whether using grain and oilseeds for fuel is decreasing the supply of food by competing either directly or indirectly in terms of the use of land and other inputs—even if the land is in other regions of the same country or in other countries.

Climate change and other environmental concerns will have a major effect on farming in the future. These concerns include land degradation, water quality, open space, and odor issues, to name a few. The ethanol industry in particular has been faced with environmental concerns over the use of inputs for producing corn and the real and potential pollution those inputs cause. The public and environmental groups are asking for improved environmental quality and better production practices. The resulting political pressure may lead to regulations controlling what farmers can and cannot do. Farmers in environmentally-sensitive areas may have to change production practices, change the crops or livestock they grow, change location, or even stop production. Other areas of production may benefit from these changes in sensitive areas, and new products (such as eco-tourism) may benefit those who have to change.

Societal concerns such as animal welfare issues have and will change production practices in the future. European regulations already affect how animals are taken care of on the farm. In the United States, recent passage of an initiative dictates new regulations on how California producers can treat animals and run their livestock operations. However, greater pressure may come from processors and retailers as they respond to consumer pressure and seek suppliers who conform to certain practices regarding use of medications and hormones given to farm animals and the treatment of the animals.

Other changes are coming from suppliers and farmers themselves as they innovate and adopt technology to improve their productivity and efficiencies. Technology is being developed quickly. Our ability to harness the power of the computer and wireless communication in production is increasing rapidly. Those who do not adopt new productivity-enhancing technology may be left

behind. Increased farm size is seen as essential to take full advantage of the new technologies and to avoid the cost of obsolescence by being able to replace machinery or other equipment as soon as new technological advances are introduced.

Changing demographics (that is, the change in the makeup of the people of a country and the world) can lead to tremendous changes in what is demanded from farmers. As the population ages in many countries, the type of food the population wants changes. Food consumed away from home increases and decreases directly as income and wealth increases and decreases. Different ethnicities have different choices in the food they eat. Food tastes of younger generations are different from those of older generations, so as younger people increase their buying power and become a larger percentage of a country's population, food demands will change.

With all these changes, the prudent farm manager in the future will have to have a strong external focus as well as maintain a strong internal focus on the farm. If we are not aware of what is happening beyond the farm and fail to adjust to those changes, the changes will come to our farm in ways we do not like.

Overview of the Book

The first section of this book is an introduction to farm management. This first chapter discusses managing the farm in an integrated world economy by looking at our changed and changing world, the farming environment, and the major opportunities and challenges that many farmers face. Chapter 2 is an overview of management that looks at goals; management activities; farmers as general managers; the management functions of planning, organizing, directing, and controlling; business functions; strategic versus operations management; human resource management; management skills inventory; and decision processes. Chapter 3 introduces the business plan, its basic outline, and an example business plan.

The second section of the book summarizes the basic lessons from economics and explains policy differences around the world that farmers should know so they can understand events and trends in the general economy and world and be better able to adapt quickly to changes. Chapter 4 covers lessons and points from microeconomics a farm manager needs to know in order to understand his or her business and the business decisions of others. Chapter 5 summarizes important lessons and points from macroeconomics that are key to understanding changes and trends in the national economy and the rest of the world. To help a farmer understand events and discussions in other countries, Chapter 6 is a summary of major types of policies and their impact on world farming and trade.

The third major section of the book covers strategic management and marketing. Chapter 7 introduces strategic management and then concentrates on strategic planning: identification of stakeholders; management values; and vision, mission, and objectives. Chapter 8 explains external analysis of the competitive environment, including Porter's five forces, and internal analysis of the farm's operating environment with an assessment of the farm's strengths, weaknesses, opportunities, and threats. Chapter 9 shows how strategy is crafted by starting with a description of generic strategies and continuing with complementary strategic actions, specific strategies for specific situations, tests for evaluating strategies, improving strategic planning, using scenarios in crafting strategy, and incorporating risk management into crafting strategy. Chapter 10 finishes strategic management with a discussion of strategy execution and control. It includes developing an organization,

motivating people, allocating resources, strategic project plans and programs; the balanced score card; monitoring key indicators; corrective actions; and strategic product versus strategic process. Chapter 11 ends this section with a summary of marketing basics.

The fourth section covers financial analysis and management. Chapter 12 introduces and explains the main financial statements: balance sheet, income statement, statement of owner's equity, and statement of cash flows. It focuses on the format and structure of these statements as described by the Farm Financial Standards Council. Chapter 13 contains the core of financial analysis, including the major measures of financial position and performance for solvency, profitability, liquidity, repayment capacity, and financial efficiency. It also explains the processes for initial analysis, benchmarking, enterprise analysis, and diagnostic analysis. Chapter 14 is an introduction to financial management covering the time value of money, estimating the discount rate, sources and uses of capital, calculating loan payments, estimating the cost of credit, preparation of the cash flow budget, and financial control.

The fifth section introduces farm planning and quality management. This section starts with enterprise budgets in Chapter 15, including how they are developed from whole-farm records and from economic engineering and examples of crop and livestock enterprise budgets. Chapter 16 describes how partial budgets can be used to analyze changes in the plan and includes several examples. Chapter 17 describes whole-farm planning, including enterprise selection, development of the whole-farm budget, and projection of the cash flow budget and pro forma financial statements. Chapter 18 is a summary of lessons from operations management and includes process mapping; improving processes; and scheduling operations using sequencing and dispatching rules, project management, and input supply management. This section ends with Chapter 19 explaining quality management and control. The chapter starts with defining quality and includes product and process quality, the costs of quality, quality management, lessons from the quality gurus, total quality management (TQM), ISO 9000 standards, hazard analysis and critical control point (HACCP), developing process control systems, and tools for process improvement.

The sixth section covers capital asset management. It starts with Chapter 20 on investment analysis (or capital budgeting), which includes economic profitability versus financial feasibility, payback period, net present value (NPV), internal rate of return (IRR), and several examples of investment analyses. Chapter 21 covers land use and control, including ownership, leasing and renting alternatives, and some points and procedures for rent negotiation and determining a fair rent.

Section seven explains risk management. Chapter 22 explains the sources of risk and the basics of risk management: making risky decisions, payoff and regret matrices, decision trees, probability of success; and scenarios for risk management planning. The chapter includes an appendix on estimating probabilities. The concept of risk management is expanded in Chapter 23 by looking at production contract evaluation, including the types of production contracts, a process for evaluating production contracts, and a production contract evaluation checklist. An example contract is included at the end of the chapter.

The last major section of the book covers human resources, business organization, and succession planning. Chapter 24 introduces human resource management, starting with a discussion of human and employee needs as well as future labor force diversity and then describing the basic steps of human resource management: assessment of needs, job descriptions, matching employees to jobs, recruiting, interviewing, hiring, training, motivating, leading, directing, evaluating performance, and compensating (cash wages, benefits, incentives). The chapter ends with some ideas for