

2012 State FFA Farm Business Management Career Development Event Preparation Guide

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FFA Advisors,

This guide is designed to provide information you may use to help your students better prepare for the state-level FFA Farm Business Management Career Development Event. The following materials include information regarding the format, rules, and scoring of the Farm Business Management event and what students can expect on the day of the event. Also included is an outline and some definitions, examples, and explanations relating to topics that may be included in the sections of the event.

In response to input from FFA advisors of participating chapters in past years, the format of the event this year will be modified relative to previous years. These modifications are meant to shorten and decrease the difficulty level of the event. The new format is outlined in this guide.

For those students who advance to the national level event, it is important to note that this guide does not address all the principles and concepts that may be used in the national event. Students should refer to the National FFA website for more information regarding what to expect at the national event.

I hope this guide will be useful in helping your students prepare for the state event and welcome any feedback you may have.

Sincerely,

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Event Rules, Format, and Scoring

Event Rules

- A. Teams:** Each team consists of three to four participants. Each team member participates in both the individual and team activities. Teams of fewer than three members may participate at the state event, but will not be able to advance as a team to the national event.
- B. What to bring:** Each participant should bring a pen or pencil (pencils are highly encouraged) and a simple, basic function calculator. Scientific or other calculators capable of storing data may not be used. Any use of cell phones, including cell phone calculators, during the event will not be permitted.
- C. Breaks:** There will be a fifteen minute break in between the individual and team activities. Students will not be allowed to leave the event room during either of the events and should utilize the break to get a drink, use the restroom, etc.

Event Format

- A. Individual Activity:** The individual activity consists of a 90-minute written exam designed to evaluate participants' knowledge of farm business management concepts and principles as well as the ability of participants to use analytical thinking and decision making skills related to farm business management problems. The test will include multiple choice, short answer, fill in the blank and matching questions. Each team member will work independently on the exam and receive individual scores. The top three individual scores will also be used to calculate the total team score.
- B. Team Activity:** Each team will work together to complete the team activity. Teams will receive resource information for a specific farm scenario and must collaborate to prepare their answers to the problems and questions relating to the case study farm. Teams will have 75 minutes to complete the team activity. During the team activity, each team will be evaluated by event judges and will be judged based on how well the team works together to prepare their written answers.

Scoring

- A. The individual activity will be worth a maximum of 300 points per team member. The top three individual scores per team will be used in the calculation of the team score.
- B. The team activity will be worth a maximum of 300 points per team. The teamwork evaluation will be worth 100 points and the team answer sheet will be worth 200 points.
- C. The final team score will be calculated by adding the team activity score and the top three individual scores per team.

Section	Time	Individual Points	Team Points
Individual Activity	90 minutes	300	900
Team Activity	75 minutes		300
Total		300	1200

Event Topics

The following section contains definitions and principles related to farm business management topics that may be included in the farm business management career development event. This preparation guide only contains brief explanations and examples of these topics, and should not be viewed as a definitive source of information relative to any of these concepts. Further understanding may be gained from additional sources; some additional resources are listed at the end of this guide.

These topics do not incorporate all concepts that may be included in the national event. Students who advance to the national level event may refer to the National FFA website regarding preparation for the national event.

Economic Principles Related to Business Management

- 1. Production Functions**
 - A. Diminishing returns
 - B. Profit maximization
- 2. Opportunity Costs**
- 3. Cost Analysis**
 - A. Fixed costs
 - B. Variable costs
 - C. Total costs
 - D. Average costs
 - E. Marginal costs
- 4. Enterprise Selection**
 - A. Specialization
 - B. Diversification
- 5. Supply and Demand**
 - A. Law of Demand
 - B. Law of Supply
 - C. Equilibrium
 - D. Substitute and complementary goods
 - E. Comparative advantage
- 6. Types of Markets**
 - A. Perfectly competitive markets
 - B. Monopolistic competition markets
 - C. Oligopoly markets
 - D. Monopoly markets

Production Functions

Production functions show the relationship between inputs and outputs. In general, increases in inputs will increase output until a maximum production point is reached. (Note: The production function does not take into account input and output prices. Thus, the maximum production point is not the same as the profit maximizing point.)

A. Diminishing returns: As inputs increase from zero, outputs will increase at an increasing rate. At a certain point, however, outputs will continue increasing but at a decreasing rate. Thus for each additional unit of input, the additional amount of output produced will become smaller and smaller. This is known as diminishing returns. Output will continue to increase at a decreasing rate until the maximum production point where continued increases will actually decrease output.

For example, adding water to a corn field will increase the corn yield. Adding more water will continue to increase corn yield, but at some point the increase in output diminishes relative to the input. Once the maximum production point is reached, adding more water will no longer increase yield, but decrease it and adding way too much water may flood the field and destroy output completely.

B. Profit maximization: The profit maximizing point occurs where marginal revenue is equal to marginal cost ($MR=MC$).

- i. **Marginal revenue:** Marginal revenue is the additional revenue generated from the sale of an additional unit of output.
- ii. **Marginal cost:** Marginal cost is the additional cost incurred from an additional unit of output produced.

Opportunity Costs

An opportunity cost is the highest-valued alternative that must be foregone when a choice is made. For example, if a producer chooses to grow wheat and his next best alternative is to grow corn, the opportunity cost of growing wheat would be the value of growing corn. Opportunity costs relate to resources, including labor, as well as investment opportunities.

Cost Analysis

Business costs are made up of several different types of costs.

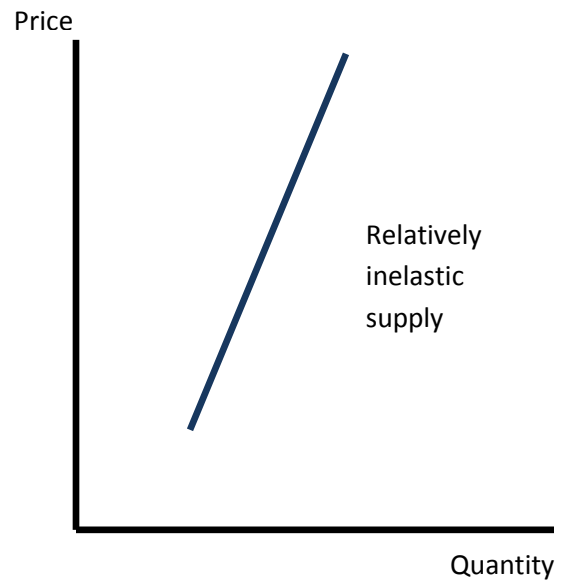
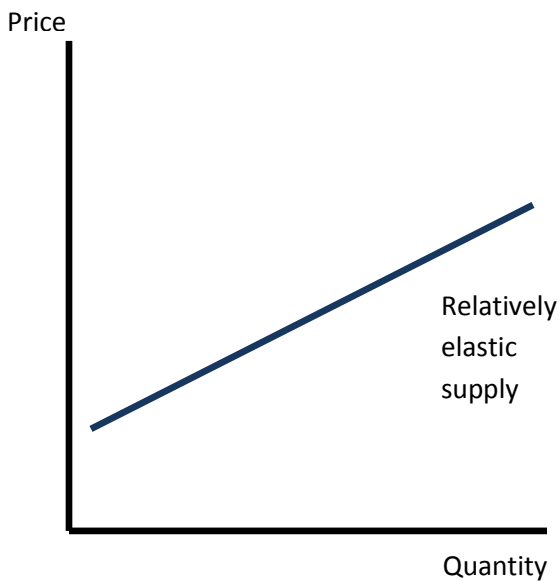
- A. Fixed costs:** Costs that do not change with changes in output. Fixed costs may include: loan or mortgage interest expenses, property taxes, insurance, etc.
- B. Variable costs:** Costs that change with changes in output. Variable costs increase when output increases. Examples of variable costs may include: feed, labor, seed, fuel, etc.
- C. Total costs:** The total cost required to produce a certain level of output.
Total costs = Variable costs + Fixed Costs
- D. Average costs:** The cost of producing a certain level of output divided by the number of units produced. Average costs can be calculated for fixed, variable, and total costs.
- E. Marginal costs:** Marginal cost is the additional cost incurred from an additional unit of output produced.

Enterprise Selection

- A. Specialization:** Specialization includes focusing all production energies in the production of one commodity or product. In general, specializing in one product in which the producer has a comparative advantage will increase overall farm profits.
- B. Diversification:** Diversification includes producing more than one product. A producer who diversifies may produce several types of crops or livestock commodities. Diversification may decrease total profits, but will generally decrease risk as well.

Supply and Demand

- A. Law of Supply:** There is a direct relationship between the price of a good and the quantity supplied, *ceteris paribus*. In other words, as the price of a good increases, the quantity supplied increases or as the price decreases, the quantity supplied decreases. Supply can be graphically depicted by an upward sloping curve.
- i. **Elasticity of supply:** The elasticity of supply relates to how much of a change in the quantity supplied occurs when price changes. If a change in price causes a large change in the quantity supplied then the supply is said to be relatively elastic. If an equal change in price causes a small change in the quantity supplied, the supply is relatively inelastic. Graphically, a flatter supply curve represents a relatively elastic supply and a steeper supply curve represents a relatively inelastic supply.

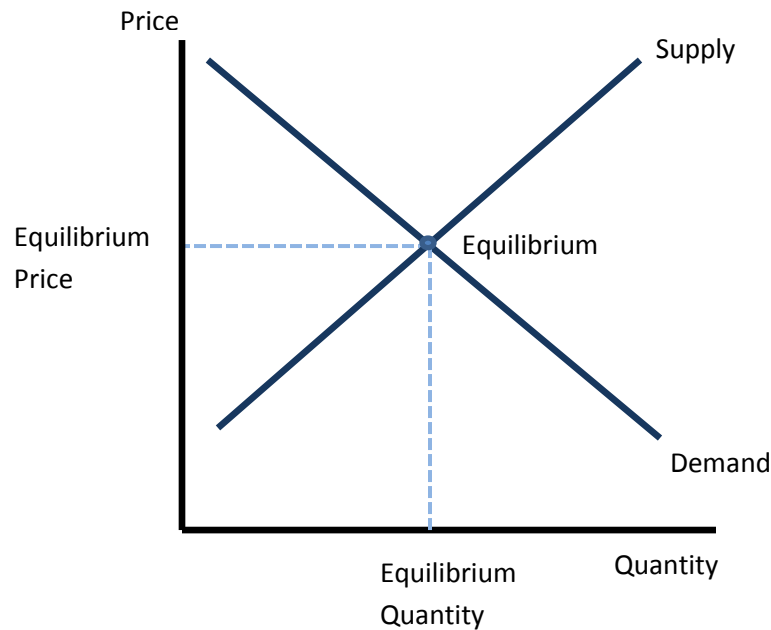


B. Law of Demand: There is an inverse relationship between the price of a good and the quantity demanded, *ceteris paribus*. In other words, as the price of a good increases, the quantity demanded decreases or as the price decreases, the quantity demanded increases. Demand can be graphically depicted by a downward sloping curve.

- i. **Elasticity of demand:** The elasticity of demand relates to how much of a change in the quantity demanded occurs when price changes. If a change in price causes a large change in the quantity demanded, the demand is said to be relatively elastic. If an equal change in price causes a small change in the quantity demanded, the demand is relatively inelastic. Graphically, a flatter demand curve represents a relatively elastic demand and a steeper demand curve represents a relatively inelastic demand.



- C. Equilibrium:** Equilibrium occurs where the quantity supplied and the quantity demanded are equal. The corresponding price is the market equilibrium price. At a market price above the equilibrium price, the quantity supplied will be greater than the quantity demanded causing a surplus. At a market price below the equilibrium price, the quantity demanded will be greater than the quantity supplied causing a shortage.



- D. Substitute and complementary goods:** Substitutes are goods that are consumed instead of other goods, or goods that serve the same purpose (like cheeseburgers and chicken sandwiches). An increase in the price of one substitute good will cause an increase in the demand for the other. Complements are goods that are generally consumed together (like peanut butter and jam). An increase in the price of one complement good will cause a decrease in the demand for the other.
- E. Comparative advantage:** Comparative advantage refers to a producer's ability to produce a good at a lower opportunity cost than other producers.

Types of Markets

- A. Perfect competition markets (or Price-taker markets):** A market structure characterized by:
- i. Many sellers; each seller is small relative to the total market.
 - ii. Homogeneous products
 - iii. No barriers to entry
 - iv. Price-takers: Sellers must take the market price for their good in order to sell their product.
 - v. Examples: Wheat, eggs, milk, etc. A high percentage of agricultural businesses, or at least commodity businesses, are price-takers.
- B. Monopolistic competition markets (or Competitive price-searcher markets):** A market structure characterized by:
- i. Many sellers
 - ii. Differentiated products: Products are distinguished from similar products based on quality, design, or other promotional characteristics.
 - iii. Low barriers to entry
 - iv. Price-searchers: Sellers set the price they charge for their product. They face downward sloping demand curves, so increases in price will reduce quantity demanded and decreasing prices will increase the quantity demanded. Demand curves will be relatively elastic since there are many substitutes available.
 - v. Examples: Many agricultural producers strive to differentiate their products in an effort to set their own prices and capture higher revenue for their products. Examples may include specialty cheese producers, organic vegetable producers, etc.
- C. Oligopoly markets:** A market structure characterized by:
- i. Small number of sellers
 - ii. Homogeneous or differentiated products
 - iii. Relatively high barriers to entry: Barriers to entry may include government franchises, licensing, patents, economies of scale, etc.
 - iv. Price-searchers: Sellers set the price they charge for their product. When setting prices, however, producers must take into account how their actions will affect rival businesses and how their rivals may react.
 - v. Examples: Examples of oligopolies may include automobile companies, aircraft producers, some agricultural input companies (such as seed and chemical companies), or some types of agricultural processing companies.

D. Monopoly markets: A market structure characterized by:

- i. One seller
- ii. Sell a specific product which has no good substitute
- iii. High barriers to entry
- iv. Price-searchers: The one seller sets the price they charge for their product.
- v. Examples: In most cases, government controls prevent the development of monopolies to preserve competition. In some cases, law dictates a single producer for some industries such as local telephone, electricity, or water services, where numerous producers would be generally detrimental. In such cases, government may set specific controls to regulate the way the monopoly operates.

Use and Analysis of Records to Manage Resources

1. Financial Statements

- A. Balance Sheet
- B. Income Statement
- C. Statement of Owner Equity
- D. Statement of Cash Flows

2. Financial Statement Ratios

- A. Solvency
- B. Liquidity
- C. Profitability
- D. Repayment Capacity
- E. Financial Efficiency

3. Budgeting

- A. Enterprise budgets
- B. Partial budgets
- C. Whole farm budgets

Financial Statements

A. Balance Sheet: The Balance sheet shows a snapshot of your company's financial situation at a point in time. It measure assets, liabilities, and owner's equity and is based upon the accounting equation: $Assets = Liabilities + Owner's Equity$. A balance sheet represents this equation by listing the business' assets on the left side and liabilities and owner's equity on the right side.

- i. **Assets:** Assets include everything the business owns. Assets are separated into two categories, current and non-current assets.

Current Assets: Current assets include cash and assets that can easily be converted to cash and will either be used or converted to cash during the year. Examples of current assets include cash, checking and savings account balances, accrued interest earned, crops and feed inventory, feeder livestock, government payments, prepaid expenses, accounts receivable (money owed to the business due within 12 months), etc.

Non-Current Assets: Non-current assets include assets that are utilized in the business on an ongoing basis and will not be converted to cash during the year. Examples of non-current assets include machinery, equipment, breeding livestock, land, buildings, etc.

- ii. **Liabilities:** Liabilities include everything that the business owes. Liabilities are separated into two categories, current and non-current liabilities.

Current Liabilities: Current liabilities include obligations that must be paid within the next year. Examples of current liabilities include, accounts payable (money the business owes due within 12 months), credit card balances, accrued interest and taxes, short-term loans (12 months), portions of long-term loans due within the next 12 months, etc.

Non-Current Liabilities: Non-current liabilities include must be paid but are not due within the next 12 months. Examples of non-current liabilities include any loans for land, machinery, equipment, breeding livestock, and so on that are not due in the next 12 months excluding the portion of the loan due within the next 12 months.

- iii. **Owner's Equity:** Owner's Equity (or Net Worth) can be calculated by subtracting total liabilities from total assets, and represents the portion of assets owned by the business owners.

Financial ratios calculated from the balance sheet include (but are not limited to):

Working capital	Current Ratio
Debt/Asset Ratio	Debt/Equity Ratio
Equity/Asset Ratio	

B. Income Statement: The Income Statement shows the net income, or profit, of a business over a period of time, usually a year. The income statement measures revenue and expenses.

Cost vs. Accrual: Income statements can be prepared on either a cash or an accrual adjusted basis. A cash-basis income statement measures revenue when it is received and expenses when they are paid. An accrual adjusted income statement measures revenue when it is earned and expenses when they are incurred. Often an accrual adjusted income statement is prepared by beginning with a cash-basis income statement and adding accrual adjustments to the revenue and expenses of a cash-basis income statement.

- i. **Revenue:** The income earned for the production of the business commodity or output.
Revenue Accrual Adjustments: Revenue accrual adjustments may include the value of products produced during the income statement period but not sold during that period or products that have been sold but for which payment has not been received. These adjustments would also be reflected on the balance sheet as changes in current asset accounts such as *accounts receivable*, *market livestock inventory*, *crops inventory*, etc.
- ii. **Expenses:** Costs that have been incurred to produce revenue.
Expense Accrual Adjustments: Expense accrual adjustments may include costs incurred during the income statement period but not paid during that period. These adjustments would show up on the balance sheet as increases in current liability accounts such as *accounts payable*. Depreciation would also be considered an expense accrual adjustment on the income statement.
- iii. **Net Income:** Net income is equal to revenue minus expenses.
Accrual Adjusted Net Income: The accrual adjusted net income is equal to revenue (including accrual adjustments) minus expenses (including accrual adjustments).

Financial ratios calculated from the income statement include (but are not limited to):

Return on Assets (also uses information from the balance sheet)	
Return on Equity (also uses information from the balance sheet)	
Operating Profit Margin Ratio	Operating Expenses Ratio
Labor Productivity Ratio	

- C. Statement of Owner Equity:** On the balance sheet, owner equity (or net worth) is calculated by subtracting liabilities from assets. On the statement of owner equity, net worth is calculated differently and should equal the calculation from the balance sheet if all accounts are reconciled correctly. Like the balance sheet, the statement of owner equity is generally prepared once a year along with the balance sheet. Unlike the balance sheet, the statement of owner equity also identifies the source of changes in net worth for the year period. On the statement of owner equity, net worth is calculated as follows:

$$\text{Ending Net Worth} = \text{Beginning Net Worth} + \text{Net Income} + \text{Non-Business Cash Inflows} - \text{Owner Withdrawals} + \text{Asset Valuation Changes} + \text{Contributed or Distributed Capital}$$

- i. **Net Income:** Net income is calculated on the income statement for the given year.
 - ii. **Non-Business Cash Inflows:** Non-business cash inflows represent any money put into the business from outside sources, such as owner contributions.
 - iii. **Owner Withdrawals:** Owner withdrawals represent any money taken out of the business by the owners including for family living expenses.
 - iv. **Asset Valuation Changes:** If market information is included on a balance sheet, asset valuation changes on the statement of owner equity would include the changes in the market value of business assets.
 - v. **Contributed or Distributed Capital:** Contributed or distributed capital represents any increases in capital that came from an outside source, or any distribution of capital to an outside source.
- D. Statement of Cash Flows:** The statement of cash flows shows the inflows and outflows of cash on the farm business for a period of time. Historical cash flows statements show past inflows at outflows of cash for a certain time period, often a month or a year. Cash flows projections can be prepared based on historical cash flows statements and expected future business activity help managers ensure that the business will have enough cash inflows to cover the cash outflows and maintain a successful business operation. The statement of cash flows is separated into the following three cash flows sections:
- i. **Cash flows from operating activities:** This section captures the inflows and outflows of cash necessary for the operation of the farm enterprise. For example, inflows from the sale of produced commodities or outflows for payment of expenses such as seed, fuel, feed, and other operating expenses would fall under this section.

- ii. **Cash flows from investing activities:** This section captures the inflows and outflows of cash relative to investment activities. For example, outflows for the purchase of productive assets such as breeding livestock, machinery, farm land, etc. or inflows from the sale of such assets or returns from other investments would fall under this section.

- iii. **Cash flows from financing activities:** This section captures the inflows and outflows of cash relative to financing activities. For example, inflows from acquired operating or term loans or outflows for repayment of loans would fall under this section. Dividends paid to owners would also be included in this section.

The inflows and outflows in these sections are calculated and yield either a positive or negative cash flow for the year period. A positive cash flow at the end of the year means that inflows were greater than outflows. Positive cash flows show up on the year-end balance sheet as an increase in current assets (under *cash on hand* or *checking account balances*, etc.), and thus increase total assets and net worth. Negative cash flow means that outflows were greater than inflows. In the case of a negative cash flow, a producer may negotiate payment terms with a vendor or an operating loan carryover to facilitate continued business operation. A negative cash flow usually shows up on the year-end balance sheet as an operation loan carryover, account payable increase, or some other liability increase.

Financial Statement Ratios

A. Solvency: Solvency measures the amount of borrowed capital compared to capital invested by owners. Solvency shows the ability of the business to repay all debt if all assets were sold.

Solvency measures include:

- i. **Debt/Asset Ratio:** The debt-to-asset ratio shows farm liabilities relative to farms assets. The higher the debt-to-asset ratio the more money creditors have in the business relative to the owner and the higher financial risk the farm business faces. In general, a debt-to-asset ratio below 0.50 is desirable. The debt-to-asset ratio is calculated from information on the balance sheet, as follows:

$$\text{Debt/Asset Ratio} = \text{Total Farm Liabilities} / \text{Total Farm Assets}$$

- ii. **Debt/Equity Ratio:** The debt-to-equity ratio measures the relationship between farm debt capital and equity capital. Ratios less than 1 are preferable and mean that creditors have less money in the business than the owner. The debt-to-equity ratio is calculated from information on the balance sheet, as follows:

$$\text{Debt/Equity Ratio} = \text{Total Farm Liabilities} / \text{Total Farm Equity}$$

- iii. **Equity/Asset Ratio:** The equity-to-asset ratio measures of how much of the farm's assets are financed by the owner compared with the debt-to-asset ratio which shows how much of the farm's assets are financed by creditors. A debt-to-equity ratio above 0.50 means the owner has more money in the business than creditors. The equity-to-asset ratio is calculated from information on the balance sheet, as follows:

$$\text{Equity/Asset Ratio} = \text{Total Farm Equity} / \text{Total Farm Assets}$$

B. Liquidity: Measured the business' ability to meet the ongoing financial obligations of running the operation. Liquidity deals with the relationship between assets and liabilities and operational cash flow. Liquidity measures include:

- i. **Working Capital:** Working capital measures the amount of capital that would be available for use to purchase inputs after all current assets are sold and all current liabilities are paid. In general, a positive working capital is desirable. Working capital is calculated from information on the balance sheet, as follows:

$$\text{Working Capital} = \text{Total Current Farm Assets} - \text{Total Current Farm Liabilities}$$

- ii. **Current Ratio:** The current ratio measures the relationship between current assets and current liabilities. The higher the current ratio, the more liquid the business is. In general, a current ratio above 1.5 is desirable, but a current ratio too high may reduce the profitability of the business. The current ratio is calculated from information on the balance sheet, as follows:

$$\text{Current Ratio} = \text{Total Current Farm Assets} / \text{Total Current Farm Liabilities}$$

C. Profitability: Measures the profits of the business relative to the labor, management, and capital used in the operation. Profitability measures include:

- i. **Net Farm Income:** While not considered a ratio, net farm income shows the revenue associated with the expenses of production and is a dollar figure of the profitability of the farm operation. Net income is calculated on the income statement, as follows:

$$\text{Net Farm Income} = \text{Revenue} - \text{Expenses}$$

- ii. **Return on Assets (ROA):** The return on assets ratio measures the rate of return on farm assets and is calculated using information from the income statement and the balance sheet as follows:

$$\text{Return on Assets} = (\text{Net Farm Income from Operations} + \text{Farm Interest Expense} - \text{Value of Unpaid Operator and Family Labor and Management}) / \text{Average Total Farm Assets}$$

- iii. **Return on Equity (ROE):** The return on equity ratio measures the rate of return on the owner's equity and is calculated using information from the income statement and the balance sheet as follows:

$$\text{Return on Equity} = (\text{Net Farm Income from Operations} - \text{Value of Unpaid Operator and Family Labor and Management}) / \text{Average Total Farm Equity}$$

- iv. **Operating Profit Margin Ratio:** The operating profit margin ratio measures the returns to capital relative to gross farm revenue and is calculated from the income statement as follows:

$$\text{Operating Profit Margin Ratio} = (\text{Net Farm Income from Operations} + \text{Farm Interest Expense} - \text{Value of Unpaid Operator and Family Labor and Mgmt.}) / \text{Gross Farm Revenues}$$

D. Repayment capacity: Measures the ability to repay debt. Repayment capacity measures include:

- i. **Debt/Income Ratio:** The debt-to-income ratio measures farm debt relative to income and is calculated from information on the balance sheet and income statement as follows:

$$\text{Debt/Income Ratio} = \text{Average Total Farm Liabilities} / \text{Net Farm Income from Operations}$$

E. Financial efficiency: Measures the efficiency of the use of financial inputs to create output. Financial efficiency measures include:

- i. **Asset Turnover Ratio:** The asset turnover ratio measures the how well or efficiently farm assets are used to create revenue and is calculated from information on the balance sheet and income statement as follows:

$$\text{Asset Turnover Ratio} = \text{Gross Farm Revenue} / \text{Average Total Farm Assets}$$

- ii. **Operating Expense Ratio:** The operating expense ratio measures the how efficiently farm operating expenses are used to create revenue and is calculated from information on the income statement as follows:

$$\text{Operating Expense Ratio} = (\text{Total Farm Operating Expenses} - \text{Depreciation Expense}) / \text{Gross Farm Revenues}$$

- iii. **Labor Productivity Ratio:** The labor productivity ratio measures the how efficiently labor is used to create revenue and is calculated from information on the income statement as follows:

$$\text{Labor Productivity Ratio} = \text{Gross Farm Revenues} / (\text{Labor Expenses} + \text{Value of Unpaid Operator and Family Labor and Management})$$

Budgets

A budget is a list of anticipated revenues and expenses associated with a business operation. There are several different types of budgets, including enterprise budgets, whole farm budgets, partial budgets, etc. Budgets generally include the following sections:

- i. **Receipts:** Receipts represent the income received for the production of a commodity or product.
 - ii. **Operating Costs:** Operating costs are the costs associated with the production of the commodity or product. Operating costs would include seed, fertilizer, fuel, labor, repairs, operating interest, feeder animals purchased, feed, medicine, supplies, marketing, etc.
 - iii. **Fixed Costs:** Fixed costs are the costs that must be paid regardless of whether or not the farm is operating. Fixed costs would include property taxes, depreciation on machinery and buildings, property insurance, interest, etc.
- A. Enterprise budgets:** Enterprise budgets show the anticipated expenses and revenues associated with one production process for a specific period of time, typically a year or other production period.
- B. Whole farm budgets:** A whole farm budget shows the anticipated revenues and expenses for all farm activities and production processes (i.e. all enterprises) for a specific period of time, typically a year
- C. Partial budgets:** A partial budget shows anticipated expenses and revenues associated with a change in the farm business operation.

Risk Management

- 1. Financial Risk**
 - A. Financial Statements**
 - B. Credit and Loans**
 - C. Renting or Leasing**
 - D. Land Acquisition and Ownership**
 - E. Insurance**
- 2. Production Risk**
 - A. Insurance**
 - B. Diversification**
 - C. Excess Capacity**
 - D. Share Leases**
 - E. Government Programs**
- 3. Marketing Risk**
 - A. Storage**
 - B. Forward Contracts**
 - C. Futures Contracts**
 - D. Options**
 - E. Insurance**
 - F. Government Programs**
- 4. Institutional/Legal Risk**
 - A. Estate and Transition Planning**
 - B. Business Organization**
 - C. Written Agreements**
 - D. Knowledge**
- 5. Human Resources Risk**
 - A. Organization**
 - B. Training Programs**
 - C. Hiring Employees**
 - D. Employee Handbook**
 - E. Succession Plan**

Financial Risk

Financial risk emerges from the need to finance business operations and maintain cash flow levels adequate to repay debts and meet other financial obligations of the business. Sources of financial risk include poor business financial status or knowledge, fluctuating interest rates, changes in the overall economy and willingness of lenders to supply loans, reduction in values of farm assets, etc. Financial risk management techniques include:

- A. Financial Statements:** Understanding the farm's financial situation, its strengths and weaknesses, can help managers make decisions to mitigate financial risk.
- B. Credit and Loans:** When loans are procured for the farm, managers can reduce risks by obtaining fixed-rate loans from credible institutions to avoid fluctuating interest rates and unfavorable contractual agreements.
- C. Renting or Leasing:** Renting or leasing equipment or land can avoid financial risk associated with loans.
- D. Land Acquisition and Ownership:** Land ownership can help reduce financial and human resource risk of landlords changing lease agreements or rental rates.
- E. Insurance**
 - i. Life insurance: Life insurance helps reduce the financial risk to the farm and farm family in the event of the death of a family member.
 - ii. Property insurance: Property insurance helps mitigate the risk to the farm enterprise in event of loss or damage to the farm property, including buildings, vehicles and equipment, farm house, etc.
 - iii. Health insurance: Health insurance mitigates the financial risk relating to health problems and injuries that could negatively affect the financial situation of the farm business.
 - iv. Liability insurance: Liability insurance helps protect against legal risks associated with claims filed by employees, neighbors, or others against the farm business that could financially handicap the business.

Production Risk

Production risk in agriculture deals with uncertainty that production inputs will yield a desirable production output. Because agricultural commodities produced are the main source of revenue for agricultural producers, risk factors that could reduce that production level could devastate an agricultural business. Sources of production risk include weather such as drought, fire, or frost, disease, insects and pests, weeds, etc. Production risk management tools include:

- A. Insurance:** Many different insurance products exist to help agricultural producers mitigate production risk. Private insurance companies offer insurance products in addition to the following insurance programs available through the USDA's Risk Management Agency:
- i. *Common Crop Insurance Policy:* Protects against losses due to a decrease in production and/or price.
 - ii. *Vegetation Index:* Available for Pasture, Rangeland, and Forage and Apiculture.
 - iii. *Adjusted Gross Revenue-Lite:* Protects against loss of revenue of the whole farm.
 - iv. *Livestock Risk Protection:* Protects against a decline in livestock market prices.
 - v. *Livestock Gross Margin:* Protects against a loss of gross margin due to a decline in livestock or milk prices and/or an increase in feed prices.

For more information on these and other insurance programs available through RMA, visit the RMA website at: www.rma.usda.gov

- B. Diversification:** Producing more than one crop or livestock commodity helps a producer mitigate the risk of total revenue loss if one of his commodities suffers devastating loss. For example, a producer who grows corn and raises turkeys would still receive revenue from his turkey enterprise even if hail destroyed his corn crop.
- C. Excess Capacity:** Maintaining excess production capacity can reduce production risk. For example, if adverse weather conditions shorten the harvesting window, a farmer with excess machinery and labor capacity may be able to harvest more of his crop and prevent a production loss.
- D. Share Leases:** Share leases allow the producer to pay his lease costs relative to his production. Thus, if his production declined significantly, the lease cost would also decline accordingly.
- E. Government Programs:** Many government programs, such as SURE, ACRE, and others, are available to help agricultural producers mitigate production risks.

Marketing Risk

Marketing risk, also referred to as price risk, deals with uncertainty about commodity prices and the possibility of a change in prices that would adversely affect the farmer. Volatility in commodity supply and demand factors underlies price risk. These factors include production levels, increasing global interaction in commodity markets and governmental influences, changes in consumer incomes, the strength of the general economy, government trade and energy policies, exchange rates, etc. Marketing risk management techniques may include:

- A. Storage:** When the cash market prices for commodities are low, producers may store outputs until cash market prices become more favorable. Similar strategy can be used to acquire inputs at lower prices and storing them for use when input prices increase.
- B. Forward Contracts:** Contracting the sale of a commodity for a future date at a specific price protects the producer against declines in that commodity price and loss of revenue. Contracts can also be made to protect against increasing input prices.
- C. Futures Contracts:** Futures contracts can be used to protect against output price declines and input price increases. A futures contract is an obligation to buy or sell a certain amount of a commodity for a certain price and a specific date in the future. Futures contracts can protect against decreases in output prices, but the producer forgoes the opportunity to gain from increases in output commodity prices. Similarly, futures contracts can protect against increases in input prices, but the producer gives up the opportunity to take advantage of lower costs if input prices decline.
- D. Options:** Options are the right, but not the obligation, to buy (put option) or sell (call option) an underlying futures contract. Options are similar to futures contracts except producers are able to take advantage of higher revenues if output prices increase or input prices decline. There is an additional premium cost for options above futures contracts.
- E. Insurance:** Various different insurance products are available to help farmers reduce market risk. Often, insurance products are designed to mitigate several different types of risk, including production and market risk. Some of the insurance products available from USDA's Risk Management Agency include: Common Crop Insurance Program, Adjusted Gross Revenue-Lite, Vegetation Index, Livestock Risk Protection, and Livestock Gross Margin.

- F. Government Programs:** Government programs can also help producers reduce marketing risk. Some of the current programs available include producer price support programs, disaster assistance programs such as SURE and ACRE, and others.

Institutional/Legal Risk

Institutional and legal risk is related to requirement for producers to adhere to all the institutional and legal regulations and policies associated with having a business and business succession. Sources of institutional and legal risk include changing government policies affecting agricultural businesses, legal implications related to contracts and business agreements, laws relating to taxes, labor, safety and business transition, tort liability, etc. Institutional and legal risk management techniques include:

- A. Estate and Transition Planning:** Properly planning and preparing for farm transition will help owners avoid unexpected difficulty relating to taxes and other institutional policies regarding farm succession.

- B. Business Organization:** The way a business is organized affects the level to which the producers would personally be held liable if the business were in trouble. Types of business organizations include:
 - i. **Sole Proprietorship:** A type of business entity with one owner and which has no separate existence from its owner. The producer has unlimited personal liability with this type of business organization and would be personally liable for all business obligations.
 - ii. **Partnership:** A type of business entity with two or more owners. Producers have unlimited liability in partnerships, and each member of the partnership can be held personally liable for all business obligations despite the actions of the other partner.
 - iii. **Corporations:** A type of business entity with many owners and which is a separate entity from its owners. With this business type a producer would have limited liability proportionate to his stock investment.
 - iv. **Limited Liability Company (LLC):** A hybrid business entity with one member (single-member) or many members (multi-member) and which is a separate entity from its owners. With this business organization, a producer would have limited liability proportionate to his investment in the company.

- C. Written Agreements:** While verbal contracts are technically legally binding, in the event that a conflict arises over a contract it is much easier to remember and reproduce the details of a contract if it has been written and signed by both parties. Depending on the nature of the contract, some contracts may necessitate profession legal advice and/or legal documents while other contracts may be simple enough to require only a written note with signatures.

- D. Knowledge:** Having a good working knowledge of institutional policies and laws relating to agricultural businesses will help producers avoid circumstances that would negatively affect their agricultural operation.

Human Resource Risk

Human resource risk comes from uncertainty relating to individuals and their roles either directly or indirectly relating to the farm business. Sources of human resource risk include sickness or injury, death, relationship problems or divorce, poor communication, lack of necessary qualifications or training, poor performance or work ethic, etc. Human resource risk management techniques include:

- A. Organization:** A good organizational structure establishes the roles and responsibilities of each member of the farm business and outlines lines of authority and job duties for each employee. This helps reduce confusion relating to the management and performance of job tasks.
- B. Training Programs:** Adequately training employees helps mitigate the risk of on-the job accidents or production or efficiency losses due to improper completion of tasks.
- C. Hiring Employees:** When hiring employees, creating a comprehensive job description and interview schedule will help employers properly match new employees with various skills and qualifications to appropriate positions. Once new employees are hired, an employee orientation should outline job duties and employee evaluation methods and will give the new employee a greater chance for success.
- D. Employee Handbook:** An employee handbook should outline employee policies and procedures relating to employment status and compensation, benefits, employee leave, payroll, work hours, employee conduct, etc. A well-organized employee handbook helps reduce uncertainty for all individuals involved in the farm business, and can also reduce legal risk associated with the operation.
- E. Succession Plan:** A succession plan should outline how the business will be passed from one generation to the next, and will help avoid arguments or unmet expectations individuals may have regarding the future of the business.

Additional Resources and References

Websites:

Applied Economics Extension Website: apecextension.usu.edu

National FFA Organization-Farm Business Management CDE:
<https://www.ffa.org/Programs/Awards/CDE>

Risk Management Agency Website: www.rma.usda.gov

Books:

Farm and Ranch Business Management: An introduction to sound management practices. John Deere Publishing, 2011.

Hoag, Dana L. *Applied Risk Management in Agriculture.* CRC Press, Boca Raton, FL, 2010.

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