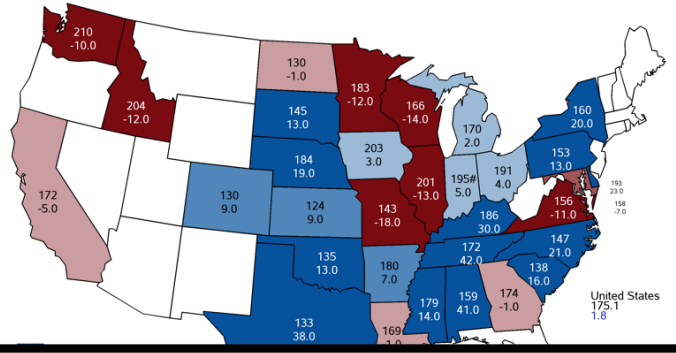
Cultivating Resilience: Farm Risk Management Insights

Farm Management: Is Agriculture Risky?

Worst Case Scenario for Missouri??

August 2023 Corn Yield

Bushels and Change from Previous Year



"Noone wishes for a drought, but if there is going to be one- I sure hope it is somewhere else"

A couple points to make

- The current forecast for US corn yield would be the 4th highest yield on record.
- Look at how variable this is across the country… holds within states too.
- Illinois, Minnesota, Virginia, and

Source: The Institute for the Study of War with AEIs Critical Threats Project

Bottom Line

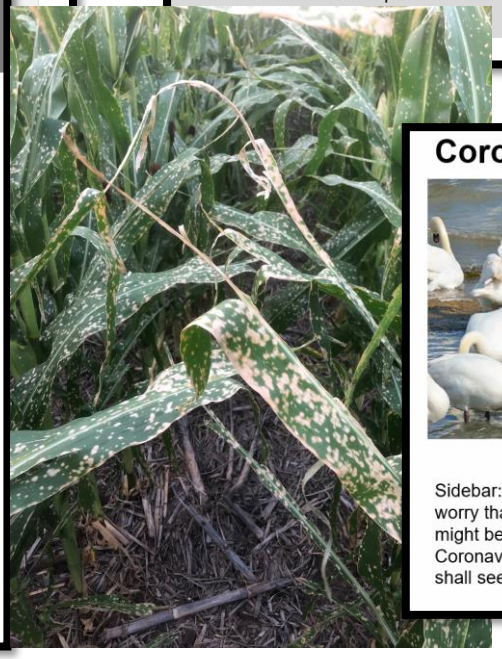
- ❑ The conflict has recently escalated.
  - ❖ Russia attacked Danube ports for first time.
  - ❖ Ukraine attacked Russian ports for first time.
- ❑ The higher the escalation, the closer we get to possibility of Russian Grain/ Oil export curtailed.
- ❑ Largely up to now- Russia has supplied the world with cheap wheat and Brazil has provided the

Corn Outlook: GMO Dispute with Mexico

- **Dec. 2020** Presidential Decree prohibiting GM Corn (and glyphosate)
- **Oct. 2021** MOA assures US yellow corn exports not affected
- **Nov. 2022** US yellow corn now affected, US yellow corn trade to MX could halt
- **Dec. 2022** Vilsack threatens dispute process under USMCA
- **Jan-Jul. 2023** Discussions; revised restriction for only flour and tortillas *but may replace feed, too, eventually*
- **Aug. 2023** US denied Mexico's request to conduct health impact study.
- **Aug. 16** 75-day window ends, and the US requested a dispute panel under USMC
- **Jan. 2024** Initial ban set to take effect
- **Jun. 2024** Mexico Presidential Election
- **Jan. 2025** Possible new deadline, subject to availability

2021 — 2022 — 2023 — 2024 — 2025

What would it take for the US to supply Mexico with Non-GM corn? (roughly 650 mil. bu.)

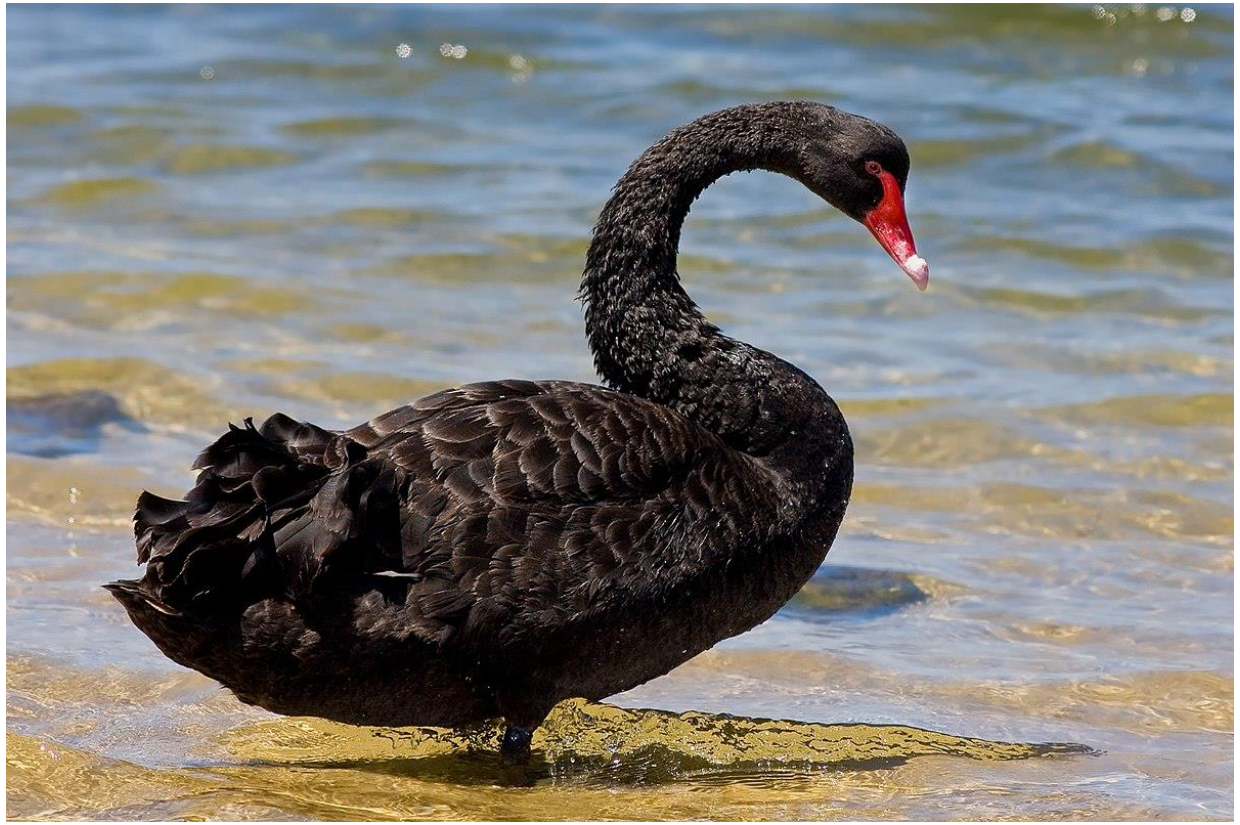


Coronavirus: The Black Swan

Sidebar: I am starting to worry that college football might be the next Coronavirus casualty… we shall see.

- ❖ **Livestock-** Packing plants are back near full capacity for beef and pork.
  - ❖ Large backlog of animals
  - ❖ Suppressed meat demand on lower away from home meat consumption.
- ❖ **Ethanol-** Driving has resumed to about 92%, but that remaining portion will be difficult to get.
- ❖ **Crop Planting-** I did not hear of any broadscale logistical issues anywhere across the country. Really no major challenges.
- ❖ **CFAP, PPP, and EIDL payments** provided financial support and allowed producers to store grain longer supporting some nearby basis prices

Agricultural Risk: Is it bad?



The term ***Black Swan*** is used to describe rare and unpredictable events that have major impact.

Gray Rhino describes highly probable, high-impact events that are ignored until they become an immediate threat.

Federal budget, Southwest airlines

Agricultural Risk: Types of Risk

Price and Market Risk

Both high and low prices- can be impacted by management practices or business risks, poor quality, transportation, storage and handling, or forces outside their control.

Production Risk

Decisions have to be made about which task will be done today and which can wait, which seed variety to use, which pesticide, which vaccines and which feed.

Legal, Policy and Regulatory Risk

How rules and policies affect profits like farm bills and regulations, but also succession & estate planning.

Labor Risk

How do you treat your labor, your landlord, your family, and your business associates. Immigration, daily operating plans if something terrible happens.

Financial Risk

What if the bank won't lend you money. What if the value of your fixed assets falls low enough that it doesn't cover the debt and you lose the farm? Interest rate hikes?

Risks in Agriculture

Farm Business Management- Do we need it?

The Future of Farm Business Management

What will the future of Farm Business Management look like during your lifetime?

Lots of things will change

- ❑ New products and technology
- ❑ Competition for land, labor and capital
- ❑ Demographics (already changing)

One thing I don't anticipate to change:

Decision Making

- ❑ Type of Businesses and enterprise combinations
- ❑ Budgets, records, investment analysis
- ❑ Input/Output levels
- ❑ Seeking new markets
- ❑ Adjusting farm size and strategic direction

Strategic Questions Managers will Face?

The newest technology

1. Should this or any new technology be adopted?

2. Is it reliable?

3. Does the benefit outweigh the cost?
   1. Yield increase
   2. Less variation in yield
   3. Reduced environmental impact.

4. Which information is critical to my business?

Alliances

1. When is it appropriate to partner or co-own than buy?

2. How much managerial independence do I lose by joining a buying group, cooperative, farmers market, community supported agriculture, joint ownership alliance, or contract?

3. Sharing farm services like accounting, marketing scouting, nutritionist,…

Niche Markets

1. Does the niche market compensate me for my increased costs?

2. What threatens the long run viability of this markets?

3. How can I reduce my risk in this enterprise?

Strategic Direction of the Business to Increase Income

Possible Pathways

Examples:
Organic, tofu soybeans, seed crops, emus, sunflowers, pumpkins..

Needs: promotion, quality standards, and marketing

Low-volume, high value producers

Part-time farmers and ranchers

Examples:
Lifestyle farmers- people that enjoy producing crops and livestock even when their profit potential may be low.

Primary management concern is to limit financial risk and balance farm labor needs.

High-Volume, Low Margin Producer

Examples:
Commodity agriculture- expand acreage with existing enterprise and spread fixed costs over more units.

Primary risk- Thin per unit profit margins. Insurance, marketing contracts and government support longevity.

Specialty product and service providers

Find a skill you are good at and do it to the 1,000th degree. Custom harvesting, custom cattle feeding, raising replacement breeding stock, hauling grain, custom application…

Objective: making maximum use out of equipment or facilities, competing on service and price, and good public relations.

Largest Question Managers will Face

The largest, most important, and very first question a business manager must ask themselves: **What is my goal for this business or enterprise.**

Suggested:

- Have a mission statement
- Build key objectives
- Have some written operational goals
- Review and Tweak

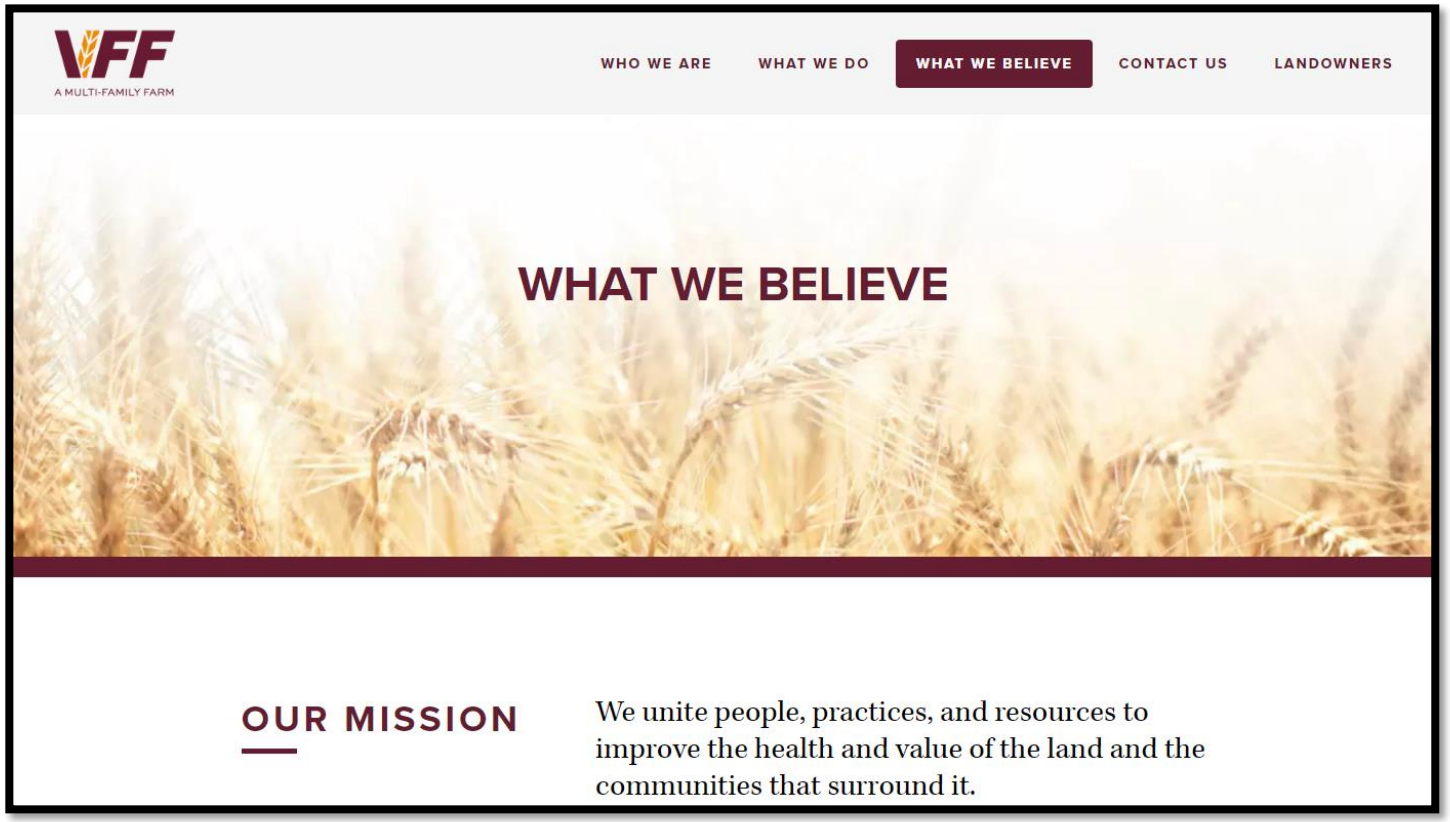
Mission

New Vision Farms strives to create value for all stakeholders and community, acting in accordance with our core values – honoring relationships, building and maintaining trust, humility and service – in our continuous commitment to excellence and honesty.

Vision

New Vision Farms' vision is to continually be robustly positioned for long-term, sustainable success in agriculture.

NEW VISION FARMS



Largest Question Managers will Face

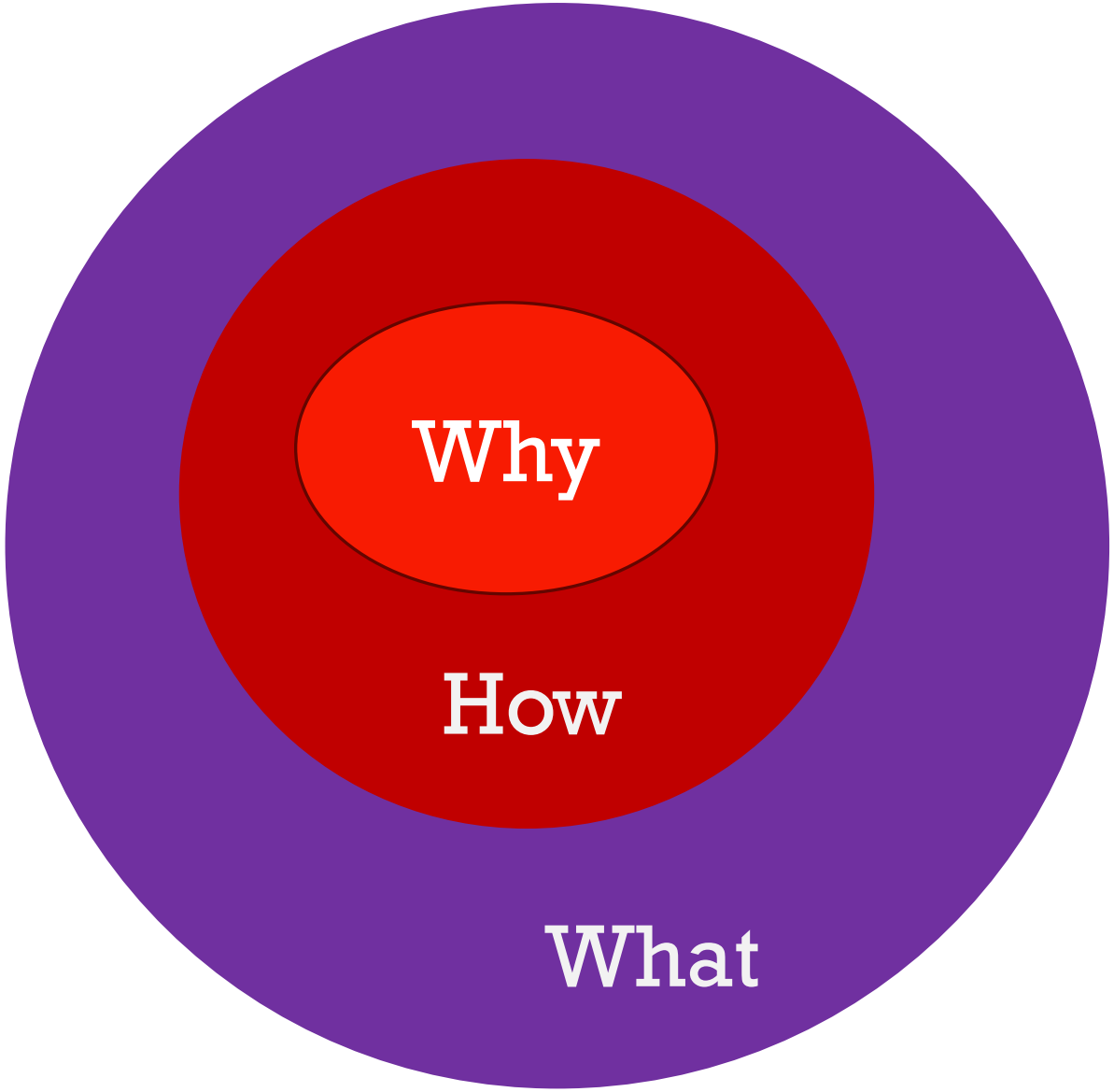
What are my objectives and/or what are the objectives/goals of my family/partners/ investors.

Manager objectives- balance personal goals, financial security, rural living and societal concerns about food safety, environmental quality and agrarian values.

- To build an operation that can support my family and I financially?
- To be engaged in practical and economic production agriculture?
- To produce market quality agricultural products
- To be a leader in implementation agricultural production technologies
- To provide exposure of production agriculture to the public?
- To preserve the family heritage?

Zeroing in on the objectives and getting them right saves a lot of stress, confusion, and time!

Meaning and Purpose- The Golden Circle



Credit- Simon Sinek

Meaning and Purpose- The Golden Circle

My Why- I believe in healthy and thriving farm and ranch operations that are actively involved in their communities and the communities are made better because the operations call that area home.

I do that through:

1. Extension programs across the state
2. involvement in several statewide committees and
3. Teaching Farm Risk Management at Mizzou
4. Serving as an academic advisor to an agricultural fraternity.

Business Structure: Business Planning

For those coming from a family business- does your family business have a business plan?

1 - Yes in my head

2 - Yes in Dad's head

3 - Yes we have a written plan, needs revision

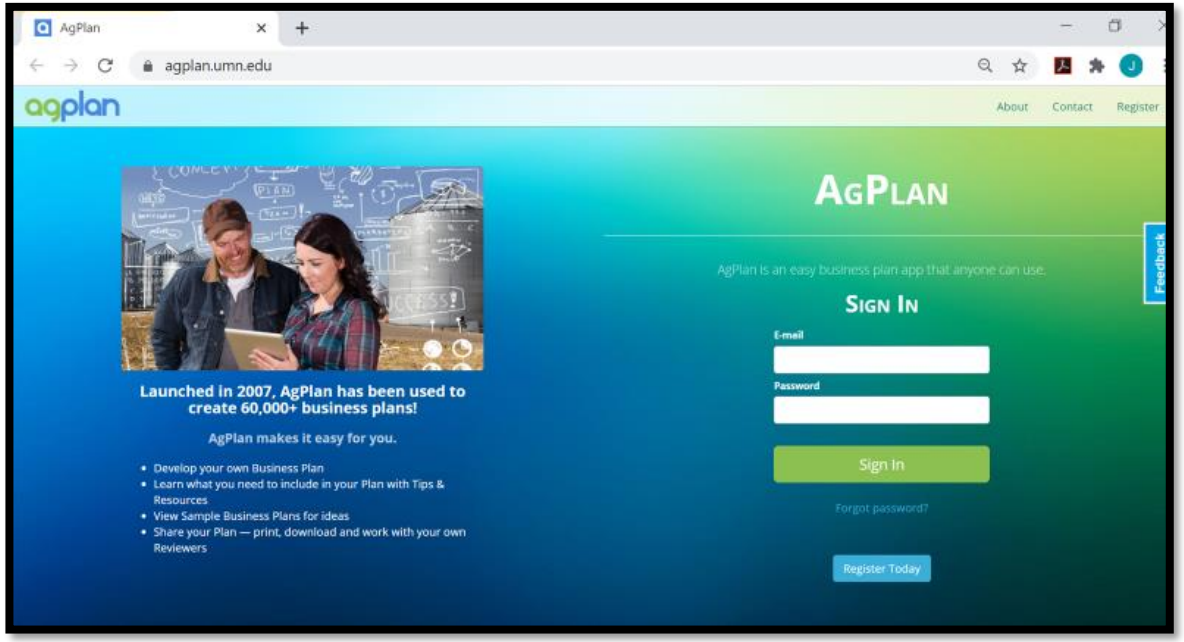
4 - Yes we have a complete business plan

Business Structure: Business Planning

Where to start on a business Plan?

Possible Outline

- Cover page
- Executive summary
- Business description
- Operations
- Marketing plan
- Management/organization
- Financial plan



https://agplan.umn.edu/

Business Structure: Business Planning

A couple other things I would recommend keeping- but not in a public facing plan

- Entity formation documents
- Shareholder's operating agreement
- Leases
- Department of Natural Resources (DNR) permits
- Checklists for hiring/firing employees
- Copies of lien/security agreements
- Depreciation schedule or machinery list
- Last three year's income tax returns

FARM SUCCESSION PLANNING

Maintain harmony while passing your farm to the next generation with free resources and tools

MUEXT.US/FARMSUCCESSIONRESOURCES

Extension
University of Missouri
an equal opportunity/ADA institution

Agricultural Risk: Strategic Planning

- Many firms, businesses and Extension services offer farm managers tools to evaluate risk.
- Concepts such as expected profit, marginal analysis, cash and noncash costs of production, enterprise analysis… all help provide information.
- But what is lacking is a decision-making framework.
- The Strategic Risk Management Process (SRMP) developed by Dana Hoag and Hewlett has become an industry standard.
- Three parts: Strategic, Intentional, and Managerial

Objectives/ Goal Setting

Develop SMART Goals

- Specific
- Measurable
- Action-oriented
- Reasonable
- Timely

Prioritize Goals

- Which goals are most important for family well-being?
- Which goals are so important that they should be attained even if it prevents reaching other goals?

Implement

- Commit to process
- Share with others
- Do not ignore challenges

Review and Revisit Often

Goal Setting Worksheet

❑ Short-term ❑ Intermediate-term ❑ Long-term ❑ Farm/Business ❑ Family/Personal

Goals	Priority (High, Med., Low)	Potential Conflicts or Restrictions	Ways to Resolve Conflict	Resources Needed	Assigned Person(s)	Deadline
Most important goal?						
Second most important goal?						
Other goals?						

Management Information: Records

Why do we care??

"A business (including farm) without records is like a ship lost at sea without navigation instruments"

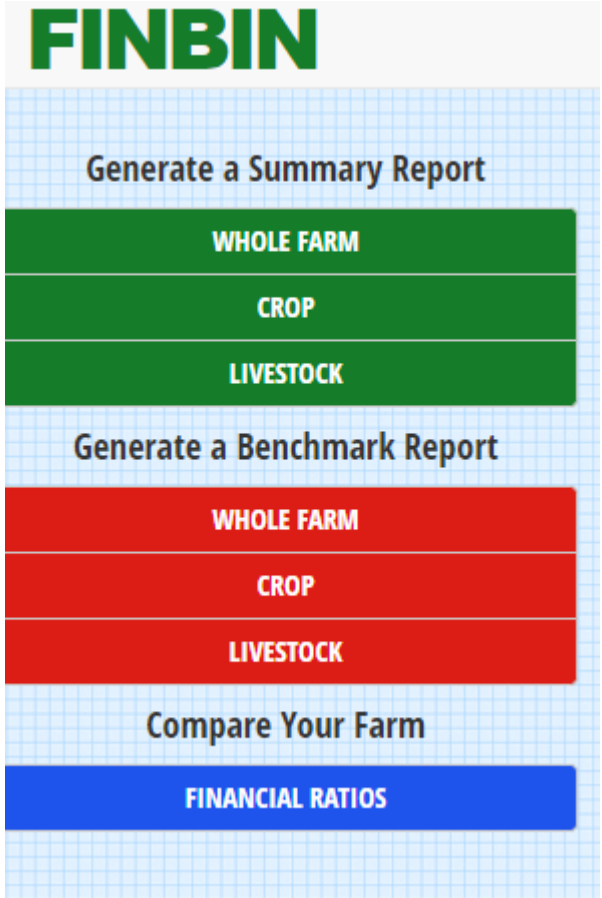
1. Where have we been?
2. Where are we going?
3. How long will it take us to get there?
4. Do we need more things?

Records are basically the manager's performance record of how they are doing!

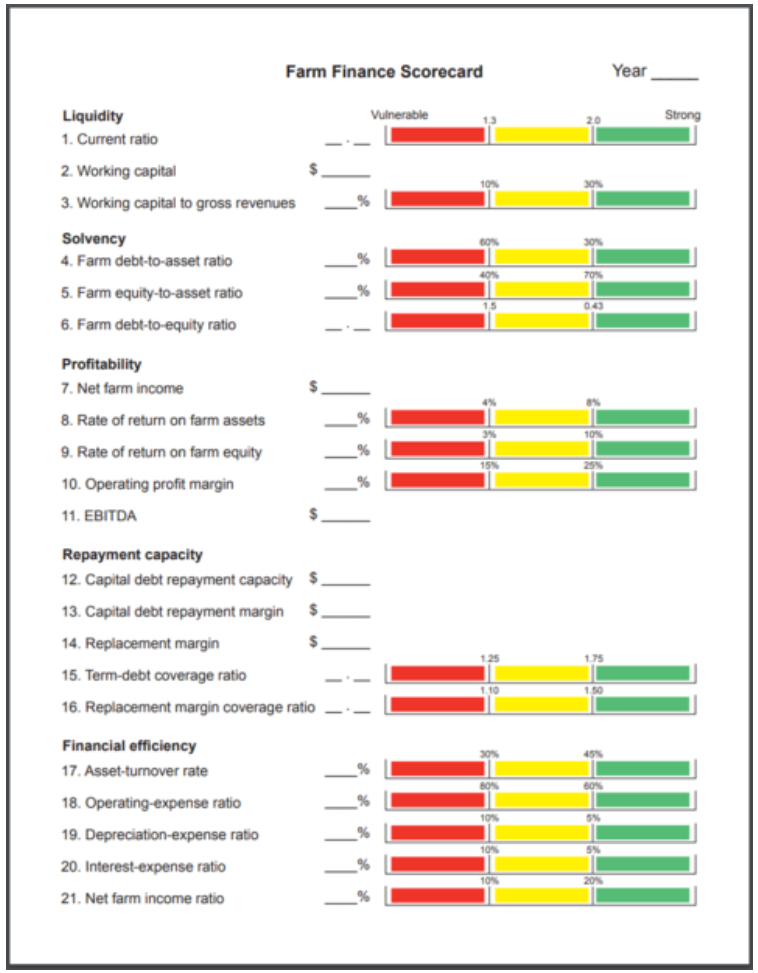

The
FARM CRISIS
BACON HARDWARE
American agriculture
NEBRASKA

Financial Risk: Record Keeping

University of Minnesota-FINBIN
https://finbin.umn.edu/



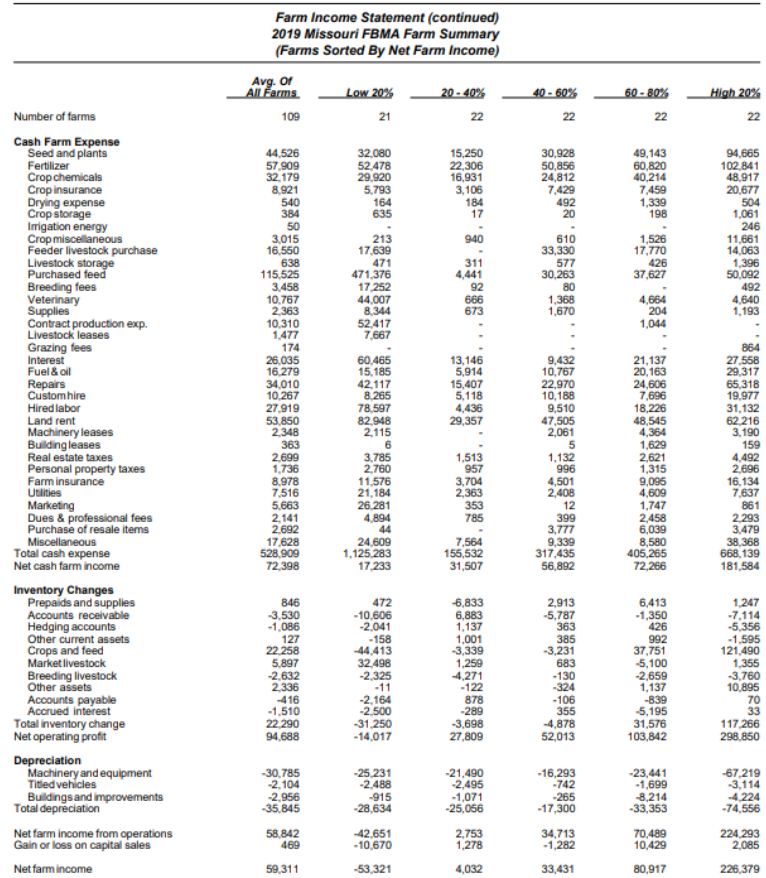
Farm Financial Council-
https://ffsc.org/wp-content/uploads/2012/06/FarmFinancialGuidelinesRatios1.pdf



Farm Finance Scorecard Year _____

		Vulnerable		Strong
Liquidity				
1. Current ratio	__ . __		1.3 / 2.0	
2. Working capital	$ _____			
3. Working capital to gross revenues	____%		10% / 30%	
Solvency				
4. Farm debt-to-asset ratio	____%		60% / 30%	
5. Farm equity-to-asset ratio	____%		40% / 70%	
6. Farm debt-to-equity ratio	__ . __		1.5 / 0.43	
Profitability				
7. Net farm income	$ _____			
8. Rate of return on farm assets	____%		4% / 8%	
9. Rate of return on farm equity	____%		3% / 10%	
10. Operating profit margin	____%		15% / 25%	
11. EBITDA	$ _____			
Repayment capacity				
12. Capital debt repayment capacity	$ _____			
13. Capital debt repayment margin	$ _____			
14. Replacement margin	$ _____			
15. Term-debt coverage ratio	__ . __		1.25 / 1.75	
16. Replacement margin coverage ratio	__ . __		1.10 / 1.50	
Financial efficiency				
17. Asset-turnover rate	____%		30% / 45%	
18. Operating-expense ratio	____%		80% / 60%	
19. Depreciation-expense ratio	____%		10% / 5%	
20. Interest-expense ratio	____%		10% / 5%	
21. Net farm income ratio	____%		10% / 20%	

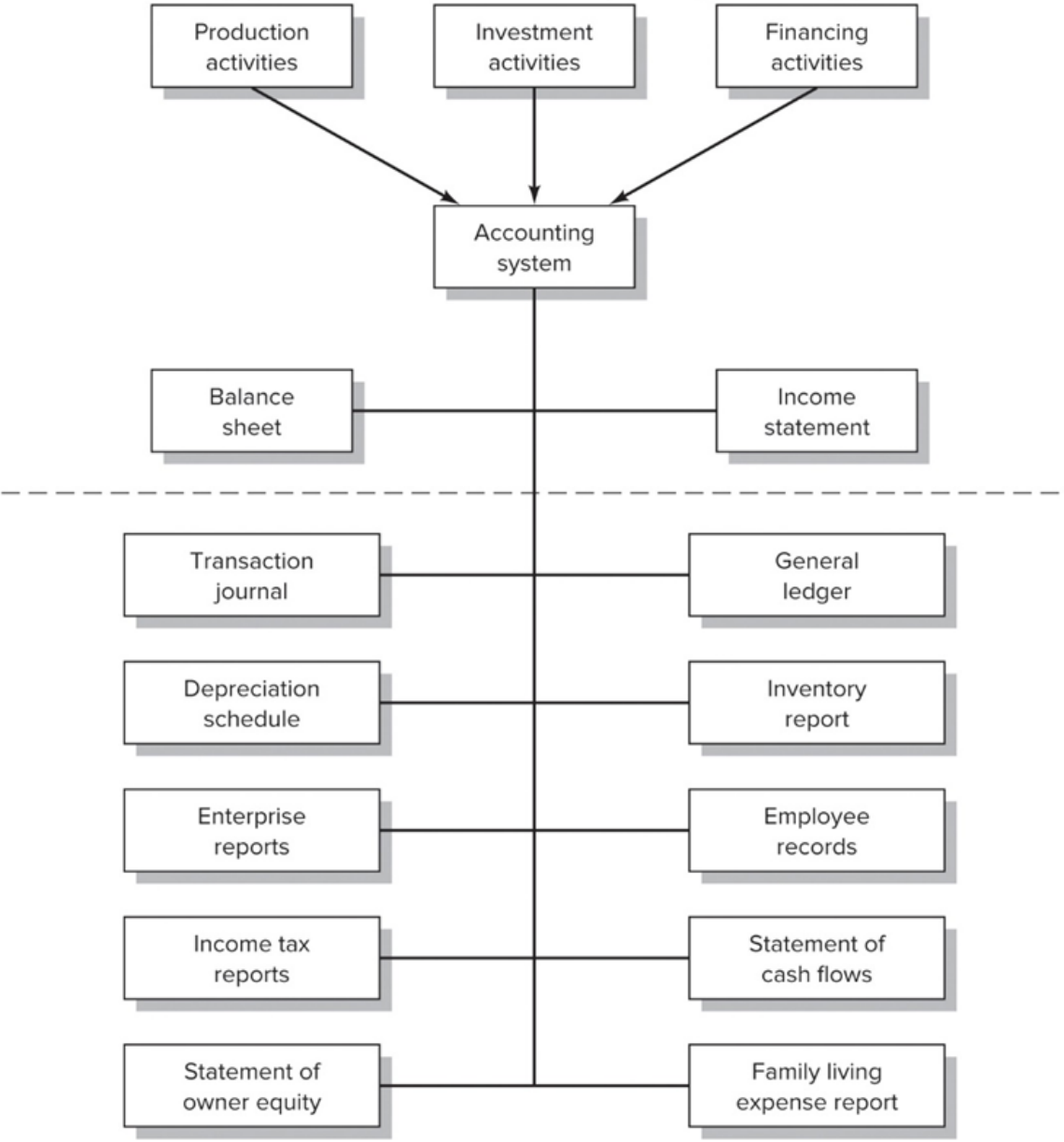
University Extension Farm Record Keeping Systems
http://adultaged.missouri.edu/fbma/2019_Missouri_FBMA_Record_Summary.pdf



Farm Income Statement (continued)
2019 Missouri FBMA Farm Summary
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	Low 20%	20 - 40%	40 - 60%	60 - 80%	High 20%
Number of farms	109	21	22	22	22	22
Cash Farm Expense						
Seed and plants	44,526	32,080	15,250	30,928	49,143	94,665
Fertilizer	57,909	52,478	22,306	50,856	60,820	102,841
Crop chemicals	32,179	29,920	16,931	24,812	40,214	48,917
Crop insurance	8,921	5,793	3,106	7,429	7,459	20,677
Drying expense	540	164	184	492	1,339	504
Crop storage	384	635	17	20	198	1,061
Irrigation energy	50	-	-	-	-	246
Crop miscellaneous	3,015	213	940	610	1,526	11,661
Feeder livestock purchase	16,550	17,639	-	33,330	17,770	14,063
Livestock storage	638	471	311	577	426	1,396
Purchased feed	115,525	471,376	4,441	30,263	37,627	50,092
Breeding fees	3,458	17,252	92	80	-	492
Veterinary	10,767	44,007	666	1,368	4,664	4,640
Supplies	2,363	8,344	673	1,670	204	1,193
Contract production exp.	10,310	52,417	-	-	1,044	-
Livestock leases	1,477	7,667	-	-	-	-
Grazing fees	174	-	-	-	-	864
Interest	26,035	60,465	13,146	9,432	21,137	27,558
Fuel & oil	16,279	15,185	5,914	10,767	20,163	29,317
Repairs	34,010	42,117	15,407	22,970	24,606	65,318
Custom hire	10,267	8,265	5,118	10,188	7,696	19,977
Hired labor	27,919	78,597	4,436	9,510	18,226	31,132
Land rent	53,850	82,948	29,357	47,505	48,545	62,216
Machinery leases	2,348	2,115	-	2,061	4,364	3,190
Building leases	363	6	-	5	1,629	159
Real estate taxes	2,699	3,785	1,513	1,132	2,621	4,492
Personal property taxes	1,736	2,760	957	996	1,315	2,696
Farm insurance	8,978	11,576	3,704	4,501	9,095	16,134
Utilities	7,516	21,184	2,363	2,408	4,609	7,637
Marketing	5,663	26,281	353	12	1,747	861
Dues & professional fees	2,141	4,894	785	399	2,458	2,293
Purchase of resale items	2,692	44	-	3,777	6,039	3,479
Miscellaneous	17,628	24,609	7,564	9,339	8,580	38,368
Total cash expense	528,909	1,125,283	155,532	317,435	405,265	668,139
Net cash farm income	72,398	17,233	31,507	56,892	72,266	181,584
Inventory Changes						
Prepaids and supplies	846	472	-6,833	2,913	6,413	1,247
Accounts receivable	-3,530	-10,606	6,883	-5,787	-1,350	-7,114
Hedging accounts	-1,086	-2,041	1,137	363	426	-5,356
Other current assets	127	-158	1,001	385	992	-1,595
Crops and feed	22,258	-44,413	-3,339	-3,231	37,751	121,490
Market livestock	5,897	32,498	1,259	683	-5,100	1,355
Breeding livestock	-2,632	-2,325	-4,271	-130	-2,659	-3,760
Other assets	2,336	-11	-122	-324	1,137	10,895
Accounts payable	-416	-2,164	878	-106	-839	70
Accrued interest	-1,510	-2,500	-289	355	-5,195	33
Total inventory change	22,290	-31,250	-3,698	-4,878	31,576	117,266
Net operating profit	94,688	-14,017	27,809	52,013	103,842	298,850
Depreciation						
Machinery and equipment	-30,785	-25,231	-21,490	-16,293	-23,441	-67,219
Titled vehicles	-2,104	-2,488	-2,495	-742	-1,699	-3,114
Buildings and improvements	-2,956	-915	-1,071	-265	-8,214	-4,224
Total depreciation	-35,845	-28,634	-25,056	-17,300	-33,353	-74,556
Net farm income from operations	58,842	-42,651	2,753	34,713	70,489	224,293
Gain or loss on capital sales	469	-10,670	1,278	-1,282	10,429	2,085
Net farm income	59,311	-53,321	4,032	33,431	80,917	226,379

Management Information: Accounting



Balance Sheet- The balance sheet is the report that shows the financial condition of the business at a point in time.

Income Statement- An income statement is a report of revenue and expenses ending with an estimate of net farm income.

Statement of Cash Flows- This statement summarizes all sources and uses of cash during the accounting period and is useful when monitoring the business activities.

Statement of Owners Equity- This statement identifies and summarizes the value and sources of changes to owners equity or net worth.

2024 ENTERPRISE BUDGETS

crops

Manage costs and project revenue for the coming year with free budgets, customized to reflect Missouri's crop production practices

MUEXT.US/MISSOURIAGBUDGETS

Extension
University of Missouri

Farm Income: Corn Returns

Missouri corn planning budgets, 2024

Category	Irrigated per acre	Dryland per acre
Yield	220	168
Income		
Grain sales	1,020.80	779.52
Costs		
Seed	106.00	99.38
Fertilizer	200.96	162.53
Other operating costs	360.15	273.10
Ownership costs	379.45	295.29
Total costs	1,046.56	830.30
Income over total costs	**(25.76)**	**(50.78)**
Breakeven price/bushel	**4.76**	**4.94**

$4.64 market price

Dryland corn change from previous year

	2024	2023	% chg.
Income/acre	779.52	1,003.00	-29%
Operating costs/acre	535.01	602.32	-11%
Ownership costs/acre	295.29	261.90	+13%
Total costs/acre	830.30	864.21	-4%
Breakeven/bushel	4.94	5.08	-3%

Farm Income: Soybean Returns

Missouri soybean planning budget, 2024

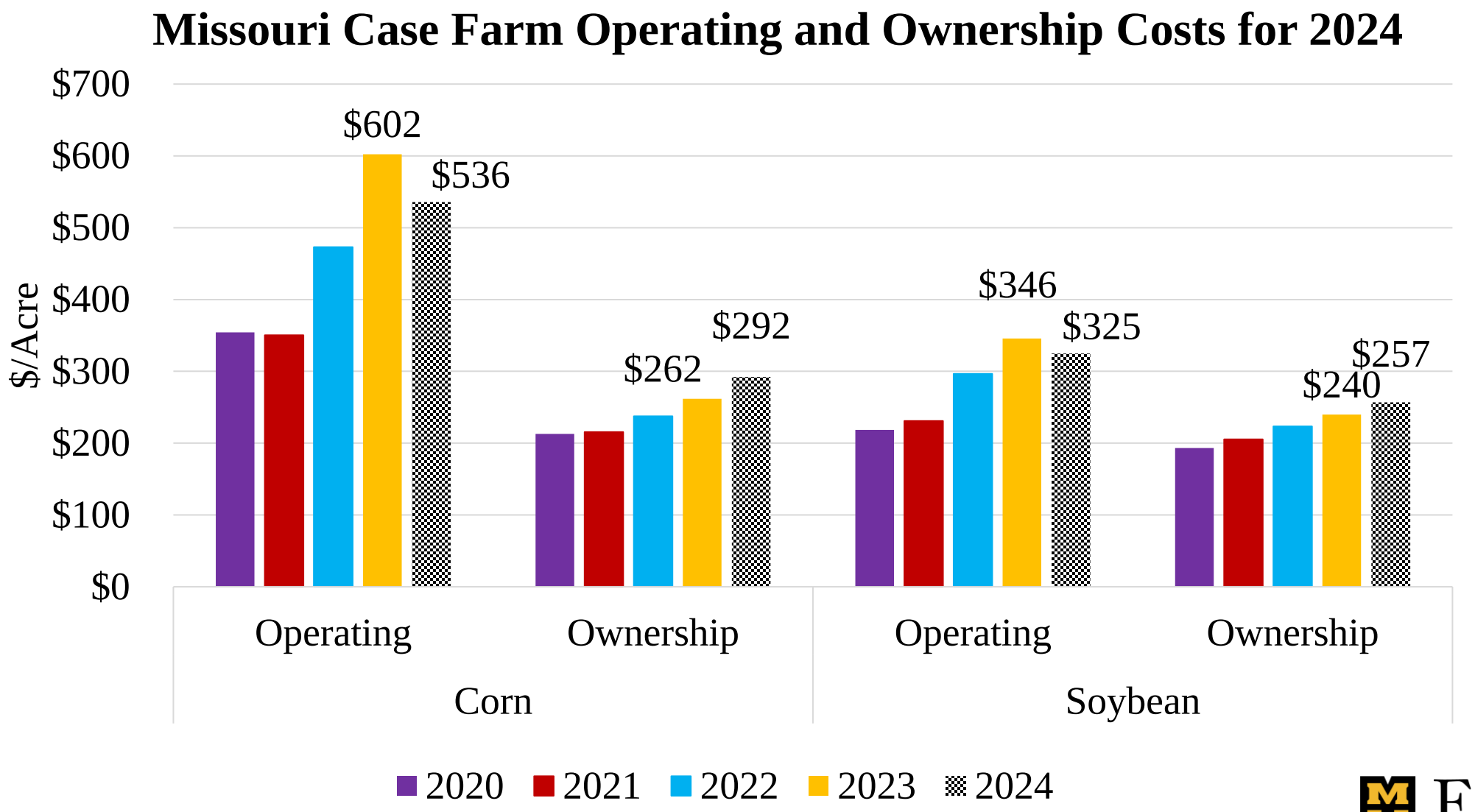
Category	Dryland per acre
Yield	55
Income	
Grain sales	615.45
Costs	
Seed	56.00
Fertilizer	75.07
Other operating costs	193.64
Ownership costs	256.77
Total costs	581.48
Income over total costs	**33.97**
Breakeven price/bushel	**10.57**

$11.19 soybean market price

Change from previous year

	2024	2023	% chg.
Income/acre	615.45	698.50	-12%
Operating costs/acre	324.71	345.63	-6%
Ownership costs/acre	256.77	239.90	+7%
Total costs/acre	581.48	585.53	-1%
Breakeven/bushel	10.57	10.65	-1%

Farm Income: Cost Structure



Author Calculations, MU Extension

Extension
University of Missouri

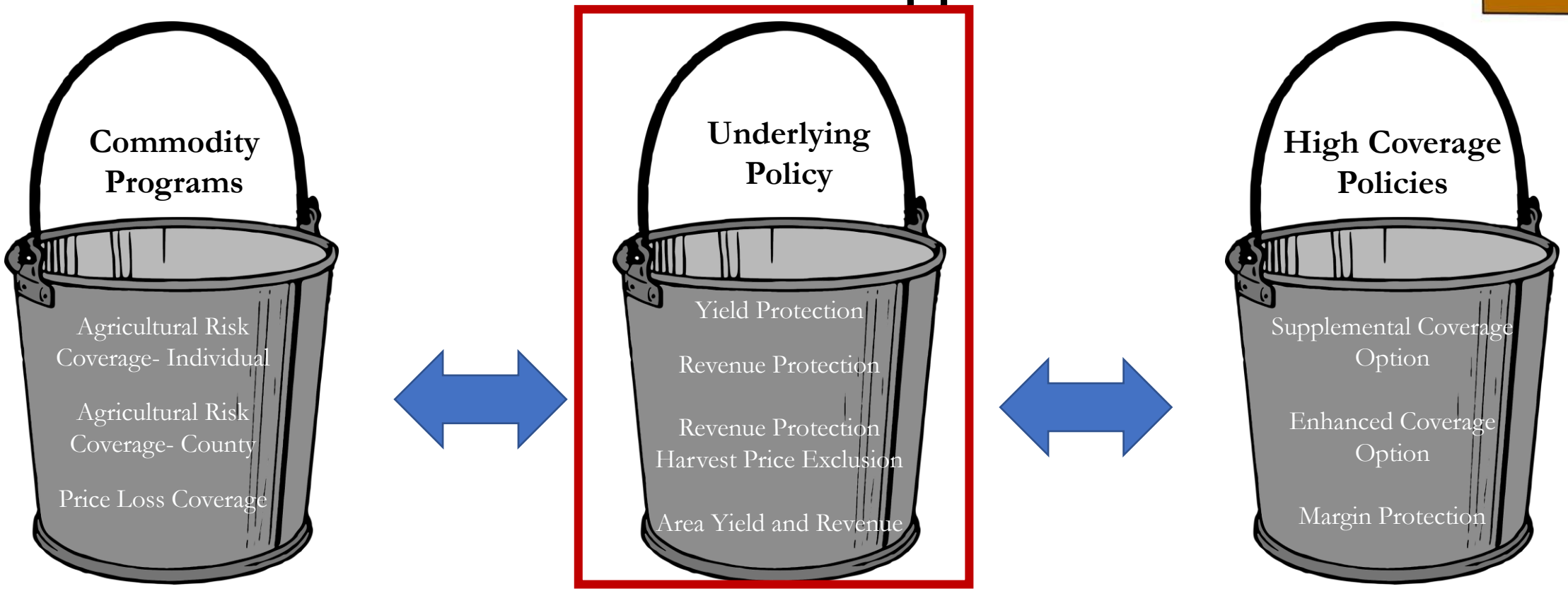
Federal Programs- Federal Crop Insurance Corporation

Crop Insurance: Major Crop Insurance Options

Most producers get overwhelmed with crop insurance decision and for good measure because there are lots of options

There are 21 different policies without even breaking that down to coverage levels, unit structure, or all the private products…. There about 160 of those…

Three Bucket Approach



Crop Insurance: Yield Protection (YP)

Yield Values Used	Protects	Protection Increases

- Concerned about high Revenue Protection (RP) premium costs.
- Livestock farms might consider YP if you consume most of your own grain.

Crop Insurance: Revenue Protection (RP)

Yield Values Used	Protects	Protection Increases

- Most Missouri Farmers of Corn and Soybeans have Revenue Protection- roughly 90%annually.
- Makes payments in all the situations and usually more than situations that trigger RP-HPE and YP.

Revenue Protection- harvest price exclusion (RP-hpe)

Yield Values Used	Protects	Protection Increases

- Concern with high premiums for revenue protection (roughly about half the cost)
- Feel like prices have a likelihood to be lower at harvest.
- Makes smaller payments in a drought year.
- Likely will not cover margin calls of early season futures sales if price goes up at harvest.

Crop Insurance: Area Revenue Protection (ARP)

Yield Values Used	Protects	Protection Increases

- Moving into a new county without an established APH or a low one.
- A farm APH that is closely correlated to county APH.
- County products do tend to pay out more over the long run but might not pay when you need the payment most.
- Do not provide prevented planting protection, replant, ECO, or SCO.

Area Revenue Protection with harvest price exclusion (ARP-hpe)

Yield Values Used	Protects	Protection Increases

- Moving into a new county without an established APH or a low one.
- A farm APH that is closely correlated to county APH.
- County products do tend to pay out more over the long run but might not pay when you need the payment most.
- Do not provide prevented planting protection, replant, ECO, or SCO.

Crop Insurance: Area Yield Protection (AYP)

Yield Values Used	Protects	Protection Increases

- Farm yields are closely correlated to county yields.
- Fits well with a full coverage hail policy at the individual level.
- Does not allow for prevented planting coverage, replant, or SCO or ECO

Crop Insurance: Producer Decisions

ILLINOIS Our Sites: farmdoc farmdocDAILY Farm Policy News

farmdoc

Market Prices Sections Tools Publications Webinars/IFES Sponsors/Donate About Us

Premium Calculator

Crop Insurance Premium Calculator

Last Updated: February 8, 2021

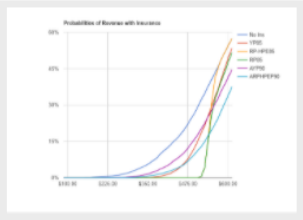
The 2021 *iFarm* Crop insurance Premium Calculator allows users to develop highly customized estimates of their crop insurance premiums, and compare revenue and yield guarantees across all available crop insurance products and elections for their actual farm case.

$ Payment Evaluator

Crop Insurance Payment Evaluator

Last Updated: February 8, 2021

The 2021 *iFarm* Crop Insurance Payment Evaluator provides helpful information to producers comparing costs and risk reductions across their available crop insurance alternatives.

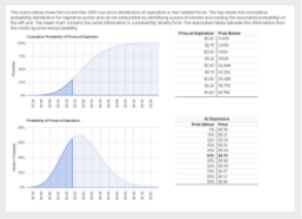


Price Distribution

Price Distribution Tool

Last Updated: Always Live

The iFARM Price Distribution Tool uses current option market prices to derive estimates of the probability distribution of prices at the expiration of an underlying corn and soybean futures contracts.



Decision Tool

Crop Insurance Decision Tool

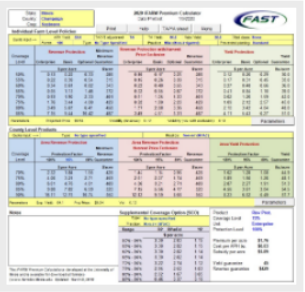
Last Updated: March 1, 2021

This program calculates premiums, evaluates insurance payments, and provides historical data useful when making crop insurance decisions for multiple crops. Estimates are for crops in midwest and southeast states that are harvested in 2020.

As an alternative to the executable tool you can download the zip file here.

Catch up with the *farmdoc* Daily Article

View our Youtube Guide here.



Farmdoc.Illinois.edu/crop-insurance

Big thank you to University of Illinois and the Farmdoc team for putting these together.

Livestock Risk Management Tools - Pasture, Rangeland and Forage Insurance

College of Agriculture,
Food & Natural Resources
University of Missouri

Forage Protection: Overview

Pasture, Rangeland, and Forage (PRF) Insurance

Why

- Missouri is a significant forage producing state (roughly 9 million acres of permanent pasture and hay, 2017 Ag Census or 28% of land)
- Pasture, Rangeland, and Forage is a significant part of the inputs to Missouri's livestock industry and is risk.

What

- Insurance product available through Risk Management Agency (RMA) in Missouri since 2009 based on **rainfall** index (**single peril**).
  - Provides protection when precipitation falls below an area's longer-term historical norm.
  - Based on a 17 x 15-mile grid of rainfall.
- Mitigates risk of loss due to drought for forage and livestock producers. Intended to provide $$$ to purchase replacement feed.

When

- Calendar year policy- typically, and enrollment date of **November 15** of the previous year. 2-month intervals- must pick two, 2-month intervals (4 months)

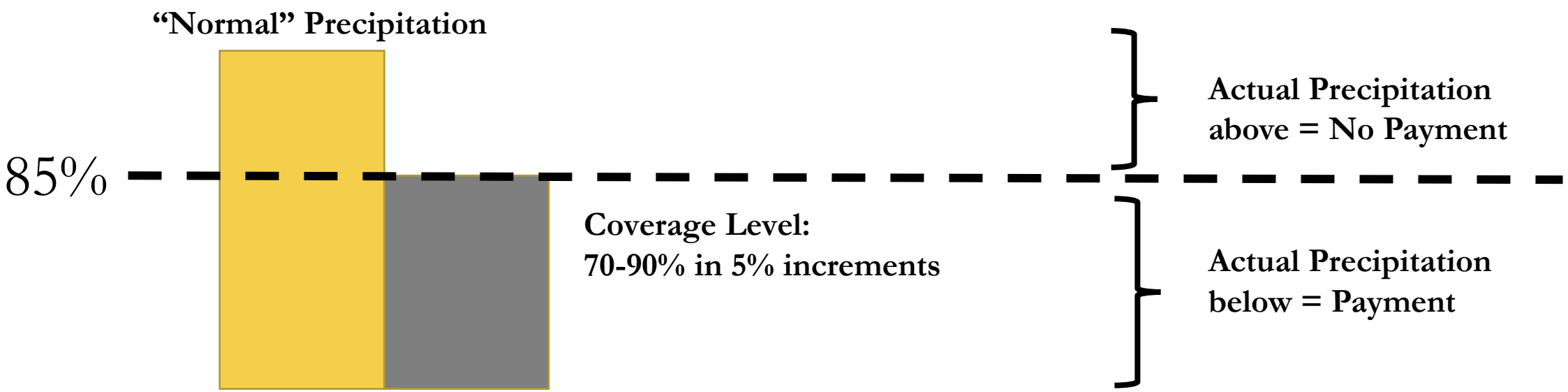
Forage Protection: Overview

PRF Insurance- What's an index?

Index expresses actual as a % of Normal:

$$\frac{\text{Actual Precipitation}}{\text{Normal Precipitation}} \times 100$$

$$\frac{28 \text{ in}}{35 \text{ in}} \times 100 = 80\%$$



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Federal Title 1 Commodity Programs

Commodity Program: Options

The Decision- Ag Style!

Elect a Federal Commodity Program

- Price Loss Coverage
  - Paid on 85% of Base Acres
  - Supplemental Coverage Option
    - Paid on FCIC Purchased Planted Acres
- Agricultural Risk Coverage- County
  - Paid on 85% of Base Acres
- Agricultural Risk Coverage- Individual
  - Paid on 65% of Base Acres

- **Base Acres-** Assigned by historical plantings. Not all parcels of land have base.
  - Does not matter what you plant.
- Producers need to elect/enroll by March 15th with FSA every year.
- Producers can make the decision on a crop-by-crop basis for ARC-Co and PLC
- All crops on the FSA Farm and all FSA Farms enrolled in ARC-IC within the same state are blended together when choosing ARC-IC

Commodity Program: ARC & PLC Pitfalls

- 1 Base acre does not necessarily equal 1 planted acre of the same crop.
- Most operations do not have 100% base on all the acres they plant- especially in areas that have lots of pasture or historically had pasture. Programs only pays on 85% or 65% of eligible base acres.
- Timing- Payments come in October after the marketing year is complete.
- One sided- only calculated based on price or revenue. Costs are not considered.
- County level aggregation for ARC-CO. – Smoothing out of averages.
- Does not manage long-lasting risks. (Multiple revenue years)

The Two Ls- Land and Labor

Land Management- Leasing Land

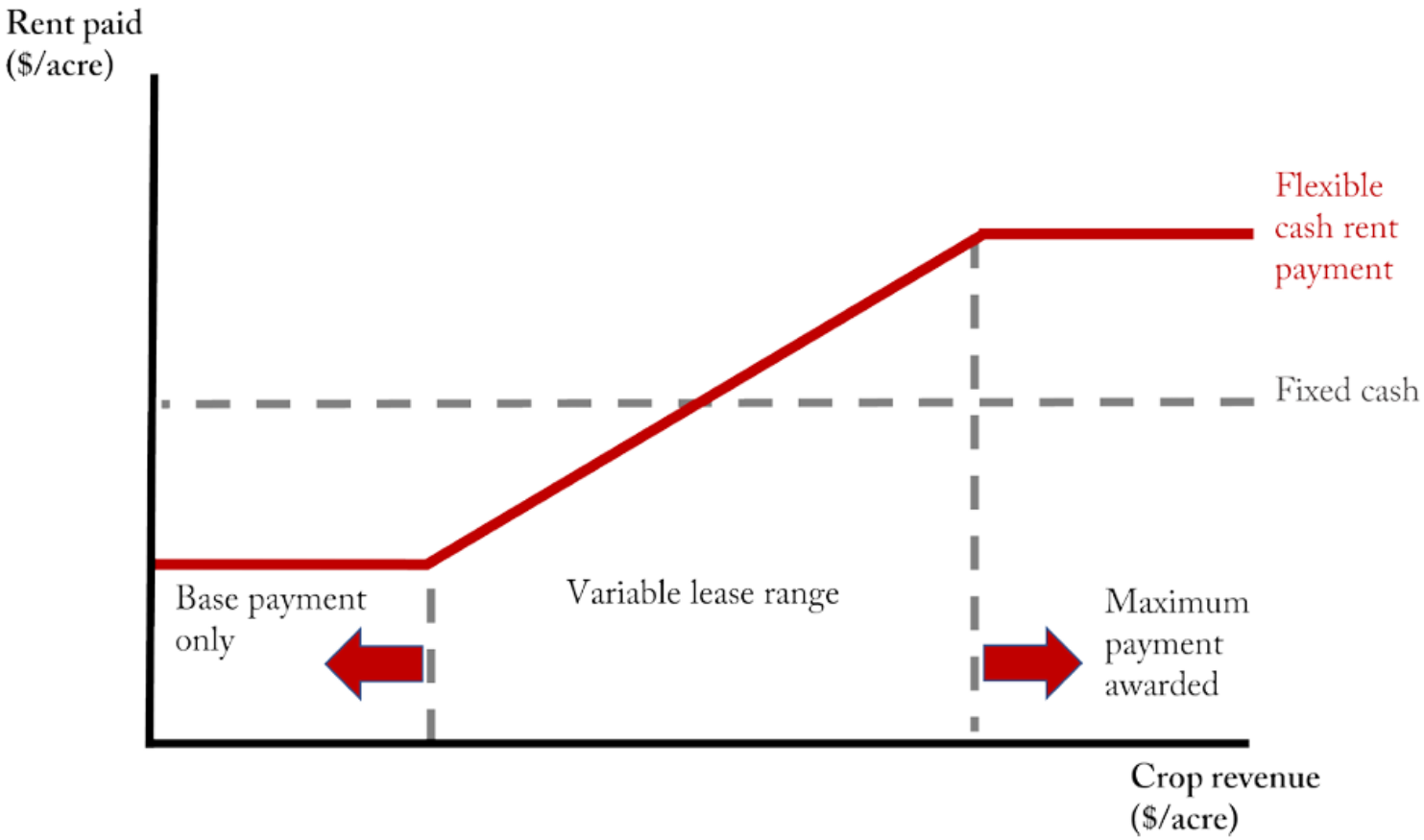
Flexible Cash Leases

1. Merge desirable aspects of fixed cash and share leases.

2. They split the risk and the return between landowner and tenant.

3. During low-income years, landowners are guaranteed a base lease payment.

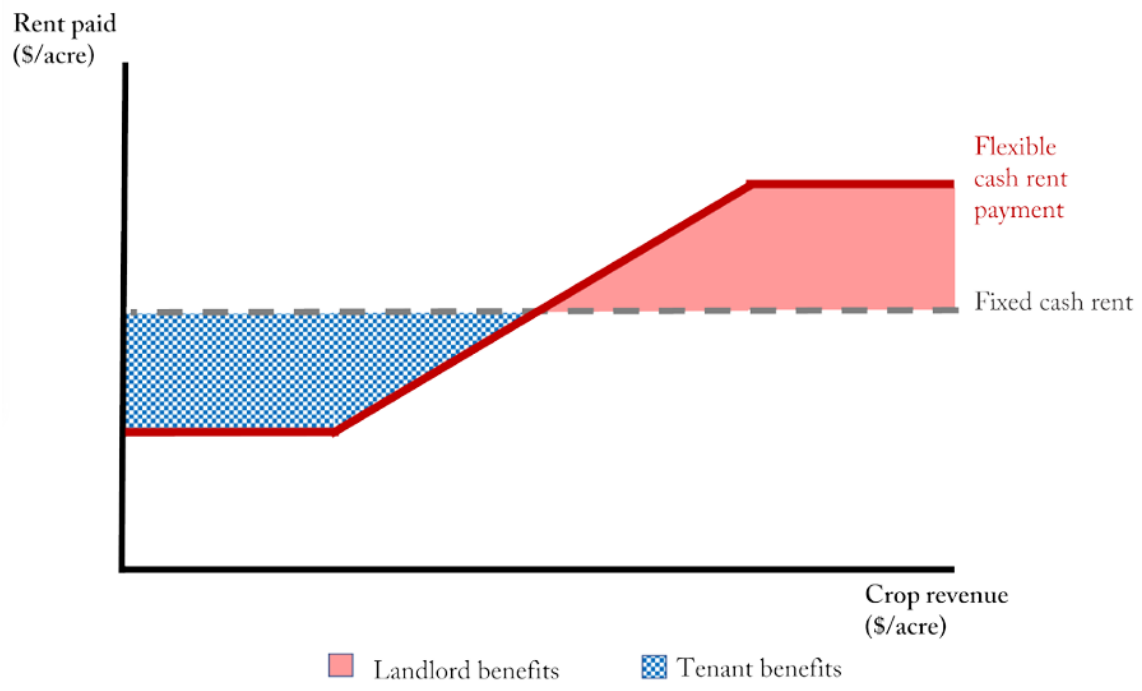
4. During good years, landowners and tenants both share the benefits.



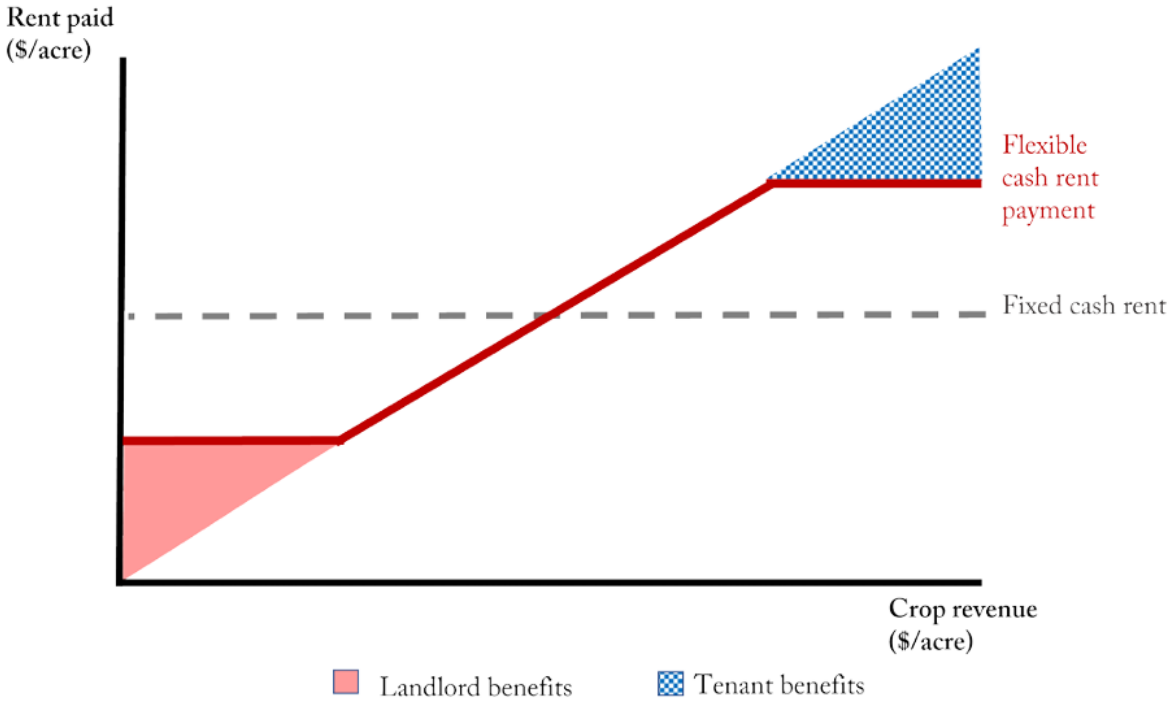
https://extension.missouri.edu/publications/g422

Land Management- Leasing Land

Flexible Cash Leases Relative to Fixed Rent



Flexible Cash Leases Relative to Crop Share



https://extension.missouri.edu/publications/g422

Land Management- Leasing Land

Comparison of Lease Types

	Fixed cash	Flexible cash	Fixed bushel	Crop or livestock share	Custom farming
Price risk borne by	Tenant	Both	Both	Both	Owner
Production risk borne by	Tenant	Both	Tenant	Both	Owner
Operating capital supplied by	Tenant	Tenant	Tenant	Both	Owner
Management decisions made by	Tenant	Tenant	Tenant	Both	Both
Marketing done by	Tenant	Tenant	Both	Both	Owner
Terms adjust	Slowly	Quickly	Medium	Quickly	Slowly

Ag Labor


INTERVIEW
TRAINING
JOB
FILING
JOB DESCRIPTION
TAXES
LAWS
WILL
VERIFICATION
ONBOARDING
CANDIDATES
APPLICANTS
SAFETY
INSURANCE
FINDING
HIRING
NEW HIRE
BACKGROUND
BENEFITS
ELIGIBILITY
INDEPENDENT
WAGES
MENTORING
PAPERWORK
COMPENSATION
RECRUITMENT
MANUAL
CONTRACTORS
OFFER
OPERATIONS
RETENTION
REFERENCE
YOUTH LABOR
REPORTING

Labor Management- Farm Labor Planning Process

https://extension.missouri.edu/programs/agricultural-business-and-policy-extension/farm-labor

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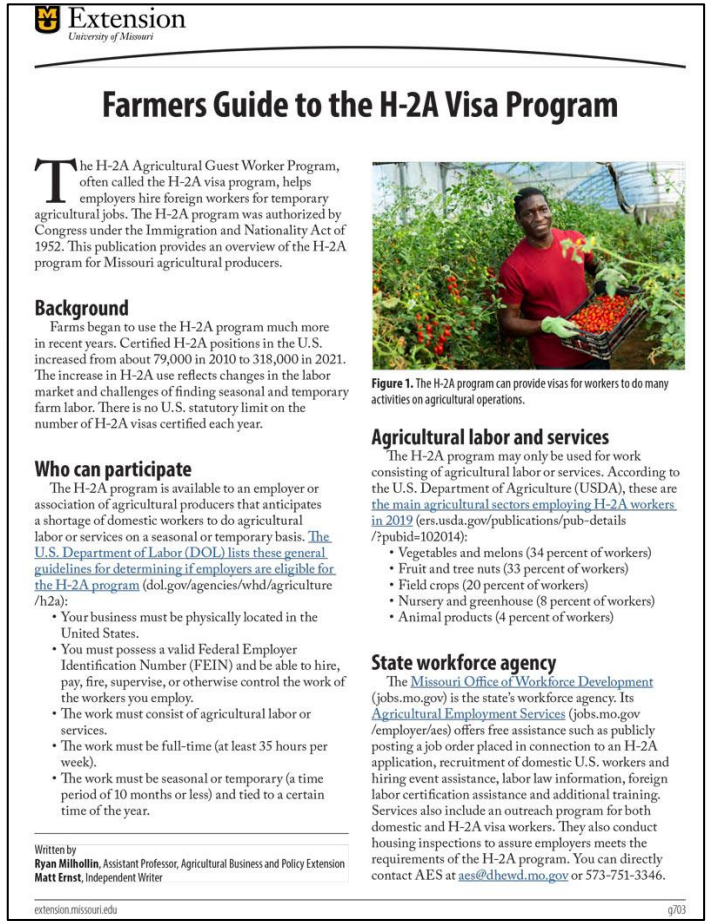
H-2A Worker Guide



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Farmers Guide to the H-2A Visa Program

The H-2A Agricultural Guest Worker Program, often called the H-2A visa program, helps employers hire foreign workers for temporary agricultural jobs. The H-2A program was authorized by Congress under the Immigration and Nationality Act of 1952. This publication provides an overview of the H-2A program for Missouri agricultural producers.

Background

Farms began to use the H-2A program much more in recent years. Certified H-2A positions in the U.S. increased from about 79,000 in 2010 to 318,000 in 2021. The increase in H-2A use reflects changes in the labor market and challenges of finding seasonal and temporary farm labor. There is no U.S. statutory limit on the number of H-2A visas certified each year.

Who can participate

The H-2A program is available to an employer or association of agricultural producers that anticipates a shortage of domestic workers to do agricultural labor or services on a seasonal or temporary basis. The U.S. Department of Labor (DOL) lists these general guidelines for determining if employers are eligible for the H-2A program (dol.gov/agencies/whd/agriculture/h2a):

- Your business must be physically located in the United States.
- You must possess a valid Federal Employer Identification Number (FEIN) and be able to hire, pay, fire, supervise, or otherwise control the work of the workers you employ.
- The work must consist of agricultural labor or services.
- The work must be full-time (at least 35 hours per week).
- The work must be seasonal or temporary (a time period of 10 months or less) and tied to a certain time of the year.

Written by
Ryan Milhollin, Assistant Professor, Agricultural Business and Policy Extension
Matt Ernst, Independent Writer

Figure 1. The H-2A program can provide visas for workers to do many activities on agricultural operations.

Agricultural labor and services

The H-2A program may only be used for work consisting of agricultural labor or services. According to the U.S. Department of Agriculture (USDA), these are the main agricultural sectors employing H-2A workers in 2019 (ers.usda.gov/publications/pub-details/?pubid=102014):

- Vegetables and melons (34 percent of workers)
- Fruit and tree nuts (33 percent of workers)
- Field crops (20 percent of workers)
- Nursery and greenhouse (8 percent of workers)
- Animal products (4 percent of workers)

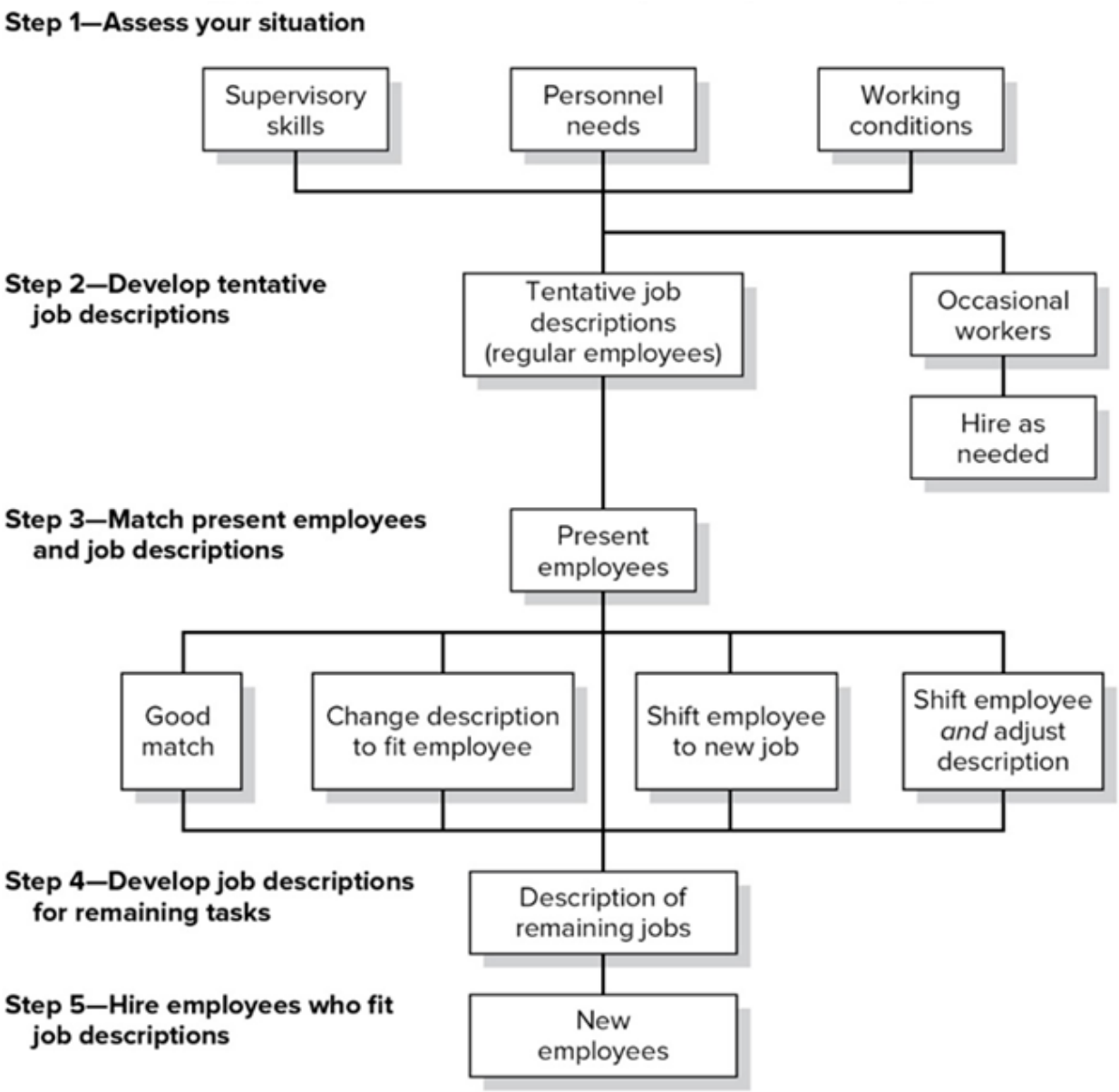
State workforce agency

The Missouri Office of Workforce Development (jobs.mo.gov) is the state's workforce agency. Its Agricultural Employment Services (jobs.mo.gov/employer/aes) offers free assistance such as publicly posting a job order placed in connection to an H-2A application, recruitment of domestic U.S. workers and hiring event assistance, labor law information, foreign labor certification assistance and additional training. Services also include an outreach program for both domestic and H-2A visa workers. They also conduct housing inspections to assure employers meets the requirements of the H-2A program. You can directly contact AES at aes@dhewd.mo.gov or 573-751-3346.

extension.missouri.edu g703

- **H-2A** helps employers hire foreign workers for temporary agricultural jobs (10 months or less)
- Detailed process and 60-75 days from filing to finish
- **URL:** mizzou.us/H2A

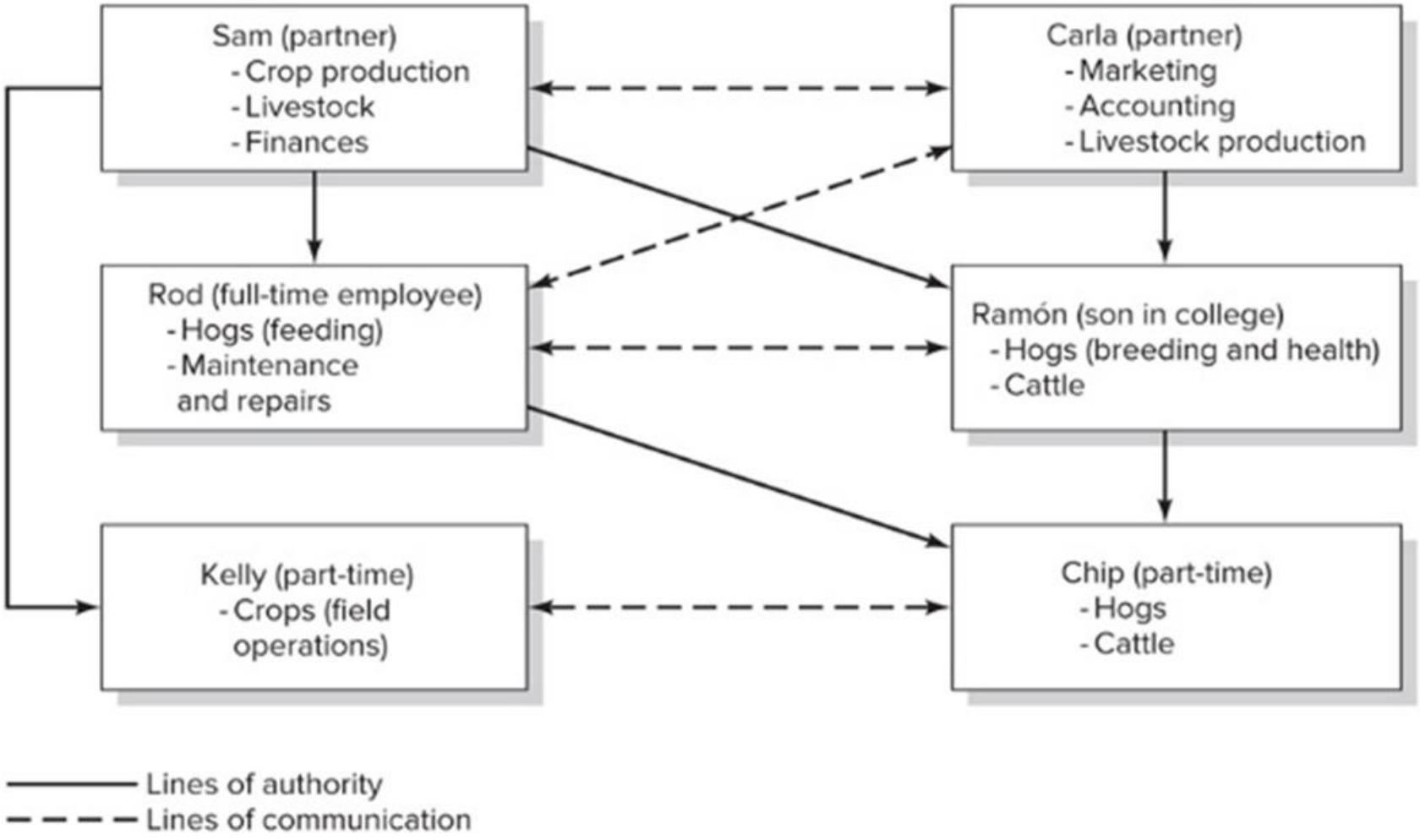
Labor Management- Farm Labor Planning Process



Thomas, Kenneth H., and Bernard L. Erven, Farm Personnel Management, North Central Regional Extension Publication 329.

Labor Management- Organization Charts

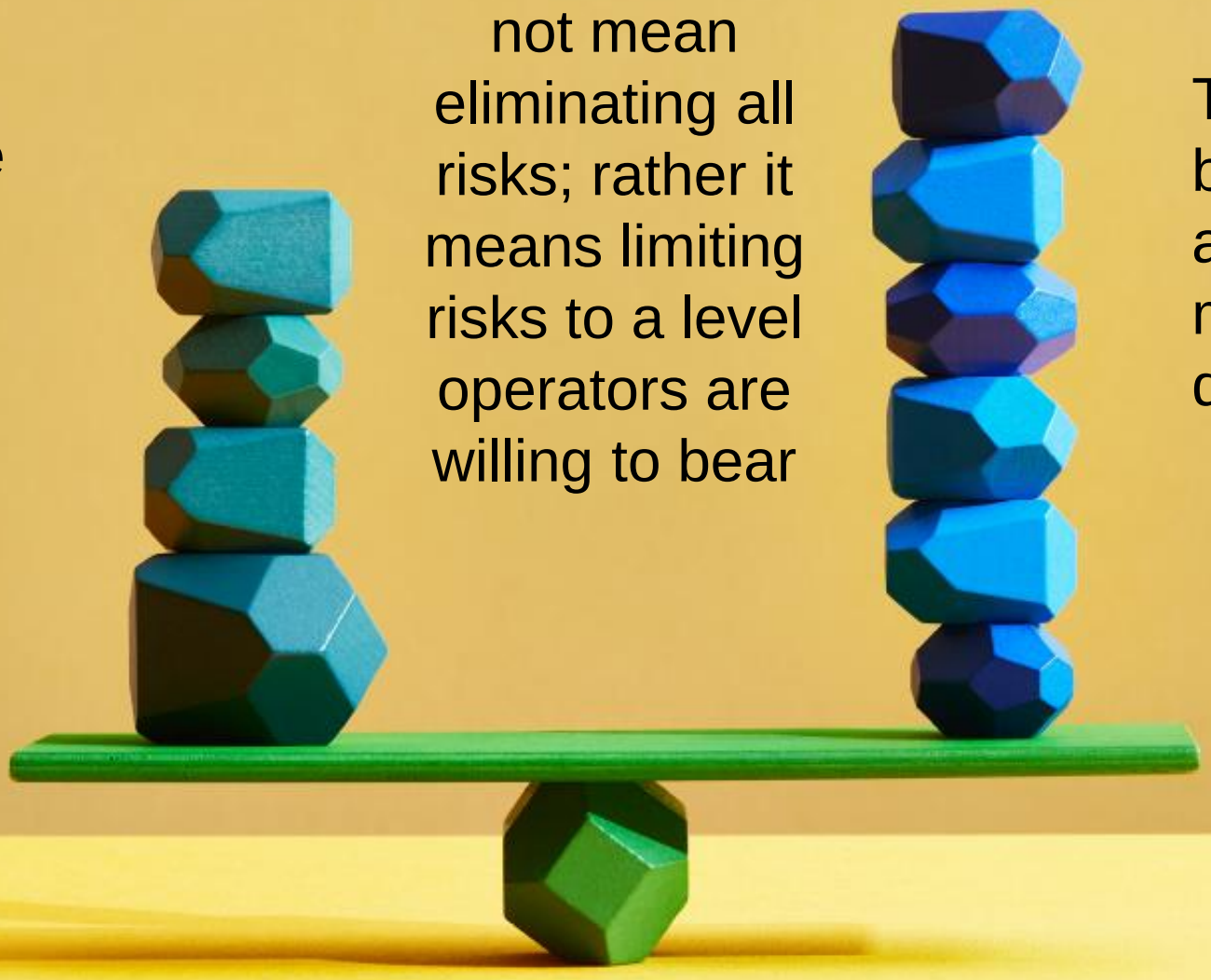
Organizational Chart for a Farm Business



Risk Management: Risk Loving vs Risk Averse

Producers vary greatly in their willingness to take risks and in their abilities to survive any unfavorable outcomes of risky actions.

Good risk management does not mean eliminating all risks; rather it means limiting risks to a level operators are willing to bear



The level of risk a business should accept is very much an individual decision.

Risk Management: Acceptable Level??

Factors that Influence Ability to Bear Risk

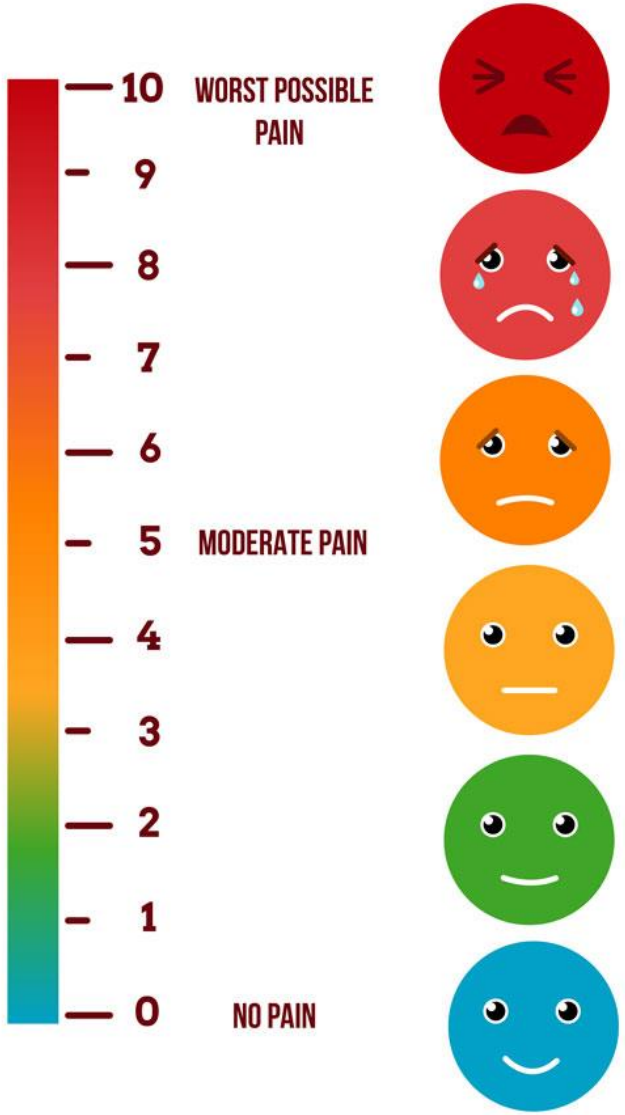
1. Financial reserves.

2. Farms with large amount of equity can stand larger losses before they become insolvent.

3. Cash flow commitments- high fixed living expenses, educational expenses or health care can cause farms to be less willing to withstand low-income years.

But it's not just ability but willingness (preference)

1. Some farms could take on risks but choose not to due to past experiences, age, familiarity with the risky proposition, emotional health, cultural values, and community attitudes.



Risk Management: Forming Expectations

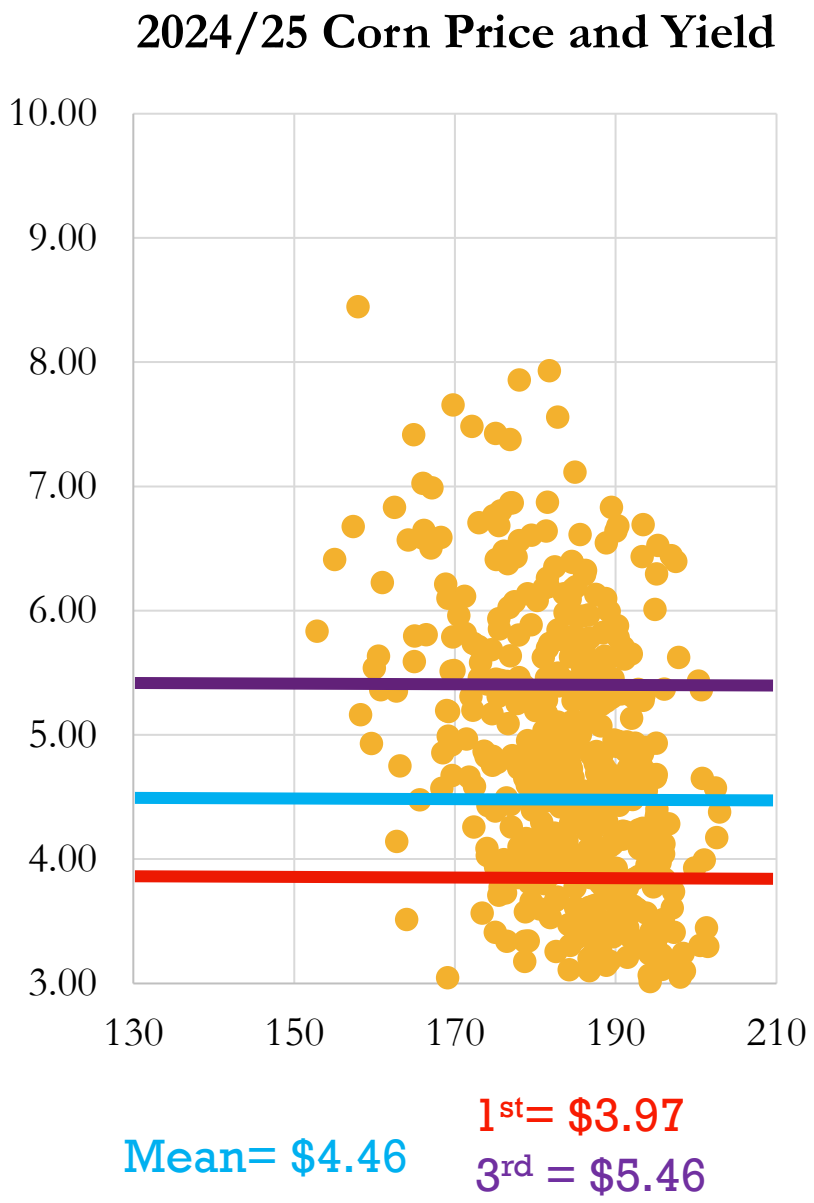
When managers are uncertain about the future, they often use some type of average or expected values for yields, costs or prices.

Remember the Priming Mindset though

To analyze risky decisions, a manager needs to understand how to form expectations and use probabilities to analyze the whole distribution of outcomes.

Forming Expectations

- Most Likely
- Average
- Expert Opinions
- Futures Market



Risk Management: Forming Expectations

Most Likely Method

Wheat yields on our farm

Possible wheat yields (bushels/acre)	Number of years actual yield was in this range	Probability (%)
15–29	1	5
30-44	2	10
45–59	5	25
60–74	7	35
75-89	4	20
90-105	1	5
Total	20	100

2- types of averaging method

Backgrounded beef cattle prices on our farm

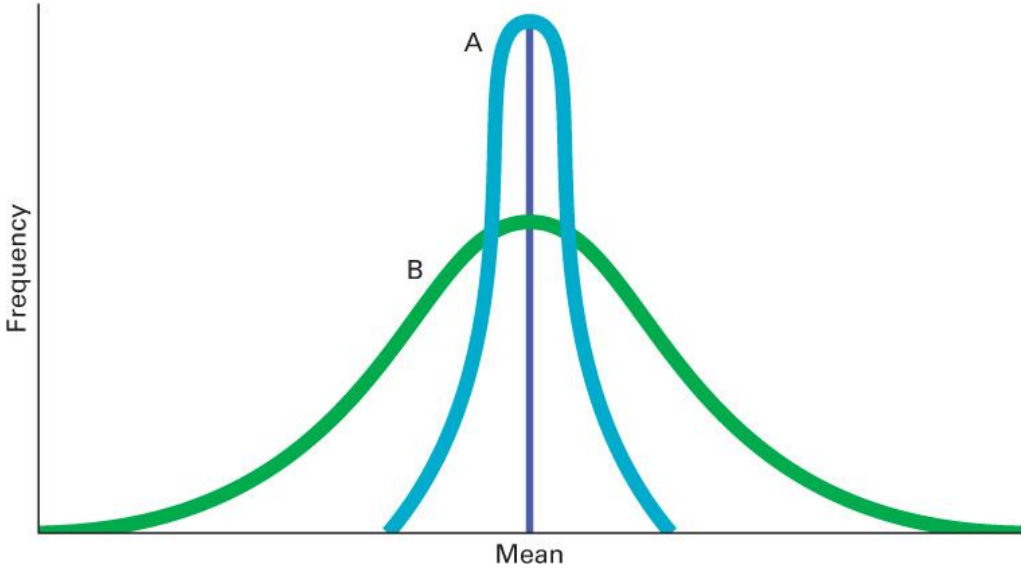
Year	Average annual price	Assigned Weight	Price × weight
5 years ago	$116.10	0.10	$11.61
4 years ago	$122.80	0.15	$18.42
3 years ago	$125.90	0.20	$25.18
2 years ago	$154.30	0.25	$38.58
Last year	$148.00	0.30	$44.40
Summation	$667.10	1.00	$138.19
Simple average	$133.42	Weighted average	$138.19

Risk Management: Understanding Variability

Which would you choose?

Crop A: Has an expected return of $150 per acre with an 80% distribution of $80-$170 per acre.

Crop B: Has an expected return of $150 per acre with an 80% distribution of $15-$220 per acre.



Risk Management: Example

Year	Corn (bushels/acre)	Soybeans (bushels/acre)
1	165	45
2	185	55
3	181	48
4	128	38
5	145	43
6	169	54
7	158	50
8	115	31
9	172	47
10	167	58
Mean (expected value)	158.5	46.9
Standard deviation	22.7	8.2
Coefficient of variation	0.14	0.17

Which crop has the greater yield risk?

Risk Management: CDF Charts

Many risky events in agriculture have an almost unlimited number of possible outcomes, and the probability of any one of them occurring becomes very small?

Year	Corn (bushels/acre)	Soybeans (bushels/acre)
1	165	45
2	185	55
3	181	48
4	128	38
5	145	43
6	169	54
7	158	50
8	115	31
9	172	47
10	167	58
Mean (expected value)	158.5	46.9
Standard deviation	22.7	8.2
Coefficient of variation	0.14	0.17

Corn (bushels/acre)	Soybeans (bushels/acre)	Cumulative Probability (%)
115	31	5
128	38	15
145	43	25
158	45	35
165	47	45
167	48	55
169	50	65
172	54	75
181	55	85
185	58	95

Decision Making Uncertainty

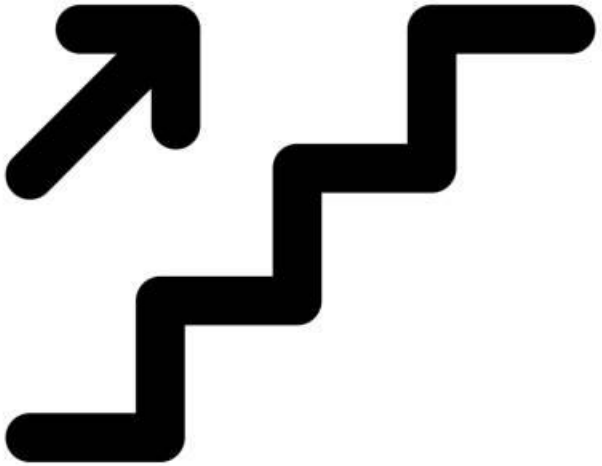
Step 1. Identify an event that could be a possible source of risk?

Step 2. Identify the possible **outcomes** that can occur from the event, such as various weather conditions or prices, and their probabilities?

Step 3. List the alternative **strategies** available.

Step 4. Quantify the **consequences or results** of each possible outcome for each strategy.

Step 5. Estimate the **risk and expected returns** for each strategy and evaluate the trade-offs among them.



Decision Making Uncertainty- Example

Suppose a wheat farmer plants a given number of acres of wheat in the fall. Stocker steers can be purchased in the fall and grazed on the wheat over the winter and sold at a known contract in the spring.

Step 1- The farmer's greatest source of risk is a weather event because it impacts how much grazing is available.

Step 2- Suppose there are three possible outcomes for this event: good, average, or poor weather and their probabilities are estimated to be 20, 50 and 30 percent.

The conundrum: if too few steers are purchased, and the weather is good- there the opportunity for additional profits is lost. However, if too many steers are purchased and the weather is bad, profits will be reduced or incurred.

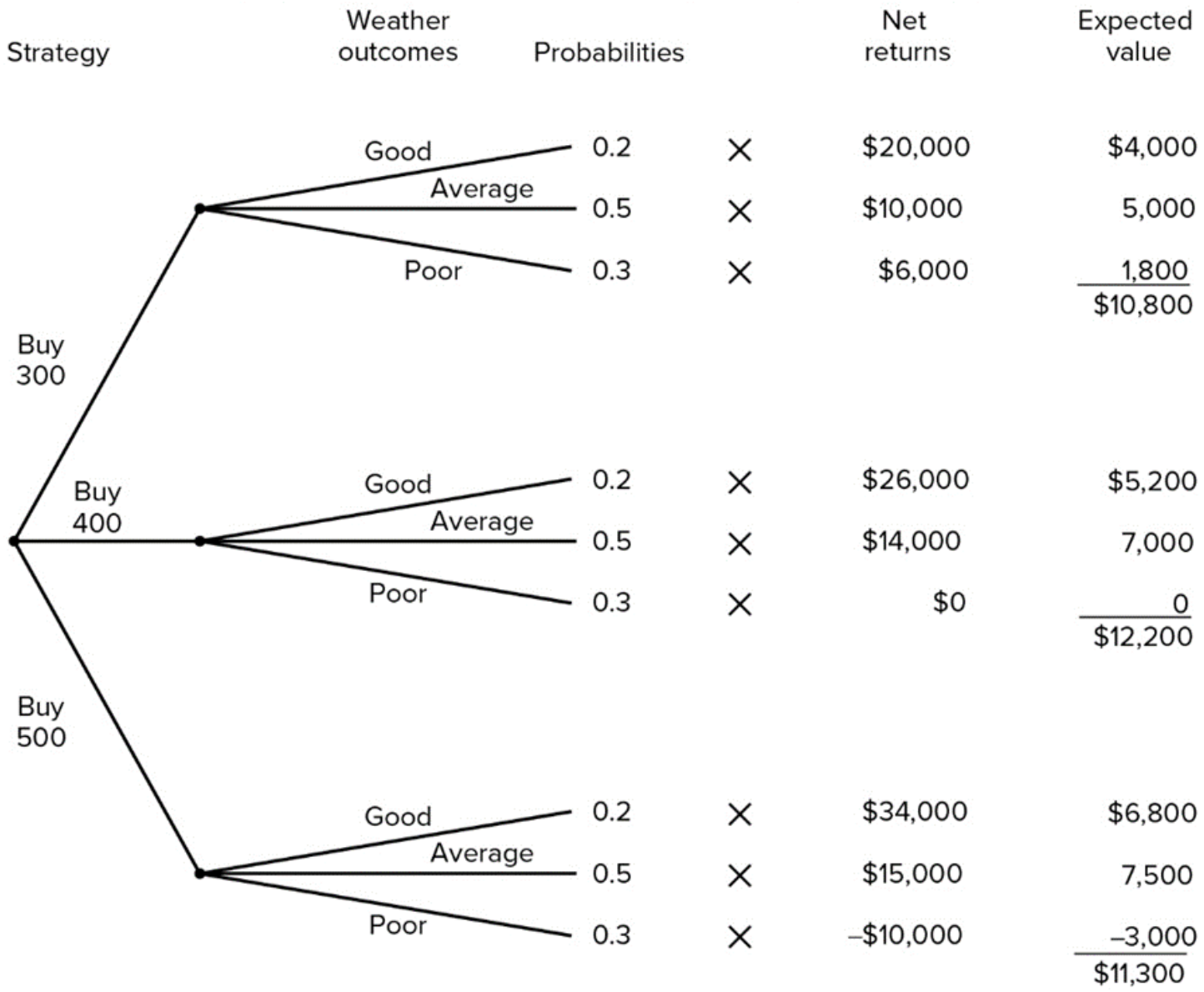
Step 3: The farmer is considering three alternatives: buying 300, 400 or 500 steers. The weather probabilities are the same for all three choices.

Risk Management: Decision Tree

You are evaluating the option to buy 300, 400 or 500 head of cattle.

All three strategies will face the same weather

Which would you choose?



Risk Management: Decision Tree

Weather Outcomes	Probability	Strategy 1 Buy 300	Strategy 2 Buy 400	Strategy 3 Buy 500
Good	0.2	$20,000	$26,000	$34,000
Average	0.5	10,000	14,000	15,000
Poor	0.3	6,000	0	–10,000
Expected Value		10,800	12,200	11,300
Minimum Value		6,000	0	–10,000
Maximum Value		20,000	26,000	34,000
Range		14,000	26,000	44,000

Decision Rules

- Most Likely Outcome (500 Steers)
- Maximum Expected Value (400 Steers)
- Risk and Return Comparisons (300 Steers)
- Safety First / Least Bad (300 Steers)
- Breakeven Profitability (corn and soybean example from earlier)

In essence, risks are EVERYWHERE!

Risk management is learning how to balance risks and rewards

Meaning and Purpose- The Golden Circle

My Why- I believe in healthy and thriving farm and ranch operations that are actively involved in their communities and the communities are made better because the operations call that area home.

I do that through:

1. Extension programs across the state
2. involvement in several statewide committees and
3. Teaching Farm Risk Management at Mizzou
4. Serving as an academic advisor to an agricultural fraternity.

Thank you! Are there any questions??

Mizzou/Brownfield Market Information

- **Weekly Crop Markets -** Tuesday Afternoons
- **Weekly Livestock Markets -** Saturday Mornings

Ben Brown- University of Missouri
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Scan to sign up for Weekly Commodity Market updates