



Understanding Business Structures, Markets, and Risk Management Strategies

Sarah McKay, Graduate Student, Department of Agricultural and Applied Economics, Virginia Tech

Kristin Carr, Agriculture Teacher, Riverheads High School, Augusta County Public Schools

Marie Rothwell, Virginia Cooperative Extension Agent, 4-H Youth Development, Augusta County

Shannon Wiley, Graduate Student, Agricultural, Leadership, and Community Education, Virginia Tech

Hannah Scherer, Assistant Professor and Extension Specialist, Agricultural, Leadership, and Community Education, Virginia Tech

Learners will understand the advantages and disadvantages of the various types of business structures, including how cooperatives are different and what benefits they provide to members. They will also practice decision-making skills and learn how real market prices change and impact agribusinesses. They will understand risk and practice price risk management strategies.

Key questions youth will be able to answer include:

- Why would someone choose one business structure over another?
- How is the cooperative model different from others?
- How is risk in market prices spread differently depending on the structure and strategies implemented?

Module Information

Grade level: 10-12

Time Needed: Four 100-minute blocks (six hours, 40 minutes total)

Objectives:

Students will

- Gain a greater understanding of what it means for a business to operate as a sole proprietorship, partnership, LLC, corporation, and cooperative.
- Develop skills and knowledge to select the correct type of business structure and understand why an existing business is structured the way it is.
- Be able to compare and contrast different business structures, interpret and utilize market prices from popular data sources, and implement appropriate risk management strategies.

Instructional approach: This unit uses the Experiential Learning Model, in which the process of learning occurs through experience and reflection.

Background information and best practices: These lessons are prepared to best fit an agricultural classroom or 4-H club that is based in agriculture. However, the lessons can be adapted by modifying the examples to fit a wider audience. The lessons build upon one another; however, if done separately, it would be best to choose lesson 1, 2, or 4. Lesson 3 is the most complex and requires lessons 1 and 2 in order to complete it effectively. Instructors would benefit from working through one of the simulation scenarios before implementing the lesson in order to familiarize themselves with the content and calculations required.

Virginia CTE Competencies

- Agricultural Business Fundamentals I (8022); duty area: Understanding Agricultural Business Structure and Procedures.
- Agricultural Business Operations II (8024); duty area: Understanding Agricultural Business Structures and Procedures.
- Agricultural Business Management III (8026); duty area: Planning the Agribusiness.

4-H Program Area

- Science

4-H Life Skill(s)

- Teamwork
- Decision-making

Virginia Standards of Learning

Economics and Personal Finance: 2c. identifying the role of entrepreneurs; 2d. comparing the costs and benefits of different forms of business organization, including sole proprietorship, partnership, corporation, franchise, and cooperative; 2e. describing how costs and revenues affect profit and supply; 2f. describing how increased productivity affects costs of production and standard of living; 2g. examining how investment in human capital, capital goods, and technology can improve productivity.

Lesson 1: Understanding Business Structures

This lesson aims to identify the differences between the five types of business structures: sole proprietorship, partnership, LLC, corporation, and cooperative. Students compare and contrast different business structures and are able to understand the advantages and disadvantages of each type. This lesson includes a hands-on activity where students research a business and determine its business structure, why that structure was chosen, how it has changed over time, and how it could help or hinder the business.

Objectives

1. Gain a greater understanding of the advantages and disadvantages of business structures.
2. Compare and contrast different business structures.
3. Gain a greater understanding of key considerations when choosing appropriate business structures.

Key Terms

- Cooperative
- Corporation
- Limited liability corporation (LLC)
- Partnership
- Sole proprietorship

Lesson Plan

Table 1 describes materials needed, the flow of the lesson, the approximate time for each activity, and when and how to use the resource handouts and presentations. Actions are grouped according to stages of the Experiential Learning Cycle.

Table 1. Understanding business structures lesson plan.

Materials:			
Handout 1.1 Module Pretest (Blank, 1.1a; With Answers, 1.1b)			
Presentation 1.2 Understanding Business Structures			
Handout 1.2 Understanding Business Structures Notes			
Computers with internet access			
Poster board/large paper for presentations			
Markers			
Tape for putting up poster board around classroom			
Task	Time	Actions	Resources
Experience			
Assessment of prior knowledge	15 min	Give out pretest and ask students to answer honestly.	Handout 1.1 (blank version)
Gauge students' previous understanding of business structures	5 min	Q&A to the whole class: <ul style="list-style-type: none"> • What do you think of when you think of the structure of a business? • What are the main business structures? • What are key characteristics that you might look for when trying to figure out what type of structure a business has? 	Presentation 1.2 Slide 4
Introduction to business structures	10 min	Present brief overview of types of business structures: <ul style="list-style-type: none"> • Sole proprietorship • Partnership • Limited liability company • Cooperative • Corporation 	Presentation 1.2 [Optional: provide learners with Handout 1.2 to fill in during this presentation.] Slides 5-9
Warm up to activity	3 min	Q&A to the whole class: What key characteristics might you look for when trying to figure out what type of structure a business has?	Presentation 1.2 Slide 10
Partner work on determining business structure	15 min	Have students partner up. If you have an odd number, a group of three is fine. Ask student pairs to pick a favorite business of theirs. Then have students use computers or smartphones/ tablets to research that business. [Note: If computers are not available, handouts can be made with information on businesses chosen and researched by the instructor. Students can choose from these businesses to complete the lesson.] Key questions to have them answer: <ul style="list-style-type: none"> • What business structure does your business use? • In what ways does this business structure allow the business to perform well? • In what ways does this structure inhibit the business? • Has the business structure changed over time? • Why was this business structure chosen over the others? 	Presentation 1.2 Slides 11-12
Share			Resources
Assessment of prior knowledge	15 min	Group discussion on business structure findings.	

Table 1. Understanding business structures lesson plan (cont.)

Task	Time	Actions	Resources
Process			
Recap	5 min	Instructor recap of key learning from today and prompt question for take-home task.	
Generalize/Apply			
Take-home task: Consider the following questions and write a paragraph answering them.			
<ul style="list-style-type: none"> • If you had your own business, what would it be and which business structure would you choose? • Would it change if the type of business you had were different? 			
Tips for Facilitators and Alternative Options			
As an alternate to having students choose a business, or to prevent students from choosing businesses with the same structure, the instructor can also pre-select local businesses featuring different business structures and have students select from those featured businesses.			
If time is a constraint, instructors can also present the Powerpoint and have the students discuss and present in groups examples of businesses they know of that fit each type of structure. If this option is chosen, the following modifications can be made:			
<ul style="list-style-type: none"> • Ask groups to discuss the answers they came up with to the questions and how they are different between businesses even if they have the same structure. • Ask groups to prepare a united answer on a poster to the following questions to present to the class: <ul style="list-style-type: none"> – What businesses did your group choose? – What structure does your businesses have? – What are the advantages to your business structure? – What are the disadvantages to your business structure? 			

Lesson 2: Using Business Structures in a Market Simulation

In Lesson 2, students expand on what they learned in Lesson 1 to choose a structure for the agricultural business they will form and manage in a market simulation game. Students apply critical thinking skills to make business management decisions and are able to explain the benefits and liabilities of owning an agricultural business. They are also able to articulate how the business structure they choose aids and impedes in decision-making and managing the agribusiness.

Objectives

1. Gain a greater understanding of how real-world market prices are different from 4-H auction prices.
2. Gain a greater understanding of how risk in profit is spread differently depending on the business structure chosen.
3. Identify key challenges that businesses face.
4. Develop decision-making skills.
5. Explain the impacts of structure on business success.

Key Terms

- Cooperative
- Corporation
- Limited liability corporation (LLC)
- Partnership
- Risk
- Sole proprietorship

Lesson Plan

Table 2 describes materials needed, the flow of the lesson, the approximate time for each activity, and when and how to use the resource handouts and presentations. Actions are grouped according to stages of the Experiential Learning Cycle. Lesson 2 follows directions provided in the PowerPoint listed as presentation 2.1.

Table 2. Using business structures in a market simulation lesson plan.

Materials:			
Presentation 2.1 Using Business Structures in a Market Simulation			
Handout 2.2 Simulation Cards (masters are provided to be cut out prior to class)			
Calculators (or cell phone calculators)			
Handout 2.3 Lesson 2 Simulation Balance Sheets			
Task	Time	Actions	Resources
Review and Share			
Recap from Lesson 1	10 min	<ul style="list-style-type: none"> • What are the five different types of business structures? • What are the advantages and disadvantages of each type of business structure? Share inquiries from the last lesson's take-home task.	Presentation 2.1
Experience			
Business structure simulation	47 min	Arrange students by business structures. based on take-home task. <ul style="list-style-type: none"> • Those who wish to be sole proprietors will work by themselves. • Those who prefer a partnership will pair up. • Students who prefer a corporation get in groups of 3-5. Corporations must decide how they will make decisions. Will they have a CEO? Equal votes? Need unanimous decisions? Each business must choose to sell either corn or beef cattle. <p>Simulation</p> Distribute Handout 2.3 and simulation cards Demonstrate a scenario calculation using the example on Handout 2.3 For each card drawn, students must refer to changing market prices placed on board by instructor. For each scenario, they will need to record their decision as well as their business balance. For each decision, they should track the cost or income from that decision. Instructor will go among groups to help them understand how to make decisions and calculations. Groups must make decisions in accordance to their structure. At the end, businesses must decide how much to pay the owners and how much to leave in the business because there will be a second simulation and the amount of money they have left from the first simulation becomes their beginning balance for the second simulation.	Handout 2.2 Handout 2.3
Share			
Business reflections Structure presentations	20 min	Businesses will get in groups with other businesses that have the same structure. They will have time to reflect on what the best and worst parts of the simulation were and how their business structure made this easier or harder. They will talk about how they made decisions and what their remaining balance is. <ul style="list-style-type: none"> • Structure Presentation • Each business structure group will present their reflections to the other groups. 	

Table 2. Using business structures in a market simulation lesson plan (cont.).

Task	Time	Actions	Resources
Process			
Recap	5 min	Instructor recap of key learning from today and prompt question for take-home task.	

Generalize/Apply

Take-home task:

Consider the following questions and write a paragraph answering them.

- What risks did your business face?
- How might you manage this risk?
- If you could do the simulation again, would you change your business structure ?

Tips for Facilitators and Alternative Options

As an alternate to having students choose a business, or to prevent students from choosing businesses with the same structure, the instructor can also pre-select local businesses featuring different business structures and have students select from those featured businesses.

If time is a constraint, instructors can also present the Powerpoint and have the students discuss and present in groups examples of businesses they know of that fit each type of structure. If this option is chosen, the following modifications can be made:

- Ask groups to discuss the answers they came up with to the questions and how they are different between businesses even if they have the same structure.
- Ask groups to prepare a united answer on a poster to the following questions to present to the class:
 - What businesses did your group choose?
 - What structure does your businesses have?
 - What are the advantages to your business structure?
 - What are the disadvantages to your business structure?

Lesson 3: Risk Management in Agribusiness

This lesson introduces students to concepts of risk and volatility and the different types of risk businesses face. They learn risk management strategies and engage in historical market analysis to determine the best time to sell their commodity. Students apply these skills in a modified market simulation where they have the opportunity to use futures contracts.

Objectives

1. Explain risk and volatility, especially price risk and volatility.
2. Identify risk management strategies.
3. Implement price risk management by using historical price data and the option to sell in the futures market.
4. Demonstrate business risk knowledge and decision-making skills.

Key Terms

- Futures contract
- Risk

Lesson Plan

Table 3 describes materials needed, the flow of the lesson, the approximate time for each activity, and when and how to use the resource handouts and presentations. Actions are grouped according to stages of the Experiential Learning Cycle.

Table 3. Risk management in agribusiness lesson plan.

Materials:

Presentation 3.1 Managing Risk in Agribusiness*

Handout 3.2 Computer Activity: Historical Price Look Up With Barchart.com*

Handout 3.3 Lesson 3 Simulation Balance Sheets

Handout 2.2 Simulation Game Cards

Calculators (or cell phone calculators)

Historical data via computer access or printouts*

**The instructor will need to update the prices with current futures prices (based on contracts 9 months out) on Slide 20 prior to the activity. If desired, the dates can also be added to Handout 3.2.*

Task	Time	Actions	Resources
Review and Share			
Recap from Lesson 2	5 min	Ask for volunteers to share answers from the take-home task. Students should recognize that agribusinesses face many risks: weather, pests, disease, and changing market prices.	Presentation 3.1
Experience			
Futures as risk management	15 min	Explain futures as a risk management tool using the information provided in Presentation 3.1 Ensure that students are familiar with the following before moving on: <ul style="list-style-type: none"> • Key definitions – risk. • How futures can be used. • Examples of futures contract. • Examples of hedging and how to use in simulation. 	Handout 2.2 Handout 2.3
Arrange students in business groups	5 min	Students are arranged in new or old business structures based on answers from the take-home task. <ul style="list-style-type: none"> • Those who wish to be sole proprietors will work by themselves. • Students who prefer a partnership will pair up. • Students who prefer a corporation get in groups of 3-5. Each business might not have the same commodity as before, so they face different scenarios.	
Students analyze historical prices	10 min	Students use the step-by-step guide to using Barchart.com to look up historical prices (Handout 3.2) to analyze historical prices and determine when and at what price they want to sell their commodity based on historical trends. Instructor will go among groups to help them understand how to use Barchart.com and use prices in decision-making.	Handout 3.2 Presentation 3.1
Prepare for simulation	5 min	Distribute handouts and simulation cards. The same simulations cards from Lesson 2 are to be used. This is why students should choose a different commodity than that used in Lesson 2, so they do not know the scenarios.	Handout 2.2 Handout 3.2 Handout 3.3

Table 3. Risk management in agribusiness lesson plan (cont.)

Task	Time	Actions	Resources
Experience (cont.)			
Simulations using futures	35 min	<p>For each card drawn, students must refer to historical prices to make decisions, as well as their business balance. For each decision, they should track the cost or income from that decision.</p> <p>Groups must make decisions in accordance to their structure.</p> <p>At the end, students will offset their hedge and add that to their end balance.</p> <p>Businesses must decide how much to pay the owners and how much to leave in the business.</p> <p>Simulation can be repeated as many times as time will allow using different structures and different commodities.</p>	Handout 3.3
Share			
Discussion	20 min	<p>Class discussion and reflection.</p> <ul style="list-style-type: none"> • How did futures turn out for your simulations? • Which structure worked best? 	
Process			
Recap	5 min	Instructor recap of key learning from today and prompt question for take-home task.	
Generalize/Apply			
<p>Take-home task:</p> <p>Consider the following questions:</p> <ul style="list-style-type: none"> – If you were to start a cooperative, what product would you want to sell? – Would it be a generic commodity or a diversified product? What are the key benefits/challenges of a cooperative? 			
Tips for Facilitators and Alternative Options			
<p>It is recommended that instructors pull most current market prices to create the “real” world market prices to be consistent with historical data that students will pull to make their price decisions.</p> <p>This lesson allows students to learn from their experiences in Lesson 2 and familiarize themselves with actual market prices. They should understand how price is a huge risk in agribusiness and correct mistakes they made in Lesson 2.</p>			

Lesson 4: Value of the Cooperative Business Model

This final lesson is a deep dive into the cooperative business structure. Details on the cooperative structure are presented, and students apply this information to form their own cooperative and make decisions as a class that affect the success of the cooperative.

Objectives

1. Identify the benefits and challenges of cooperatives.
2. Experience how to make group decisions.
3. Analyze facts and data for specific situations and make appropriate decisions.

Key Terms

- Cooperative

Lesson Plan

Table 4 describes materials needed, the flow of the lesson, the approximate time for each activity, and when and how to use the resource handouts and presentations. Actions are grouped according to stages of the Experiential Learning Cycle. This lesson follows presentation 4.1.

Table 4. Value of a cooperative business model lesson plan.

Materials:			
Presentation 4.1 Cooperatives			
Handout 4.2 Farmer Scenarios (file contains 16 different scenarios, one per page)			
Handout 4.3 Cooperative Simulation Calculations			
Task	Time	Actions	Resources
Review and background			
Recap from Lesson 3	5 min	Review risk management concepts from Lesson 3.	Presentation 4.1 • Slides 1-7
Background on cooperatives	15 min	<p>Explain the basics of cooperatives using the PowerPoint slides detailing what a cooperative is, benefits of cooperatives, functions of cooperatives, people involved in cooperatives, and how cooperatives operate financially.</p> <p>Organic Valley Case Study</p> <p>Walk through example calculations using the information presented on the slide</p> <ul style="list-style-type: none"> • You own a herd of 20 dairy cows who are averaging 20,000 lbs. per year per cow. ($20 \times 20,000 = 400,000$ lbs/yr) • You decide to join Organic Valley Co-op and pay the membership fee of \$2,000 per percent of supply. • You become 1 of 25 members, and your milk supply is 2% of their total marketed milk. (Fee: $2 \times \\$2,000 = \\$4,000$) • Organic Valley agrees to pay you \$14/cwt of milk; it costs you \$11 per cwt to produce. • Organic Valley sells pasteurized and packaged milk to Kroger for \$45/cwt. • After the cost of processing, packaging, and taking into account transportation and waste, Organic Valley has a profit of \$3 million. • The board of directors decides to retain 10% of the profits to put back into the cooperative, and the rest goes to its members. (dividends based on 90% of profit, or \$2.7 million) • How much do you get in dividends? (2% of \$2.7 million = \$54,000) 	Presentation 4.1 • Slides 8-15 • Slide 16
Experience			
Individual farm calculations	10 min	Give each student their farm details. Each student will have a different situation, and they should calculate their breakeven on the handout.	Handout 4.2

Table 4. Value of a cooperative business model lesson plan (cont.).

Task	Time	Actions	Resources
Experience (cont.)			
Run Cooperative Simulation	30 min	Walk the class (cooperative) through the simulation using the three rounds described on Slides 19-21. Cooperative decisions can be recorded and calculations done on Handout 4.3. Note that students will use data from their individual scenarios and the cooperative in these calculations.	Presentation 4.1 • Slides 19-21 Handout 4.3
Share			
Class discussion and Reflection	5 min	How is a cooperative different from other structures? What were the challenges and benefits of being a member of a cooperative?	
Process			
Recap	5 min	Instructor recap of key learning from today and prompt question for take-home task.	
Generalize/Apply			
Take-home task: Have students review a scenario of a potential business and have them recommend the appropriate business structure and risk management strategies.			
Tips for Facilitators			
This lesson is very interactive and the instructor will likely have to record decisions made and facilitate. Have students choose a commodity to market that is of interest to them. The example provided in this scenario is beef cattle, however the lesson can be tailored to other raw commodities. Students should recognize that what is best for them may not be best for the whole cooperative. If 4-H or FFA, instructor may remind students that they have structure and could use existing president, etc.			

List of Handouts

All materials listed here are used within the module and are provided as supplemental materials that accompany this publication. The PDFs are editable.

Lesson 1

Handout 1.1 – Pretest (Blank): to be given to assess knowledge (1.1a), and Pretest With Answers (1.1b)

Presentation 1.2 – Understanding Business Structures: PowerPoint presentation that includes background information on business structures.

Handout 1.2 – Understanding Business Structures Notes: Presentation 1.2 handout with blanks for learners to fill in.

Lesson 2

Presentation 2.1 – Using Business Structures in a Market Simulation: PowerPoint presentation to accompany the lesson and recap learning from Lesson 1.

Handout 2.2 – Simulation Game Cards (Cattle 1, 2, 3, and 4; Corn 1): Be sure to cut out and assemble prior to class.

Handout 2.3 – Simulation Balance Sheet: helps students keep track of business decisions.

Lesson 3

Presentation 3.1 – Managing Risk in Agribusiness: PowerPoint presentation to accompany the lesson and recap learning from Lesson 2.

Handout 2.2 – Simulation Game Cards (Cattle 1, 2, 3, and 4; Corn 1): Re-use the simulation cards from Lesson 2.

Handout 3.2 – Computer Activity: Historical Price Look Up: Step-by-step guide to using Barchart.com to look up historical prices.

Handout 3.3 – Simulation Balance Sheet: helps students keep track of business decisions in this round.

Lesson 4

Presentation 4.1 – Cooperatives: PowerPoint presentation covering cooperative structure and activity.

Handout 4.2 – Farmer Scenarios: 12 unique scenarios for groups of students to use in the Cooperative Simulation activity

Handout 4.3 - Cooperative Simulation Calculations: Handout to guide cooperative simulation calculations in the activity

Resources

CME Group. n.d. "Education." Accessed September 29, 2018. <https://www.cmegroup.com/education.html>

Quentin Burdick Center for Cooperatives. 2014. "High School Cooperatives Lessons." Accessed September 29, 2018. <https://www.ag.ndsu.edu/cooperatives/education/high-school-cooperatives-lessons>

Tory Burch Foundation. 2018. "Starting a Business." Accessed September 29, 2018. <http://www.toryburchfoundation.org/resources/starting-a-business/>

USDA Rural Development. 2012. Co-ops 101: An introduction to Cooperatives. Cooperative Information Report 55. Accessed September 29, 2018. <http://www.rd.usda.gov/files/cir55.pdf>

U.S. Small Business Administration. n.d. "Choose a Business Structure." Accessed September 29, 2018. <https://www.sba.gov/business-guide/launch-your-business/choose-business-structure>

Glossary

cooperative – A farm, business, or other organization that is owned and run jointly by its members, who share the profits or benefits.

corporation – A company or group of people authorized to act as a single entity (legally a person) and recognized as such in law.

futures contract – An agreement traded on an organized exchange to buy or sell assets, especially commodities or shares, at a fixed price but to be delivered and paid for later.

limited liability corporation (LLC) – A corporate structure whereby the members of the company cannot be held personally liable for the company's debts or liabilities.

partnership – A business or firm owned and run by two or more partners.

risk – To expose (someone or something valued) to danger, harm, or loss.

sole proprietorship – A type of business entity that is owned and run by one individual (natural) person and in which there is no legal distinction between the owner and the business.

volatility – A statistical measure of the dispersion of returns for a given security or market index.

Acknowledgements

This resource was developed through the Graduate Extension Scholars Program at Virginia Tech. Funding for the program was provided by a College of Agriculture and Life Sciences Chair for Community Viability Endowment Grant awarded to Hannah H. Scherer (PI) and Kathleen Jamison (co-PI).



Virginia Cooperative Extension

Virginia Tech • Virginia State University

Graduate Extension Scholars Program

Understanding Business Structures, Markets, and Risk Management Strategies Handout 1.1 _____ Publication ALCE-177-A

Pretest

Name: _____

Please give a short answer to each of the following questions.

1. List and describe the five business structures.
2. How is an LLC different from a partnership?
3. What are the three types of partnerships?
4. What are the advantages and disadvantages of a sole proprietorship?
5. What are the advantages and disadvantages of a partnership?
6. What are the advantages and disadvantages of an LLC?
7. What are the advantages and disadvantages of a cooperative?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Pretest (cont.)

8. What are the advantages and disadvantages of a corporation?

9. What do the phrases “going short” and “going long” in the futures market refer to?

10. If you are a seller of cattle, what could you do with the futures market to manage risk?

11. Give an example of a good or service that could be sold at a cooperative.

12. What are three factors that influence the business structure a company chooses?

13. You grow corn in Virginia and sell it to a local grain elevator that usually sells this corn to Murphy Brown for pig feed. What are three tools you could use to determine when to sell your corn and get the best price?

14. Margie would like to start a business where she sells yarn. She would like to start by selling the yarn in her county and does not plan on selling in other states. She was planning on buying the wool from Tom, a sheep farmer, but he is also willing to go into business with her. Her son, Jack, has also offered to use his truck to pick up the wool and haul her yarn to the farmers market for a fee or a stake in her company. Wool and fuel prices have been going up, so Margie thinks there could be some benefits from not having to buy these inputs, but Tom can be stubborn, and Jack is thinking about starting a statewide hauling business. How should Margie form her business? Should Tom, Jack, and Margie all go into business together? What recommendations do you have for Margie as far as managing her business and minimizing her risk?



Virginia Cooperative Extension

Virginia Tech • Virginia State University

Graduate Extension Scholars Program

Understanding Business Structures, Markets, and Risk Management Strategies Handout 1.1 _____ Publication ALCE-177-B

Pretest With Answers

Answers from the U.S. Small Business Administration and accessed at the following websites:

<http://www.toryburchfoundation.org/resources/starting-a-business/>

<https://www.sba.gov/business-guide/launch-your-business/choose-business-structure>

Please give a short answer to each of the following questions.

1. List and describe the five business structures.

Sole proprietorship. Owned and run by one individual. Business is not taxed separately (sole proprietorship income is your income).

Partnership. Single business where two or more people share ownership. Must register business with state and establish business name in partner agreement.

Limited liability company. Hybrid of partnership and corporation. Choose business name, file articles of organization, and create operating agreement.

Cooperative. Business owned and operated for the benefit of those using its services. File articles of incorporation, create bylaws, develop membership application, conduct charter member meeting, and elect directors.

Corporation. Independent legal entity owned by shareholders.

2. How is an LLC different from a partnership?

An LLC combines the limited-liability features of a corporation and the tax efficiencies and operational flexibility of a partnership. Owners are referred to as members. Must file formal articles of organization with state; members not personally responsible for debts/liabilities (unless negligent).

3. What are the three types of partnerships?

General partnerships assume that profits, liability, and management duties are divided equally among partners. If you opt for an unequal distribution, the percentages assigned to each partner must be documented in the partnership agreement.

Limited partnerships (also known as a partnership with limited liability) are more complex than general partnerships. Limited partnerships allow partners to have limited liability as well as limited input with management decisions. These limits depend on the extent of each partner's investment percentage. Limited partnerships are attractive to investors of short-term projects.

Joint ventures act as general partnerships but for only a limited period of time or for a single project. Partners in a joint venture can be recognized as an ongoing partnership if they continue the venture, but they must file as such.

4. What are the advantages and disadvantages of a sole proprietorship?

Advantages of a sole proprietorship:

- *Easy and inexpensive to form. A sole proprietorship is the simplest and least expensive business structure to establish. Costs are minimal, with legal costs limited to obtaining the necessary license or permits.*

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Pretest With Answers (cont.)

- *Complete control.* Because you are the sole owner of the business, you have complete control over all decisions. You aren't required to consult with anyone else when you need to make decisions or want to make changes.
- *Easy tax preparation.* Your business is not taxed separately, so it's easy to fulfill the tax reporting requirements for a sole proprietorship. The tax rates are also the lowest of the business structures.

Disadvantages of a sole proprietorship:

- *Unlimited personal liability.* Because there is no legal separation between you and your business, you can be held personally liable for the debts and obligations of the business. This risk extends to any liabilities incurred as a result of employee actions.
- *Hard to raise money.* Sole proprietors often face challenges when trying to raise money. Because you can't sell stock in the business, investors won't often invest. Banks are also hesitant to lend to a sole proprietorship because of a perceived lack of credibility when it comes to repayment if the business fails.
- *Heavy burden.* The flipside of complete control is the burden and pressure it can impose. You alone are ultimately responsible for the successes and failures of your business.

5. What are the advantages and disadvantages of a partnership?

Advantages of a partnership:

- *Easy and inexpensive.* Partnerships are generally an inexpensive and easily formed business structure. The majority of time spent starting a partnership often focuses on developing the partnership agreement.
- *Shared financial commitment.* In a partnership, each partner is equally invested in the success of the business. Partnerships have the advantage of pooling resources to obtain capital. This could be beneficial in terms of securing credit or by simply doubling your seed money.
- *Complementary skills.* A good partnership should reap the benefits of being able to utilize the strengths, resources, and expertise of each partner.
- *Partnership incentives for employees.* Partnerships have an employment advantage over other entities if they offer employees the opportunity to become partners. Partnership incentives often attract highly motivated and qualified employees.

Disadvantages of a partnership:

- *Joint and individual liability.* Similar to sole proprietorships, partnerships retain full, shared liability among the owners. Partners are not only liable for their own actions, but also for the business debts and decisions made by other partners. In addition, the personal assets of all partners can be used to satisfy the partnership's debt.
- *Disagreements among partners.* With multiple partners, there are bound to be disagreements. Partners should consult each other on all decisions, make compromises, and resolve disputes as amicably as possible.
- *Shared profits.* Because partnerships are jointly owned, each partner must share the successes and profits of the business with the other partners. An unequal contribution of time, effort, or resources can cause discord among partners.

6. What are the advantages and disadvantages of an LLC?

Advantages of an LLC:

- *Limited liability.* Members are protected from personal liability for business decisions or actions of the LLC. This means that if the LLC incurs debt or is sued, members' personal assets are usually exempt. This is similar to the liability protections afforded to shareholders of a corporation. Keep in mind that limited liability means "limited" liability — members are not necessarily shielded from wrongful acts, including those of their employees.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Pretest With Answers (cont.)

- *Less record-keeping.* An LLC's operational ease is one of its greatest advantages. Compared to an S-corporation, there is less registration paperwork (<https://www.sba.gov/business-guide/launch-your-business/register-your-business>) and there are smaller startup costs.
- *Sharing of profits.* There are fewer restrictions on profit-sharing within an LLC. Members distribute profits as they see fit. Members might contribute different proportions of capital and sweat equity. Consequently, it's up to the members themselves to decide who has earned what percentage of the profits or losses.

Disadvantages of an LLC:

- *Limited life.* In many states, when a member leaves an LLC, the business is dissolved and the members must fulfill all remaining legal and business obligations to close the business. The remaining members can decide if they want to start a new LLC or part ways. However, you can include provisions in your operating agreement to prolong the life of the LLC if a member decides to leave the business.
- *Self-employment taxes.* Members of an LLC are considered self-employed and must pay the self-employment tax contributions toward Medicare and Social Security. The entire net income of the LLC is subject to this tax.

7. What are the advantages and disadvantages of a cooperative?

Advantages of a cooperative:

- *Less taxation.* Similar to an LLC, cooperatives that are incorporated normally are not taxed on surplus earnings (or patronage dividends) refunded to members. Therefore, members of a cooperative are only taxed once on their income from the cooperative and not on both the individual and the cooperative level.
- *Funding opportunities.* Depending on the type of cooperative you own or participate in, there are a variety of government-sponsored grant programs to help you start. For example, the USDA Rural Development program offers grants to those establishing and operating new and existing rural development cooperatives (<https://www.rd.usda.gov/programs-services/rural-cooperative-development-grant-program>).
- *Reduce costs and improve products and services.* By leveraging their size, cooperatives can more easily obtain discounts on supplies and other materials and services. Suppliers are more likely to give better products and services because they are working with a customer of more substantial size. Consequently, the members of the cooperative can focus on improving products and services.
- *Perpetual existence.* A cooperative structure brings less disruption and more continuity to the business. Unlike other business structures, members in a cooperative can routinely join or leave the business without causing dissolution.
- *Democratic organization.* Democracy is a defining element of cooperatives. The democratic structure of a cooperative ensures that it serves its members' needs. The amount of a member's monetary investment in the cooperative does not affect the weight of each vote, so no member-owner can dominate the decision-making process. The "one-member, one-vote" philosophy particularly appeals to smaller investors because they have as much say in the organization as does a larger investor.

Disadvantages of a cooperative:

- *Obtaining capital through investors.* Cooperatives can suffer from slower cash flow because members' incentive to contribute depends on how much they use the cooperative's services and products. While the one-member, one-vote philosophy is appealing to small investors, larger investors could choose to invest their money elsewhere because a larger share investment in the cooperative does not translate to greater decision-making power.
- *Lack of membership and participation.* If members do not fully participate and perform their duties, whether it be voting or carrying out daily operations, the business cannot operate at full capacity. If a lack of participation becomes an ongoing issue for a cooperative, it could risk losing members.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Pretest With Answers (cont.)

8. What are the advantages and disadvantages of a corporation?

Advantages of a corporation:

- *Limited liability. When it comes to taking responsibility for business debts and actions of a corporation, shareholders' personal assets are protected. Shareholders can generally only be held accountable for their investment in stock of the company.*
- *Ability to generate capital. Corporations have an advantage when it comes to raising capital for their business: the ability to raise funds through the sale of stock.*
- *Corporate tax treatment. Corporations file taxes separately from their owners. Owners of a corporation only pay taxes on corporate profits paid to them in the form of salaries, bonuses, and dividends, while any additional profits are awarded a corporate tax rate, which is usually lower than a personal income tax rate.*
- *Attractive to potential employees. Corporations are generally able to attract and hire high-quality and motivated employees because they offer competitive benefits and the potential for partial ownership through stock options.*

Disadvantages of a corporation:

- *Time and money. Corporations are costly and time-consuming ventures to start and operate. Incorporating requires startup, operating, and tax costs that most other structures do not require.*
- *Double taxing. In some cases, corporations are taxed twice — first when the company makes a profit and again when dividends are paid to shareholders.*
- *Additional paperwork. Because corporations are highly regulated by federal, state, and in some cases local agencies, increased paperwork and record-keeping burdens are associated with this entity.*

9. What do the phrases “going short” and “going long” in the futures market refer to?

- *Short-sell.*
- *Long-buy.*

10. If you are a seller of cattle, what could you do with the futures market to manage risk?

Buy a futures cattle contract at a low price and offset it at a higher price.

11. Give an example of a good or service that could be sold at a cooperative.

There are a wide range of answers that could be listed here. Within the agriculture industry, common examples include (but are not limited to): seeds, fertilizer, fuel, equipment and services such as marketing

12. What are three factors that influence the business structure a company chooses?

- *Shareholders.*
- *Decision-making style.*
- *Capital investments.*
- *Risk/liability.*
- *Taxation.*

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Pretest With Answers (cont.)

13. You grow corn in Virginia and sell it to a local grain elevator that usually sells this corn to Murphy Brown for pig feed. What are three tools you could use to determine when to sell your corn and get the best price?

- *Historical pricing: Barchart.com/Yahoo finance.*
- *Forward contracts.*
- *Storage.*
- *Hedging.*

14. Margie would like to start a business where she sells yarn. She would like to start by selling the yarn in her county and does not plan on selling in other states. She was planning on buying the wool from Tom, a sheep farmer, but he is also willing to go into business with her. Her son, Jack, has also offered to use his truck to pick up the wool and haul her yarn to the farmers market for a fee or a stake in her company. Wool and fuel prices have been going up, so Margie thinks there could be some benefits from not having to buy these inputs, but Tom can be stubborn, and Jack is thinking about starting a statewide hauling business. How should Margie form her business? Should Tom, Jack, and Margie all go into business together? What recommendations do you have for Margie as far as managing her business and minimizing her risk?

There are multiple correct answers to this scenario. Responses should accurately describe the advantages and disadvantages of the different business structures as outlined in the answers to the previous questions on this pre-test. The intent of this question is to get students thinking about application of the information to a complex scenario.

Understanding Business Structures Notes

Business Structures, Markets, and Risk Management

Handout 1.2 Understanding Business Structures Notes

Sarah McKay, Buyer, Dairy, General Mills
Kristin Carr, Agriculture Teacher, Riverheads High School, Augusta County Public Schools
Marie Rothwell, Virginia Cooperative Extension Agent, 4-H Youth Development, Augusta County
Shannon Wiley, Graduate Student, Agricultural, Leadership, and Community Education, Virginia Tech
Hannah Scherer, Assistant Professor and Extension Specialist, Agricultural, Leadership, and Community Education, Virginia Tech

Sole Proprietorship



Understanding Business Structures Notes (cont.)

Partnership

- Single business where two or more people share _____
- Must register with _____
- Establish business name in partner _____
- General – profits, liability, and management duties divided _____
- Limited – varying investment percentage and liability; short-term projects
- _____ – general partnership for limited time or single project; may continue as filed partnership



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

Limited Liability Company

- Hybrid of partnership and _____
- Choose business name
- File articles of _____
- Create operating agreement
- Taxed and operated like _____
- Members vs. owners
- Members not _____ responsible for debts/liabilities (unless negligent)



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Understanding Business Structures Notes (cont.)

Cooperative

- Owned and operated by members using _____
- File articles of _____
- Create _____
- Develop membership _____
- Conduct chapter _____ meeting
- Elect _____
- Benefits: shared profits, leveraging power, market access, equal vote, reduced costs

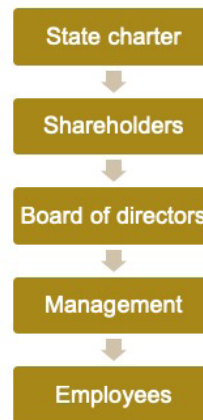


Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

Corporation

- Owned by many _____
- Public vs. private
- Taxed on both _____ and _____ levels



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Questions to Answer:

- What is your business?
- What does it do/sell?
- What business structure does your business use?
- In what ways does this business structure allow the business to perform well?
- In what ways does this structure inhibit the business?
- Has the business structure changed over time?
- Why was this business structure chosen over the others?



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

In groups based on business structure:

Answer the following using the large sticky paper:

- What businesses did your group draw?
- What structure do your businesses have?
- What are the advantages to your business structure?
- What are the disadvantages to your business structure?



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Sole Proprietorship

Advantages

- Easy and _____ to form
- Complete _____
- Easy _____ prep

Disadvantages

- Unlimited _____ liability
- Hard to raise _____
- Heavy _____



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

Partnership

Advantages

- _____
- Inexpensive
- _____
- Financial commitment
- _____ skills

Disadvantages

- Full, shared liability
- _____ / shared decisions
- _____ profits



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

Understanding Business Structures Notes (cont.)

LLC

Advantages

- Limited liability
- Operational _____
- Sharing of _____ (as see fit)

Disadvantages

- Limited _____
- Self-employment tax



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

Cooperative

Advantages

- Less _____
- Funding opportunities _____
- Costs _____
- Improved _____ & _____
- Perpetual
- Democratic

Disadvantages

- Raising _____
- Lack of _____



Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.ext.vt.edu

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177



Virginia Cooperative Extension

Virginia Tech • Virginia State University

Graduate Extension Scholars Program

Understanding Business Structures, Markets, and Risk Management Strategies Handout 2.2 _____ Publication ALCE-177-D

Simulation Cards

Eight sets of simulation cards are provided in this handout. Each unique set should be cut prior to teaching Lesson 2. The sets of cards are:

- Cattle 1
- Cattle 2
- Cattle 3
- Cattle 4
- Corn 1
- Corn 2
- Corn 3
- Corn 4

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Simulation Cards: Cattle 1

To begin, each owner/ member has 50 heifers weighing an average of 700 lbs. and a beginning balance of \$120,000 in the bank to bring to the business.

Feed decision time! You can feed your heifers a ration costing \$400 per cow to bring their weight up to 1,200 lbs., or you can feed your heifers a ration costing \$450 per cow to bring their weight up to 1,250 lbs. Which do you choose?

Uh-oh. A disease is running through cattle herds in Virginia and killing 20% of the herds. There is a vaccine you can give your cattle that costs \$50 per cow. However, there is only a 25% chance your herd will be affected. Do you vaccinate?

You have the option to trade in your cattle for a premium breed of cattle, wagyu, that sells for 30% more than your Angus heifers, but it will cost \$200 per head to make the trade. Do you make the trade?

Bad news: Your herd was affected by that terrible disease! If you vaccinated, you're in luck because you didn't lose any cows. However, if you didn't vaccinate, you lost 10 cows right before sale, so you still paid to feed all of them.

Some of your cattle broke through the fence and damaged your neighbor's car and yard. He is suing you for the cost of the car and damages to his yard. He is willing to settle for \$50,000. Do you settle or go to court?

Hearing day! If you didn't settle and instead went to court with your neighbor, the judge ruled in your favor and is only making you pay \$25,000.

Bad news: Your tractor broke and you have to buy a new one. Do you buy a used one that might need repairs later on for \$25,000 or do you buy a new one for \$40,000?

Sale time! You sell your cattle today at the futures price for this day. Futures price is listed as dollars per cwt, i.e. 137.87 = \$137.87 per 100 lbs. or \$1.37 per pound.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Simulation Cards: Cattle 2

To begin, each owner/ member has 50 heifers weighing an average of 700 lbs. and a beginning balance of \$120,000 in the bank to bring to the business.

Feed decision time! You can feed your heifers a ration costing \$400 per cow to bring their weight up to 1,200 lbs., or you can feed your heifers a ration costing \$450 per cow to bring their weight up to 1,250 lbs. Which do you choose?

Uh-oh. A disease is running through cattle herds in Virginia and killing 20% of the herds. There is a vaccine you can give your cattle that costs \$50 per cow. However, there is only a 25% chance your herd will be affected. Do you vaccinate?

You have the option to raise grass-fed cattle that sells for 15% more than your Angus heifers, but it will cost \$12,500 to rent additional acreage to graze them on. Do you make the switch?

Good news! Your herd was not affected by that terrible disease!

Some of your cattle broke through the fence and damaged your neighbor's car and yard. He is suing you for the cost of the car and damages to his yard. He is willing to settle for \$50,000. Do you settle or go to court?

Hearing day! If you didn't settle and instead went to court with your neighbor, the judge ruled in your favor and is only making you pay \$25,000.

Good news! You have an offer from another farmer to buy your favorite heifer to use to breed show beef cattle. He offers you \$12,000 for your heifer!

Good news! You have an offer from another farmer to buy your favorite heifer to use to breed show beef cattle. He offers you \$12,000 for your heifer!

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Simulation Cards: Cattle 3

To begin, each owner/member has 50 heifers weighing an average of 700 lbs. and a beginning balance of \$120,000 in the bank to bring to the business.

Feed decision time! You can feed your heifers a ration costing \$400 per cow to bring their weight up to 1,200 lbs., or you can feed your heifers a ration costing \$450 per cow to bring their weight up to 1,250 lbs. Which do you choose?

Uh-oh. A disease is running through cattle herds in Virginia and killing 20% of the herds. There is a vaccine you can give your cattle that costs \$50 per cow. However, there is only a 25% chance your herd will be affected. Do you vaccinate?

You have the option to raise grass-fed cattle that sells for 15% more than your Angus heifers, but it will cost \$12,500 to rent additional acreage to graze them on. Do you make the switch?

Bad news! Your herd was affected by that terrible disease! If you vaccinated, you're in luck — you didn't lose any cows. However, if you didn't vaccinate, you lost 10 cows right before sale, so you still paid to feed all of them.

Some of your cattle broke through the fence and damaged your neighbor's car and yard. He is suing you for the cost of the car and damages to his yard. He is willing to settle for \$50,000. Do you settle or go to court?

Hearing day! If you didn't settle and instead went to court with your neighbor, the judge ruled in your favor and is only making you pay \$25,000.

Good news! You have an offer from another farmer to buy your favorite heifer to use to breed show beef cattle. He offers you \$12,000 for your heifer!

Sale time! You sell your cattle today at the futures price for this day. Futures price is listed as dollars per cwt le 137.87 = \$137.87 per 100 lbs. or \$1.37 per pound.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Simulation Cards: Cattle 4

To begin, each owner/member has 50 heifers weighing an average of 700 lbs. and a beginning balance of \$120,000 in the bank to bring to the business.

Feed decision time! You can feed your heifers a ration costing \$400 per cow to bring their weight up to 1,200 lbs., or you can feed your heifers a ration costing \$450 per cow to bring their weight up to 1,250 lbs. Which do you choose?

Uh-oh! A disease is running through cattle herds in Virginia and killing 20% of the herds. There is a vaccine you can give your cattle that costs \$50 per cow. However, there is only a 25% chance your herd will be affected. Do you vaccinate?

You have the option to raise grass-fed cattle that sells for 15% more than your Angus heifers, but it will cost \$12,500 to rent additional acreage to graze them on. Do you make the switch?

Good news! Your herd was not affected by that terrible disease!

You have been thinking about switching to a new slaughterhouse that will package your beef and give it back to you to sell direct to your customers. You'll get \$0.25 more per pound by marketing directly, but it will cost \$15,000 in marketing costs to reach your customers. Do you direct market?

Good news! You have an offer from another farmer to buy your favorite heifer to use to breed show beef cattle. He offers you \$12,000 for your heifer!

Bad news. Your tractor broke and you have to buy a new one. Do you buy a used one that might need repairs later on for \$25,000, or do you buy a new one for \$40,000?

Sale time! You sell your cattle today at the futures price for this day. Futures price is listed as dollars per cwt, i.e. 137.87 = \$137.87 per 100 lbs. or \$1.37 per pound.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Simulation Cards: Corn 1

To begin, each owner/member has 50 heifers weighing an average of 700 lbs. and a beginning balance of \$120,000 in the bank to bring to the business.

Feed decision time! You can feed your heifers a ration costing \$400 per cow to bring their weight up to 1,200 lbs., or you can feed your heifers a ration costing \$450 per cow to bring their weight up to 1,250 lbs. Which do you choose?

Uh-oh! A disease is running through cattle herds in Virginia and killing 20% of the herds. There is a vaccine you can give your cattle that costs \$50 per cow. However, there is only a 25% chance your herd will be affected. Do you vaccinate?

You have the option to raise grass-fed cattle that sells for 15% more than your Angus heifers, but it will cost \$12,500 to rent additional acreage to graze them on. Do you make the switch?

Good news! Your herd was not affected by that terrible disease!

You have been thinking about switching to a new slaughterhouse that will package your beef and give it back to you to sell direct to your customers. You'll get \$0.25 more per pound by marketing directly, but it will cost \$15,000 in marketing costs to reach your customers. Do you direct market?

Good news! You have an offer from another farmer to buy your favorite heifer to use to breed show beef cattle. He offers you \$12,000 for your heifer!

Bad news. Your tractor broke and you have to buy a new one. Do you buy a used one that might need repairs later on for \$25,000, or do you buy a new one for \$40,000?

Sale time! You sell your cattle today at the futures price for this day. Futures price is listed as dollars per cwt, i.e. 137.87 = \$137.87 per 100 lbs. or \$1.37 per pound.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnis, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Simulation Cards: Corn 2

Beginning, each owner/member has 50 acres of corn and a beginning balance of \$100,000 in the bank to bring to the business.

First, you need to buy some seed! You can buy feed grade No. 2 seed that costs \$65 per acre and yields 155 bushels per acre, or you could buy a new hybrid of corn seed that costs \$80 per acre and yields 165 bushels per acre. Which seed do you buy?

Uh-oh! There is a drought that is predicted to affect Virginia cornfields, destroying 20% of the crop. You can install an irrigation system that draws on deep water supplies that costs \$1,000 per acre to install but will last 7 years. However, there is only a 25% chance your fields will be affected this year. Do you install the irrigation system?

Bad news! Your combine broke, and you have to buy a new one. Do you buy a used one that might need repairs later on for \$25,000, or do you buy a new one for \$40,000?

Fertilizer decision time! You can fertilize your fields at a cost of \$55 per acre to bring your yield up by 5 bushels per acre, or you can fertilize your fields at a cost of \$70 per acre to bring your yield up by 10 bushels per acre. Which do you choose?

Bad news! Your crop was affected by that terrible drought. If you installed the irrigation system, you're in luck, as you didn't lose any of your crop. However, if you didn't install the irrigation, you lost 20% of your crop right before harvest.

There is a disease breaking out in Virginia that can cause a 50% crop loss. You can purchase insurance for \$100 per acre that will cover 25% of that loss, should it occur. However, there is only a 25% chance that it will occur. Do you buy the insurance or risk it?

Good news! Your crop was not affected by that terrible disease.

Sale time! You sell your corn today at the cash price for today. Price is listed as cents per bushel, i.e. 375.87 = \$3.75 per bushel.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Simulation Cards: Corn 3

Beginning, each owner/member has 50 acres of corn and a beginning balance of \$100,000 in the bank to bring to the business.

First, you need to buy some seed! You can buy feed grade No. 2 seed that costs \$65 per acre and yields 155 bushels per acre, or you could buy a new hybrid of corn seed that costs \$80 per acre and yields 165 bushels per acre. Which seed do you buy?

Uh-oh! There is a drought that is predicted to affect Virginia cornfields, destroying 20% of the crop. You can install an irrigation system that draws on deep water supplies that costs \$1,000 per acre to install but will last 7 years. However, there is only a 25% chance your fields will be affected this year. Do you install the irrigation system?

You have the option to start a corn maze for the fall season. It will cost \$15,000 to start up, and you will get \$10 in revenue from each person who visits the maze. Your market research shows that between 1,000 and 2,200 people show up to corn mazes in an average year. Do you invest in a corn maze and see how many people show up this season?

Fertilizer decision time! You can fertilize your fields at a cost of \$55 per acre to bring your yield up by 5 bushels per acre, or you can fertilize your fields at a cost of \$70 per acre to bring your yield up by 10 bushels per acre. Which do you choose?

There is a disease breaking out in Virginia that can cause a 50% crop loss. You can purchase insurance for \$100 per acre that will cover 25% of that loss, should it occur. However, there is only a 25% chance that it will occur. Do you buy the insurance or risk it?

Good news! Your crop was not affected by that terrible disease or by that terrible drought!

If you chose to start the corn maze, you didn't have as much luck with your opening season as you would have liked. You had 1,100 people visit the maze. Better luck next time!

Sale time! You sell your corn today at the cash price for today. Price is listed as cents per bushel, i.e. $375.87 = \$3.75$ per bushel.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnis, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Simulation Cards: Corn 4

To begin, each owner/member has 50 acres of corn and a beginning balance of \$100,000 in the bank to bring to the business.

First you need to buy some seed. You can buy feed grade No. 2 seed that costs \$65 per acre and yields 155 bushels per acre, or you can buy white corn seed that costs \$85 per acre and yields 155 bushels per acre, but you get a 10% premium over the No. 2 seed price come time to market. Which seed do you buy?

Uh-oh! There is a drought that is predicted to affect Virginia cornfields, destroying 20% of the crop. You can install an irrigation system that draws on deep water supplies that costs \$1,000 per acre to install but will last 7 years. However, there is only a 25% chance your fields will be affected this year. Do you install the irrigation system?

Bad news. Your tractor broke and you have to buy a new one. Do you buy a used one for \$25,000 that might need repairs later on, or do you buy a new one for \$40,000?

Fertilizer decision time! You can fertilize your fields at a cost of \$55 per acre to bring your yield up to 160 bushels per acre, or you can fertilize your fields at a cost of \$70 per acre to bring your yield up to 165 bushels per acre. Which do you choose?

Good news! Your crop was not affected by that terrible drought.

A disease is breaking out in Virginia that can cause 50% crop loss. You can purchase insurance for \$100 per acre that will cover 25% of that loss, should it occur. However there is only a 25% chance that it will occur. Do you buy the insurance or risk it?

Bad news! The disease hit your fields. If you bought crop insurance, you only lose 25% of your final crop. If you didn't buy crop insurance, you lose 50% of your crop.

Sale time! You sell your corn today at the cash price for today. Price is listed as cents per bushel, i.e. 375.87 = \$3.75 per bushel.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Graduate Extension Scholars Program

Understanding Business Structures, Markets, and Risk Management Strategies Handout 2.3 _____ **Publication ALCE-177-E**

Lesson 2 Simulation Balance Sheet

Name(s): _____ Business Structure: _____ Commodity: _____

Beginning Questions:

Why did you choose this business structure?

Why did you choose this commodity?

What characteristics of your business structure may be beneficial in growing and getting your commodity to market?

Beginning Assets	Scenario	Action	(Expense) / Revenue	Balance	Ending Assets
50 acres corn	Example: Beginning Balance	----	----	100,000	50 acres corn
50 acres corn	Example: Whether to take out crop insurance	Take out crop insurance because rainfall has been falling in recent years	\$20/acre Farm has 200 acres Expense=\$20*200=(4,000)	100,000-4,000 =96,000	50 acres corn
Beginning Assets	Decision	Action	(Expense) / Revenue	Balance	Ending Assets
	Round 1: Beginning Balance	----	----		

Lesson 2 Simulation Balance Sheet (cont.)

End of Round 1 Questions:

What is your ending balance?

How much will you keep in the farm budget and how much will you pay yourselves, the owners and managers?

What were the challenges of the simulation?

How did the structure of your business make it easier or harder?

What business structure would you do if you could do the simulation again?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Lesson 2 Simulation Balance Sheet (cont.)

Based on Round 1 and your answers to the previous questions, you may now switch your structure or commodity if you desire. If you are going from a larger structure to a smaller one, you may take your portion of the ending balance plus whatever your salary was to the new structure

Name(s): _____ Business Structure: _____ Commodity: _____

Beginning Assets	Decision	Action	(Expense) / Revenue	Balance	Ending Assets
	Round 2: Beginning Balance	----	----		

Beginning Assets	Decision	Action	(Expense) / Revenue	Balance	Ending Assets
	Round 3: Beginning Balance	----	----		

Beginning Assets	Decision	Action	(Expense) / Revenue	Balance	Ending Assets
	Round 4: Beginning Balance	----	----		

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

Graduate Extension Scholars Program

Understanding Business Structures, Markets, and Risk Management Strategies Handout 3.2 _____ Publication ALCE-177-F

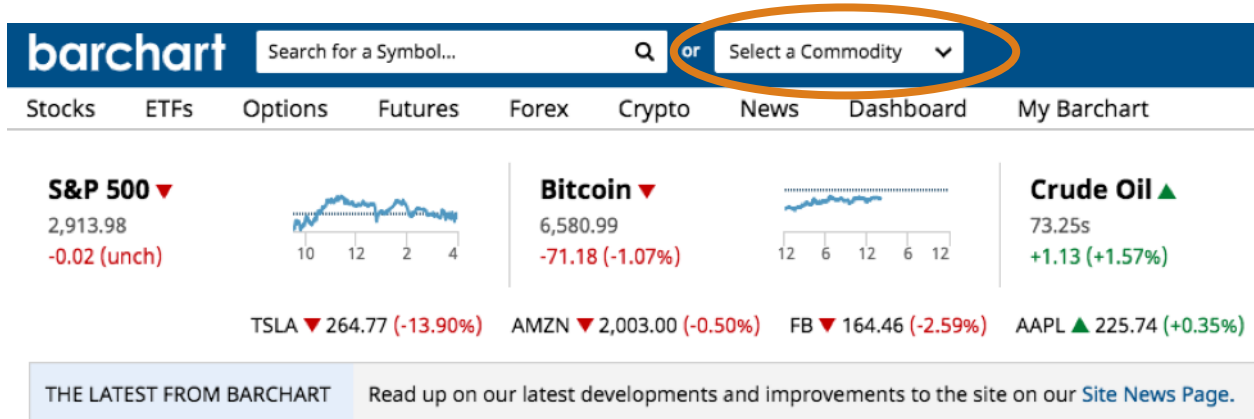
Computer Activity: Historical Price Look Up With Barchart.com

Based on the last class, switch to a different business structure and commodity.

- If you were a sole proprietor, find a partner or partners and become a partnership or a corporation.
- If you were a partnership, find another partner to become a corporation or dissolve your partnership and work as a sole proprietor
- If you were a corporation, lose a partner or partners and become a partnership or sole proprietor.
- If you had cattle, you now have corn. If you had corn, you now have cattle!

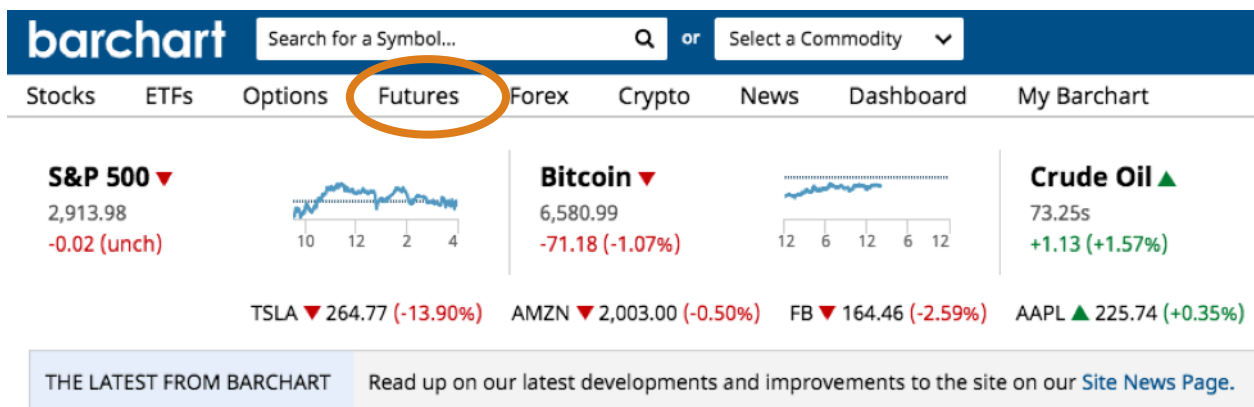
As a new business, go to a computer and look up the historical futures price for your commodity.

- Go to www.barchart.com.



The screenshot shows the Barchart.com homepage. At the top, there is a search bar with the text "Search for a Symbol..." and a magnifying glass icon. To the right of the search bar is a dropdown menu labeled "Select a Commodity" with a downward arrow. This dropdown menu is circled in orange. Below the search bar, there are navigation links for "Stocks", "ETFs", "Options", "Futures", "Forex", "Crypto", "News", "Dashboard", and "My Barchart". The main content area displays market data for "S&P 500", "Bitcoin", and "Crude Oil", each with a small line chart and numerical values. Below this, there are more market data points for "TSLA", "AMZN", "FB", and "AAPL". At the bottom, there is a section titled "THE LATEST FROM BARCHART" with a link to "Site News Page".

- Select either “corn” or “live cattle” from the Select a Commodity drop-down menu.



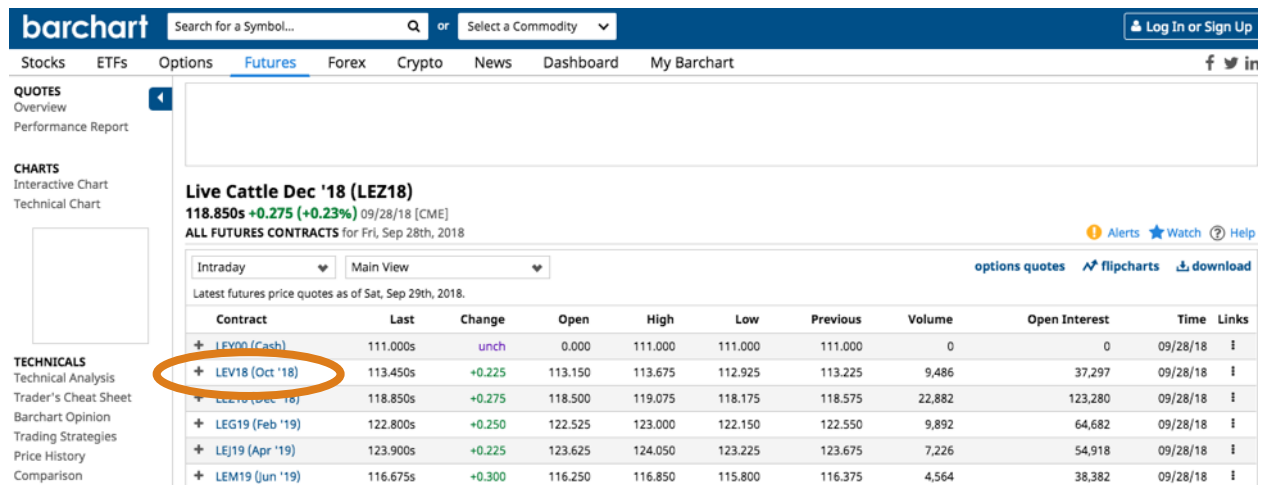
This screenshot is identical to the one above, but the "Futures" navigation link in the top menu is circled in orange instead of the dropdown menu.

www.ext.vt.edu

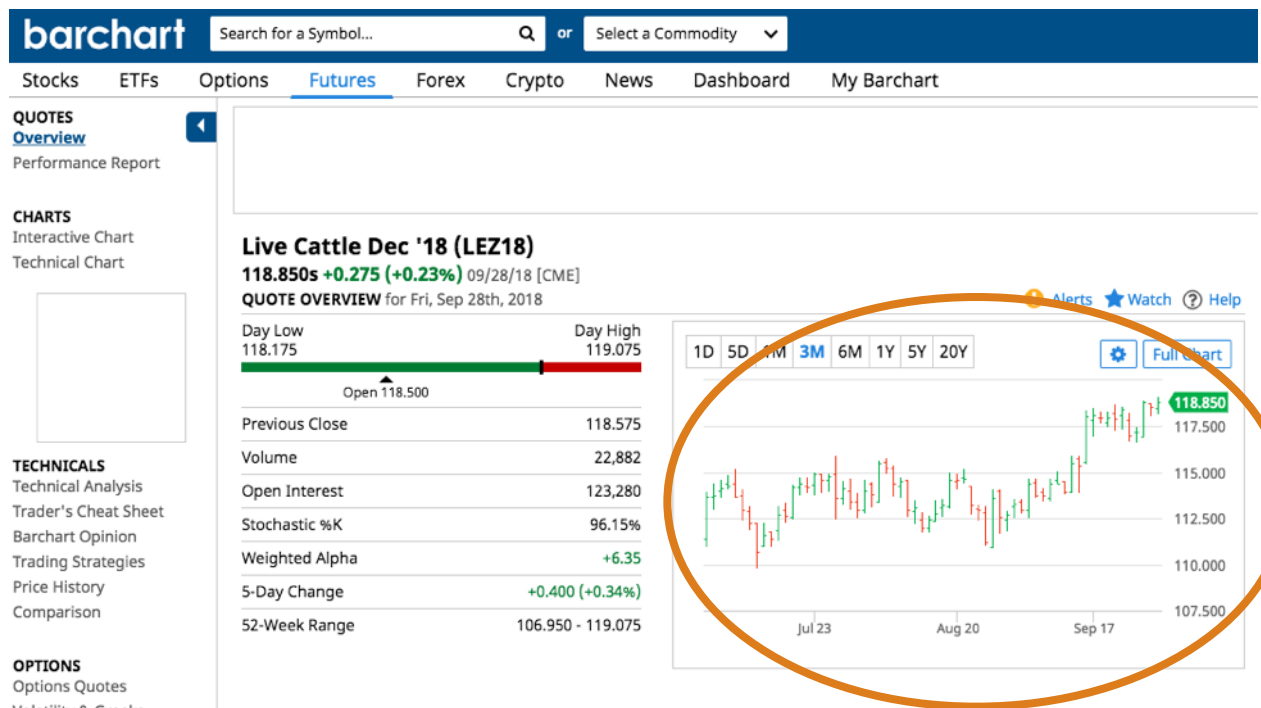
Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Computer Activity: Historical Price Look Up With Barchart.com (cont.)

- Click futures tab on top center.
- For corn, click on the harvest contract that is approximately 9 months from today. For example, if it is currently March '16, you would choose Dec. '16.



- For cattle, click on the futures contract that is approximately 9 months from today. For example, if it is currently March



www.ext.vt.edu

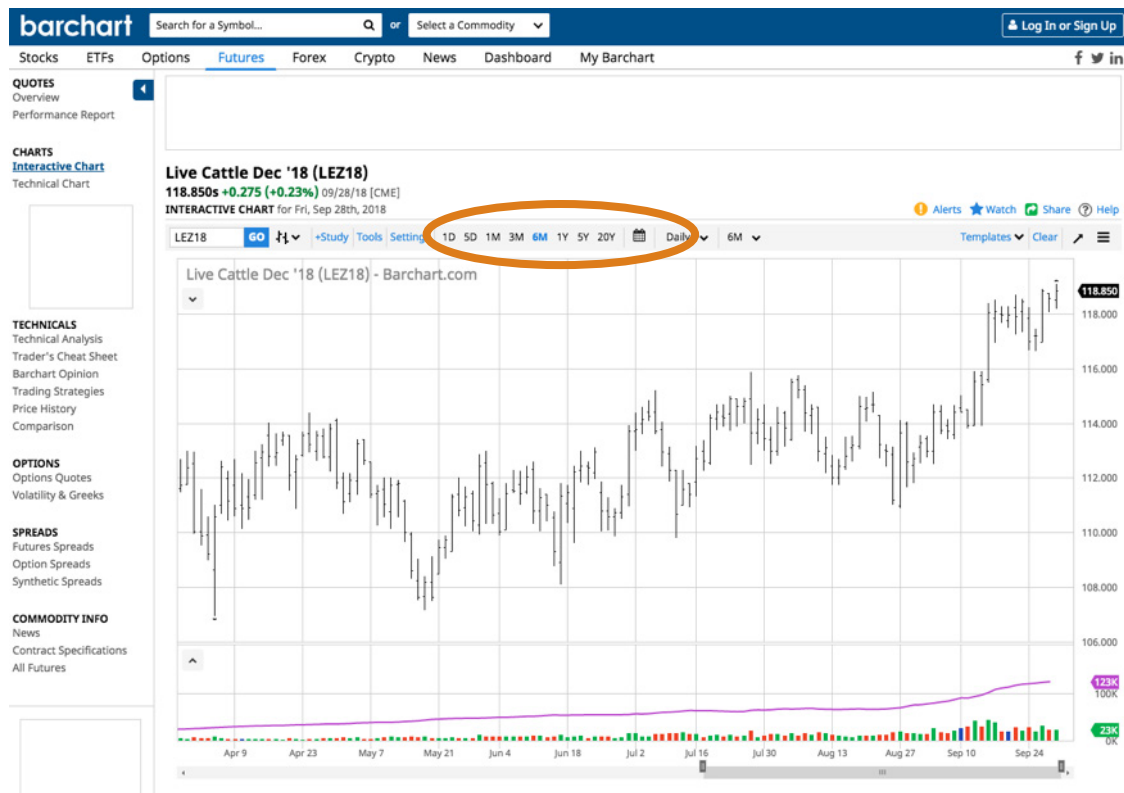
Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Computer Activity: Historical Price Look Up With Barchart.com (cont.)

- Look at 1-Year and 5-Year Quick Chart.



'16, you would choose Dec. '16. This is because that is when you will send your cattle to market.

- Click on Chart Snapshot.

***Note: Prices are read as follows: Corn: 365 = 3.65 per bushel, Cattle: 138 = 138/cwt = 1.38 per pound

Questions to answer before market simulation:

1. Based on historical data, what appears to be the best time to sell your commodity?
2. What price is your commodity selling for today in the futures contract you selected?
3. Based on historical prices, what price range will you watch for in order to sell your commodity on the futures market?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Computer Activity: Historical Price Look Up With Barchart.com (cont.)

Market Simulation With Price Risk Management Option

- Based on your analysis of historical prices, you have selected a price range and the best time that you will aim to sell your cattle or corn at on the futures market.
- As we go through the simulation, futures contract prices will be appearing on the board.
- The simulation will begin in the current month with simulation card 1 and end in 8 months with card 9.
- You will need to watch the prices to determine when you want to sell your commodity.
- You will have until month 7 to sell a futures contract.

****Keep in mind, if you lose cattle or corn, you will have to buy the commodity at cash price in December in order to make the full delivery.****

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Graduate Extension Scholars Program

Understanding Business Structures, Markets, and Risk Management Strategies Handout 3.3 _____ Publication ALCE-177-G

Lesson 3 Simulation Balance Sheet

Name(s): _____ Business Structure: _____ Commodity: _____

Beginning questions:

- Considering Lesson 2's simulation, what are some ways to manage risk in your business?
- What are the key factors you will look at in determining how to use the futures market?

Decision/situation	Action	(Expense)/revenue	Balance
Example: Beginning balance	—	—	\$300,000
Example: It is now May and you will sell your crop in November. You see that November futures prices are higher than usual right now and are expected to go down.	Sell November futures at \$3.90/bushel.	Your farm is 200 acres, and you expect 160 bushels/acre. $160 \times 200 = 32,000$ bushels. Sell 32,000 bushels at \$3.90 = \$124,800.	$\$300,000 + \$124,800 = \$424,800$ <i>***Note***</i> <i>You will have to offset (sell) this position at the end of the simulation. Your yield might not be the same.</i>
Example: A drought affects your state. Your yield decreases by 10 bushels/acre.	Lose yield. L	When it comes time to sell my crop, I will have to sell 10 bushels \times 200 acres = 2,000 fewer bushels on the market.	\$424,800 For now, balance is unaffected. Will change in November.
Decision/situation	Action	(Expense)/revenue	Balance
Round 1: Beginning balance	—	—	

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019



Graduate Extension Scholars Program

Understanding Business Structures, Markets, and Risk Management Strategies Handout 4.2 _____ **Publication ALCE-177-H**

Farmer Scenarios

There are 16 different farmer scenarios provided in this handout. Each unique scenario can be used with a separate group.

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 1

You have \$35,000 in operating money for the year. You will market 20 beef cattle this year, and you purchase the cattle for \$825 per head initially.

Based on previous seasons, you will have fixed costs of \$150 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$475 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 2

You have \$150,000 in operating money for the year. You will market 100 beef cattle this year, and you purchase the cattle for \$800 per head initially.

Based on previous seasons, you will have fixed costs of \$150 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$475 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,220 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 3

You have \$115,000 in operating money for the year. You will market 80 beef cattle this year, and you purchase the cattle for \$850 per head initially.

Based on previous seasons, you will have fixed costs of \$100 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$425 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 4

You have \$17,500 in operating money for the year. You will market 10 beef cattle this year, and you purchase the cattle for \$855 per head initially.

Based on previous seasons, you will have fixed costs of \$170 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$475 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,210 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 5

You have \$1,415,000 in operating money for the year. You will market 1,000 beef cattle this year, and you purchase the cattle for \$820 per head initially.

Based on previous seasons, you will have fixed costs of \$70 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$475 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 6

You have \$103,000 in operating money for the year. You will market 70 beef cattle this year, and you purchase the cattle for \$855 per head initially.

Based on previous seasons, you will have fixed costs of \$70 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$485 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,215 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 7

You have \$365,500 in operating money for the year. You will market 250 beef cattle this year, and you purchase the cattle for \$815 per head initially.

Based on previous seasons, you will have fixed costs of \$120 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$455 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 8

You have \$55,500 in operating money for the year. You will market 35 beef cattle this year, and you purchase the cattle for \$865 per head initially.

Based on previous seasons, you will have fixed costs of \$200 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$465 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 9

You have \$35,000 in operating money for the year. You will market 20 beef cattle this year, and you purchase the cattle for \$825 per head initially.

Based on previous seasons, you will have fixed costs of \$150 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$475 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 10

You have \$150,000 in operating money for the year. You will market 100 beef cattle this year, and you purchase the cattle for \$800 per head initially.

Based on previous seasons, you will have fixed costs of \$150 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$475 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,220 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 11

You have \$115,000 in operating money for the year. You will market 80 beef cattle this year, and you purchase the cattle for \$850 per head initially.

Based on previous seasons, you will have fixed costs of \$100 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$425 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 12

You have \$17,500 in operating money for the year. You will market 10 beef cattle this year, and you purchase the cattle for \$855 per head initially.

Based on previous seasons, you will have fixed costs of \$170 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$475 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,210 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 13

You have \$1,415,000 in operating money for the year. You will market 1,000 beef cattle this year, and you purchase the cattle for \$820 per head initially.

Based on previous seasons, you will have fixed costs of \$70 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$475 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 14

You have \$103,000 in operating money for the year. You will market 70 beef cattle this year, and you purchase the cattle for \$855 per head initially.

Based on previous seasons, you will have fixed costs of \$70 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$485 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,215 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 15

You have \$365,500 in operating money for the year. You will market 250 beef cattle this year, and you purchase the cattle for \$815 per head initially.

Based on previous seasons, you will have fixed costs of \$120 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$455 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Farmer 16

You have \$55,500 in operating money for the year. You will market 35 beef cattle this year, and you purchase the cattle for \$865 per head initially.

Based on previous seasons, you will have fixed costs of \$200 per head. Without the cooperative, your variable costs (feed, vet, etc.) are \$465 per heifer.

What are your total costs per head without the cooperative?

What is your breakeven for the year?

If you went short on a futures contract today for your cattle, which weigh 1,200 lbs. each, what would your total revenue be? What would your profit be?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177



Virginia Cooperative Extension

Virginia Tech • Virginia State University

Graduate Extension Scholars Program

Understanding Business Structures, Markets, and Risk Management Strategies Handout 4.3 _____ Publication ALCE-177-I

Lesson 4 Cooperative Simulations Calculations

Round 1:

1. Because of the size of your cooperative, you are able to make a deal with a major feed company. They have offered you two deals; circle the option your cooperative chose:
 - a. If you all choose to feed the same formulation, your variable costs will drop by \$20 per head.
 - b. If you all choose to go with this company for feeding needs, you will receive a free supplement that will increase your market weight by 1%.
2. Since you have such a large amount of cattle, you can choose two routes to market; circle the option your cooperative chose:
 - a. One processor is willing to pay \$1,510 per head.
 - b. The other processor will buy all the cooperative's cattle at \$125/cwt.

Based on your decisions, calculate the profit of the cooperative.

How much will the co-op retain for next year? How much will be paid out in dividends?

How much did you make as an individual producer? Was this a better call than selling as one producer?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Lesson 4 Cooperative Simulation Calculations (cont.)

Round 2:

1. Because of the size of your cooperative, you are able to make a deal with a major feed company. They have offered you two deals; the cooperative can choose one:
 - a. If you all choose to feed the same formulation, your variable costs will drop by \$20 per head.
 - b. If you all choose to go with this company for feeding needs, you will receive a free supplement that will increase your market weight by 1%.
2. An opportunity has come up where the cooperative can purchase a slaughterhouse for \$500,000. Running the slaughterhouse will cost \$100,000 a harvest, but you have a grocery store willing to pay \$1.55/lb. on average if they can get the beef from the cooperative directly.
 - a. Do you all decide to buy the slaughterhouse and process your own meat?
 - b. Or, do you sell to a processor willing to purchase your cattle at \$123/cwt?

Based on your decisions, calculate the profit of the cooperative.

How much will the co-op retain for next year? How much will be paid out in dividends?

How much did you make as an individual producer? Was this a better call than selling as one producer?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177

Lesson 4 Cooperative Simulation Calculations (cont.)

Round 3:

1. Your cooperative must decide whether or not to go organic. This decision is based on the following information:
 - a. A few members have noticed that the organic prices for beef are substantially higher. This is because processors are willing to pay \$175/cwt and retailers are willing to pay \$2.25/lb., depending on if you bought the slaughterhouse in Round 2.
 - b. However, your feed costs will double to feed organic.
 - c. Because of the strict regulations with organic and the limited supply of organic grains, the whole cooperative must switch to organic or not at all.

Does the cooperative decide to go organic?

Based on your decisions, calculate the profit of the cooperative.

How much will the co-op retain for next year? How much will be paid out in dividends?

How much did you make as an individual producer? Was this a better call than selling as one producer?

www.ext.vt.edu

Produced by Virginia Cooperative Extension, Virginia Tech, 2019

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg.

VT/0319/ALCE-177