



University of Idaho
Extension

CREATING AN ENTERPRISE BUDGET

THE IMPORTANCE OF RECORD KEEPING AND BENCHMARKING

Jessica Windh, Ph.D.

Rangeland and Natural Resource Economics

OBJECTIVES

- 1. REVIEW ENTERPRISE BUDGETS**
- 2. ENTERPRISE BUDGETS FOR RECORD KEEPING AND
FOR RESEARCH**
- 3. BENCHMARKING – WHY AND HOW**

WHAT IS AN ENTERPRISE BUDGET?

Enterprise: A single crop or livestock commodity on a farm

- Feeder lambs, fat lambs, seed stock, alfalfa, etc

Enterprises are the building blocks of the whole farm plan

Enterprise budget: An estimate of the costs, returns, and profit for a single commodity on a farm

Multiple enterprise budgets can then be compiled into a whole farm budget

Table 2: Monthly Summary of Returns and Expenses.

	Jul	Aug	Sep
Production:			
Feeder lambs			22
Cull ewes			
Cull rams			
Cull replacement ewes			
Wool - ewe			
Wool - ram, fine wool			
Wool - ram, meat breed			
Total Receipts	0	0	0
Operating Inputs:			
Alfalfa hay			
Feed barley			
Corn			
Salt and minerals	101	101	
Federal range	186	278	
Pasture	1498	250	
Hauling			
Marketing			
Shearing - ewe			
Shearing - ram			
Wool assessment			
Camp supplies	525	525	
Dog food	100	100	
ASI lamb checkoff			
Veterinary Medicine			
Machinery (Fuel,Lube,Repair)	34	34	
Vehicles (Fuel and Repair)	290	290	
Equipment (Repair)	25	25	
Housing, Improvements (Repair)	50	50	
Taxes and Insurance	2191	21	
Hired Labor			
Total Costs	5000	3	
Net Returns	-5000	-	-

Table 3: Monthly Feed Requirements.

Feed	Units
Alfalfa hay	
Ewes	to
Rams	to
Horses	to
Feed barley	
Ewes	
Corn	
Ewes	
Salt and minerals	
Federal range	
Ewes	
Rams	
Pasture	
Rams	
Ewes	

2014 Idaho Livestock Costs and Returns Estimate
EBB-SR1-14
Sheep - Range
 Lambing on Range; Lambs Sold as Feeders in Sept.
 Kathleen Painter and Neil Rimbe

University of Idaho Extension
 Agricultural Economics & Rural Sociology

Background and Assumptions

Economic costs are used in the University of Idaho costs and returns estimates. All resources are valued based on market price or opportunity cost. This budget presents both the average costs and returns per ewe and total costs and returns for a typical 1,000-head sheep range operation. Public range is used for about six months of the year, with private range and pasture for the remaining months. Some winter-time feeding is required. Lambs are weaned before the ewes are moved back to private range in early October and sold as feeders.

LIVESTOCK INVESTMENT

Livestock investment is 1,000 ewes, 30 rams, 2 horses, and 6 dogs. Ewes have a useful life of 5 years after they are placed in the breeding herd. The culling rate is 15 percent and the ewes have a 5 percent death loss. Ewe replacements are raised in a separate dry band, and occur as a cost in this budget. Of the ewe replacements, 8 percent of them are either culled or die. The ranch also purchases rams and replaces them every 4 years. The lambing rate is 120% at marking and 110% at weaning.

MACHINERY AND EQUIPMENT

Machinery and equipment investment is 60 percent use of a pickup, 30 percent use of a 2-ton water truck, 40 percent use of a tractor and scraper, and 100 percent use of a camp trailer, feed wagon, and miscellaneous equipment and tools. Values on machinery and equipment are calculated at 50 percent of new replacement cost to reflect typically aged, but functional ranch equipment.

BUILDINGS AND IMPROVEMENTS

Buildings and improvements include fencing, feed bunks, water troughs, and grain storage facilities. The sheep enterprise uses about 15 percent of the ranch water system. Improvements are valued at 80 percent of new replacement cost.

MANAGEMENT PRACTICES

Lambing takes place from April through early June on the open range. Lambs are weaned in September and sold as feeders. Monthly feed quantities for the herd are listed in Table 3. Ewes are trailed from the ranch to public range and graze on public range from June 1 to mid-September, when they are brought in to private pasture in order to wean the lambs. Ewes are on public or private range from October 1 through May 30. They are fed an average of 6 pounds of hay per day in January, February, March, and half of April. They are fed 0.7 lb of grain per day during lambing in April and 0.42 lb of grain per day in May. Ewes are bred in November. The price on all feed consumed reflects the purchase price plus transportation costs.

Trucking to transport sheep is hired as needed throughout the year. Lambs are transported to market in September, while rams are transported to range in November for breeding. Before breeding, ewe replacements are transported from the dry band to where they will be bred.

Veterinary care is minimal. Ewes receive a vibrio/EAE vaccination just before lambing, while the lambs are given two vaccinations for treatment of enterotoxemia.

Labor provided by the operator is valued at \$23.47 per hour, based on average wages for agricultural supervisors, from Bureau of Labor Statistics data for 2014, available at http://www.bls.gov/oes/current/oes_id.htm. This hourly rate includes all applicable payroll taxes and benefits. This represents an opportunity cost for owners; if they were not working for themselves, then they could be working elsewhere and earning wages. Regular livestock labor, valued at \$11.53 per hour, is based on average earnings for farmworkers who care for farm and ranch animals in Idaho, for 2014 (http://www.bls.gov/oes/current/oes_id.htm). Part-time livestock labor is valued at \$10.62 per hour, based on average earnings for general agricultural workers, from the same source.



WHY USE AN ENTERPRISE BUDGET?

HOW ARE THEY USEFUL?

Budgets are forward looking

Allow the opportunity to test decisions out on paper first

- Estimate both profitability and flexibility

Estimate annual costs, returns, and profits

- Per head
- Per acre

Table 2: Monthly Summary of Returns and Expenses.				
	Jul	Aug	Sep	
Production:				
Feeder lambs			22	
Cull ewes				
Cull rams				
Cull replacement ewes				
Wool - ewe				
Wool - ram, fine wool				
Wool - ram, meat breed				
Total Receipts	0	0	0	
Operating Inputs:				
Alfalfa hay				
Feed barley				
Corn				
Salt and minerals	101	101		
Federal range	186	278		
Pasture	1498	250		
Hauling				
Marketing				
Shearing - ewe				
Shearing - ram				
Wool assessment				
Camp supplies	525	525		
Dog food	100	100		
ASI lamb checkoff				
Veterinary Medicine				
Machinery (Fuel,Lube,Repair)	34	34		
Vehicles (Fuel and Repair)	290	290		
Equipment (Repair)	25	25		
Housing, Improvements (Repair)	50	50		
Taxes and Insurance				
Hired Labor	2191	21		
Total Costs	5000	3		
Net Returns	-5000			

Table 3: Monthly Feed Requirements.	
Feed	Units
Alfalfa hay	
Ewes	to
Rams	to
Horses	to
Feed barley	
Ewes	
Corn	
Ewes	
Salt and minerals	
Federal range	
Ewes	
Rams	
Pasture	
Rams	
Ewes	

2014 Idaho Livestock Costs and Returns Estimate

EBB-SR1-14

Sheep - Range

Lambing on Range; Lambs Sold as Feeders in Sept.

Kathleen Painter and Neil Rimbey



University of Idaho
Extension

Agricultural Economics & Rural Sociology

Background and Assumptions

Economic costs are used in the University of Idaho costs and returns estimates. All resources are valued based on market price or opportunity cost. This budget presents both the average costs and returns per ewe and total costs and returns for a typical 1,000-head sheep range operation. Public range is used for about six months of the year, with private range and pasture for the remaining months. Some winter-time feeding is required. Lambs are weaned before the ewes are moved back to private range in early October and sold as feeders.

LIVESTOCK INVESTMENT

Livestock investment is 1,000 ewes, 30 rams, 2 horses, and 6 dogs. Ewes have a useful life of 5 years after they are placed in the breeding herd. The culling rate is 15 percent and the ewes have a 5 percent death loss. Ewe replacements are raised in a separate dry band, and occur as a cost in this budget. Of the ewe replacements, 8 percent of them are either culled or die. The ranch also purchases rams and replaces them every 4 years. The lambing rate is 120% at marking and 110% at weaning.

MACHINERY AND EQUIPMENT

Machinery and equipment investment is 60 percent use of a pickup, 30 percent use of a 2-ton water truck, 40 percent use of a tractor and scraper, and 100 percent use of a camp trailer, feed wagon, and miscellaneous equipment and tools. Values on machinery and equipment are calculated at 50 percent of new replacement cost to reflect typically aged, but functional ranch equipment.

BUILDINGS AND IMPROVEMENTS

Buildings and improvements include fencing, feed bunks, water troughs, and grain storage facilities. The sheep enterprise uses about 15 percent of the ranch water system. Improvements are valued at 80 percent of new replacement cost.

MANAGEMENT PRACTICES

Lambing takes place from April through early June on the open range. Lambs are weaned in September and sold as feeders. Monthly feed quantities for the herd are listed in Table 3. Ewes are trailed from the ranch to public range and graze on public range from June 1 to mid-September, when they are brought in to private pasture in order to wean the lambs. Ewes are on public or private range from October 1 through May 30. They are fed an average of 6 pounds of hay per day in January, February, March, and half of April. They are fed 0.7 lb of grain per day during lambing in April and 0.42 lb of grain per day in May. Ewes are bred in November. The price on all feed consumed reflects the purchase price plus transportation costs.

Trucking to transport sheep is hired as needed throughout the year. Lambs are transported to market in September, while rams are transported to range in November for breeding. Before breeding, ewe replacements are transported from the dry band to where they will be bred. Veterinary care is minimal. Ewes receive a vibrio/EAE vaccination just before lambing, while the lambs are given two vaccinations for treatment of enterotoxemia.

Labor provided by the operator is valued at \$23.47 per hour, based on average wages for agricultural supervisors, from Bureau of Labor Statistics data for 2014, available at http://www.bls.gov/oes/current/oes_id.htm. This hourly rate includes all applicable payroll taxes and benefits; if they were not working for themselves, then they could be working elsewhere and earning wages. Regular livestock labor, valued at \$11.53 per hour, is based on average earnings for farmworkers who care for farm and ranch animals in Idaho, for 2014 (http://www.bls.gov/oes/current/oes_id.htm). Part-time livestock labor is valued at \$10.62 per hour, based on average earnings for general agricultural workers, from the same source.

WHY USE AN ENTERPRISE BUDGET?

An enterprise budget can help tell you

- Where you are (Situational analysis)
- Where you're going (Business proposition or action plan)
- How you're doing (Financial analysis)

Specifically, they can help

- Evaluate options before committing resources
- Calculate potential returns on investment
- Determine breakeven yields and prices

Table 2: Monthly Summary of Returns and Expenses.

	Jul	Aug	Sep
Production:			
Feeder lambs			22
Cull ewes			
Cull rams			
Cull replacement ewes			
Wool - ewe			
Wool - ram, fine wool			
Wool - ram, meat breed			
Total Receipts	0	0	0
Operating Inputs:			
Alfalfa hay			
Feed barley			
Corn			
Salt and minerals	101	101	
Federal range	186	278	
Pasture	1498	250	
Hauling			
Marketing			
Shearing - ewe			
Shearing - ram			
Wool assessment			
Camp supplies	525	525	
Dog food	100	100	
ASI lamb checkoff			
Veterinary Medicine			
Machinery (Fuel,Lube,Repair)	34	34	
Vehicles (Fuel and Repair)	290	290	
Equipment (Repair)	25	25	
Housing, Improvements (Repair)	50	50	
Taxes and Insurance	2191	21	
Hired Labor			
Total Costs	5000	3	
Net Returns	-5000		

Table 3: Monthly Feed Requirements.

Feed	Units
Alfalfa hay	
Ewes	to
Rams	to
Horses	to
Feed barley	
Ewes	
Corn	
Ewes	
Salt and minerals	
Federal range	
Ewes	
Rams	
Pasture	
Rams	
Ewes	

2014 Idaho Livestock Costs and Returns Estimate
EBB-SR1-14
Sheep - Range
 Lambing on Range; Lambs Sold as Feeders in Sept.
 Kathleen Painter and Neil Rimbey

University of Idaho Extension
Agricultural Economics & Rural Sociology

Background and Assumptions

Economic costs are used in the University of Idaho costs and returns estimates. All resources are valued based on market price or opportunity cost. This budget presents both the average costs and returns per ewe and total costs and returns for a typical 1,000-head sheep range operation. Public range is used for about six months of the year, with private range and pasture for the remaining months. Some winter-time feeding is required. Lambs are weaned before the ewes are moved back to private range in early October and sold as feeders.

LIVESTOCK INVESTMENT

Livestock investment is 1,000 ewes, 30 rams, 2 horses, and 6 dogs. Ewes have a useful life of 5 years after they are placed in the breeding herd. The culling rate is 15 percent and the ewes have a 5 percent death loss. Ewe replacements are raised in a separate dry band, and occur as a cost in this budget. Of the ewe replacements, 8 percent of them are either culled or die. The ranch also purchases rams and replaces them every 4 years. The lambing rate is 120% at marking and 110% at weaning.

MACHINERY AND EQUIPMENT

Machinery and equipment investment is 60 percent use of a pickup, 30 percent use of a 2-ton water truck, 40 percent use of a tractor and scraper, and 100 percent use of a camp trailer, feed wagon, and miscellaneous equipment and tools. Values on machinery and equipment are calculated at 50 percent of new replacement cost to reflect typically aged, but functional ranch equipment.

BUILDINGS AND IMPROVEMENTS

Buildings and improvements include fencing, feed bunks, water troughs, and grain storage facilities. The sheep enterprise uses about 15 percent of the ranch water system. Improvements are valued at 80 percent of new replacement cost.

MANAGEMENT PRACTICES

Lambing takes place from April through early June on the open range. Lambs are weaned in September and sold as feeders. Monthly feed quantities for the herd are listed in Table 3. Ewes are trailed from the ranch to public range and graze on public range from June 1 to mid-September, when they are brought in to private pasture in order to wean the lambs. Ewes are on public or private range from October 1 through May 30. They are fed an average of 6 pounds of hay per day in January, February, March, and half of April. They are fed 0.7 lb of grain per day during lambing in April and 0.42 lb of grain per day in May. Ewes are bred in November. The price on all feed consumed reflects the purchase price plus transportation costs.

Trucking to transport sheep is hired as needed throughout the year. Lambs are transported to market in September, while rams are transported to range in November for breeding. Before breeding, ewe replacements are transported from the dry band to where they will be bred.

Veterinary care is minimal. Ewes receive a vibrio/EAE vaccination just before lambing, while the lambs are given two vaccinations for treatment of enterotoxemia.

Labor provided by the operator is valued at \$23.47 per hour, based on average wages for agricultural supervisors, from Bureau of Labor Statistics data for 2014, available at http://www.bls.gov/oes/current/oes_id.htm. This hourly rate includes all applicable payroll taxes and benefits. This represents an opportunity cost for owners; if they were not working for themselves, then they could be working elsewhere and earning wages. Regular livestock labor, valued at \$11.53 per hour, is based on average earnings for farmworkers who care for farm and ranch animals in Idaho, for 2014 (http://www.bls.gov/oes/current/oes_id.htm). Part-time livestock labor is valued at \$10.62 per hour, based on average earnings for general agricultural workers, from the same source.

2014 Idaho Livestock Costs and Returns Estimate



EBB-SR1-14

Sheep - Range

Lambing on Range; Lambs Sold as Feeders in Sept.

Kathleen Painter and Neil Rimbey

University of Idaho
Extension

Agricultural Economics & Rural Sociology

Background and Assumptions

Economic costs are used in the University of Idaho costs and returns estimates. All resources are valued based on market price or opportunity cost. This budget presents both the average costs and returns per ewe and total costs and returns for a typical 1,000-head sheep range operation. Public range is used for about six months of the year, with private range and pasture for the remaining months. Some winter-time feeding is required. Lambs are weaned before the ewes are moved backed to private range in early October and sold as feeders.

LIVESTOCK INVESTMENT

Livestock investment is 1,000 ewes, 30 rams, 2 horses, and 6 dogs. Ewes have a useful life of 5 years after they are placed in the breeding herd. The culling rate is 15 percent and the ewes have a 5 percent death loss. Ewe replacements are raised in a separate dry band, and occur as a cost in this budget. Of the ewe replacements, 8 percent of them are either culled or die. The ranch also purchases rams and replaces them every 4 years. The lambing rate is 120% at marking and 110% at weaning.

MACHINERY AND EQUIPMENT

Machinery and equipment investment is 60 percent use of a pickup, 30 percent use of a 2-ton water truck, 40 percent use of a tractor and scraper, and 100 percent use of a camp trailer, feed wagon, and miscellaneous equipment and tools. Values on machinery and equipment are calculated at 50 percent of new replacement cost to reflect typically aged, but functional ranch equipment.

BUILDINGS AND IMPROVEMENTS

Buildings and improvements include fencing, feed bunks, water troughs, and grain storage facilities. The sheep enterprise uses about 15 percent of the ranch water system. Improvements are valued at 80 percent of new replacement cost.

MANAGEMENT PRACTICES

Lambing takes place from April through early June on the open range. Lambs are weaned in

September and sold as feeders. Monthly feed quantities for the herd are listed in Table 3.

Ewes are trailed from the ranch to public range and graze on public range from June 1 to mid-September, when they are brought in to private pasture in order to wean the lambs. Ewes are on public or private range from October 1 through May 30. They are fed an average of 6 pounds of hay per day in January, February, March, and half of April. They are fed 0.7 lb of grain per day during lambing in April and 0.42 lb of grain per day in May. Ewes are bred in November. The price on all feed com

transportation

Trucking throughout

market in September, while rams are transported to range in November for breeding. Before breeding, ewe replacements are transported from the dry band to where they will be bred.

Veterinary care is minimal. Ewes receive a vibrio/EAE vaccination just before lambing, while the lambs are given two vaccinations for treatment of enterotoxemia.

Labor provided by the operator is valued at \$23.47 per hour, based on average wages for agricultural supervisors, from Bureau of Labor Statistics data for 2014, available at http://www.bls.gov/oes/current/oes_id.htm. This hourly rate includes all applicable payroll taxes and benefits. This represents an opportunity cost for owners; if they were not working for themselves, then they could be working elsewhere and earning wages. Regular livestock labor, valued at \$11.53 per hour, is based on average earnings for farmworkers who care for farm and ranch animals in Idaho, for 2014 (http://www.bls.gov/oes/current/oes_id.htm). Part-time livestock labor is valued at \$10.62 per hour, based on average earnings for general agricultural workers, from the same source.

THE NARRATIVE

Table1: Sheep - Range

April lambing on open range, with 120% lambing at marking and 110% at weaning.
Lambs are sold at weaning as feeders

EBB-SR1-14

	Weight Each	Unit	Total Number of Head or Units	Price or Cost/Unit	Total Value	Value or Cost/Head	Your Value
1. Gross Receipts							
Feeder lambs	105.00	lb	1100	1.93	222,915.00	222.91	
Cull ewes	175.00	lb	150	0.31	8137.50	8.14	
Cull rams	225.00	lb	5	0.54	607.50	0.61	
Cull replacement ewes	140.00	lb	16	0.65	1456.00	1.46	
Wool - ewe	10.00	lb	1000	1.54	15,400.00	15.40	
Wool - ram, fine wool	12.00	lb	15	2.50	450.00	0.45	
Wool - ram, meat breed	8.00	lb	15	0.65	78.00	0.08	
Total Receipts					\$249,044.00	\$249.04	
2. Operating Costs							
Alfalfa hay		ton	308.40	210.00	64,764.00	64.76	
Feed barley		cwt	202.40	10.43	2111.03	2.11	
Corn		cwt	135.00	10.35	1397.25	1.40	
Salt and minerals		lb	8040.00	0.15	1206.00	1.21	
Federal range		AUM	1276.90	1.35	1723.82	1.72	
Pasture		AUM	883.10	22.00	19,428.20	19.43	
Hauling		head	1000.00	5.00	5000.00	5.00	
Marketing		head	1000.00	1.50	1500.00	1.50	
Shearing - ewe		head	1000.00	4.25	4250.00	4.25	
Shearing - ram		head	30.00	8.50	255.00	0.26	
Wool assessment		head	1000.00	1.03	1030.00	1.03	
Camp supplies		head	1000.00	5.25	5250.00	5.25	
Dog food		head	3675.00	0.40	1470.00	1.47	
ASI lamb checkoff		head	1100.00	0.74	814.00	0.81	
Veterinary Medicine		\$	4367.20	1.00	4367.20	4.37	
Machinery (fuel, lubrication, repair)		\$	405.33	1.00	405.33	0.41	
Vehicles (fuel, repair)		\$	3486.30	1.00	3486.30	3.49	
Equipment (repair)		\$	297.50	1.00	297.50	0.30	
Housing and Improvements (repair)		\$	602.50	1.00	602.50	0.60	
Hired Labor		hour	2920.00	11.33	33,085.20	33.09	
Owner Labor		hour	568.00	23.47	13,330.96	13.33	
Interest on Operating Capital		\$	2350.68	0.05	111.66	0.11	
Total Operating Costs					\$165,885.95	\$165.89	
3. Income Above Operating Costs					\$83,158.05	\$83.16	
4. Ownership Costs							
Capital Recovery:							
Purchased Livestock	\$		29,002.96	1.00	29,002.96	29.00	
Housing and Improvements	\$		1152.12	1.00	1152.12	1.15	
Machinery	\$		374.38	1.00	374.38	0.37	
Equipment	\$		2166.64	1.00	2166.64	2.17	
Vehicles	\$		1786.64	1.00	1786.64	1.79	
Interest on Retained Livestock	\$		0.00	0.04	0.00	0.00	
Taxes and Insurance	\$		320.47	1.00	320.47	0.32	
Overhead	\$		3000.00	1.00	3000.00	3.00	
Total Ownership Costs					\$37,803.22	\$37.80	
5. Total Costs					\$203,689.17	\$203.69	
6. Returns to Risk and Management					\$45,354.83	\$45.35	

REVENUE

- INCOME
- GROSS RECEIPTS

OPERATING COSTS

- DIRECT COSTS
- VARIABLE COSTS

OWNERSHIP COSTS

- FIXED COSTS

THE NARRATIVE

Especially useful when using enterprise budgets for BENCHMARKING or RESEARCH purposes

Explain the parameters of the enterprise being budgeted

- **Animal numbers by type**
- **Lambing, weaning, & culling rates; percent death loss**
- **Feed inputs**
- **Machinery and equipment**
- **Buildings and improvements**

Management practices

- **Production calendar**

REVENUE

Cash and non-cash revenue (Income, Receipts)

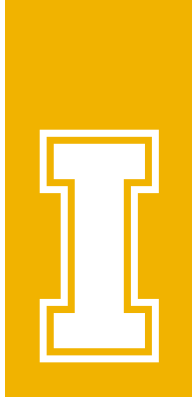
Projected yields

- **Based on historical yields and yield trends**

Projected prices

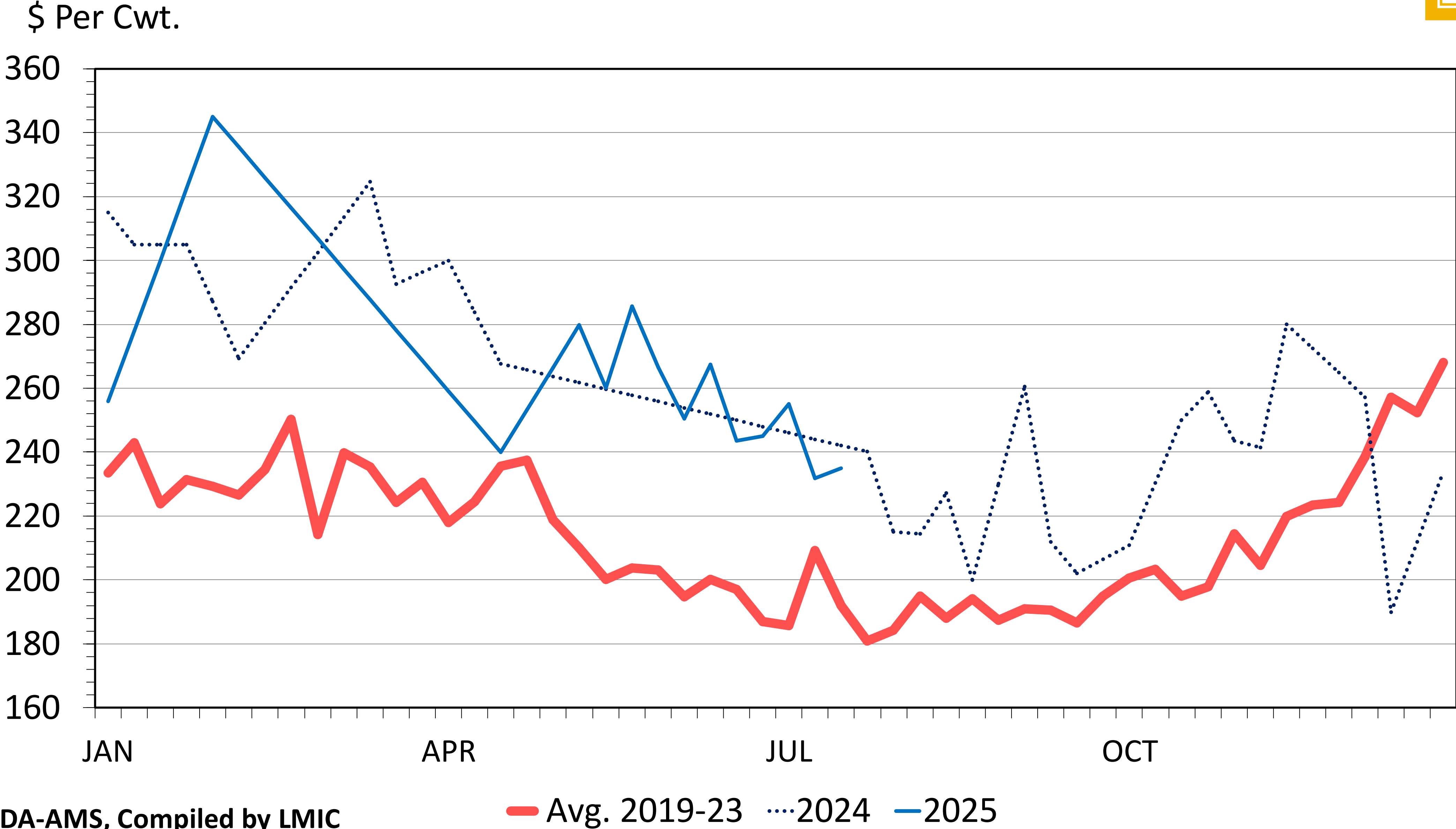
- **Based on historical trends and expert forecasts**

$$\text{Price} \times \text{Yield} = \text{Revenue}$$



FEEDER LAMB PRICES

60-90 Pounds, 3-Market (CO, TX & SD) Average, Weekly



OPERATING COSTS

Costs that change year-to-year based on the actual operation of the enterprise (Variable costs, Direct costs)

- **Feed**
- **Transportation**
- **Marketing**
- **Shearing**
- **Veterinary**
- **Machinery (fuel, repairs)**
- **Labor (both hired and owner labor)**
- **ASI Lamb checkoff**
- **Interest on Operating Costs**

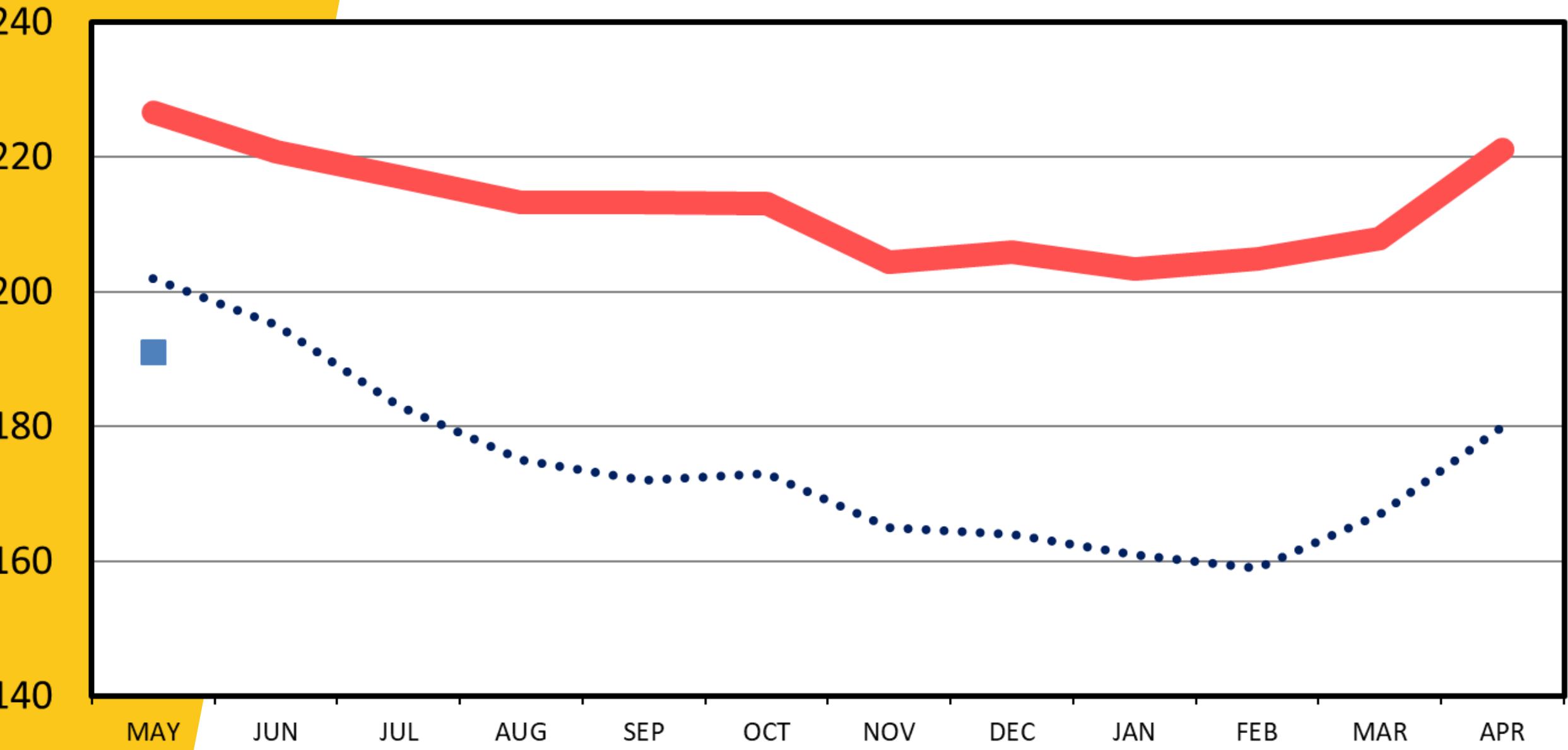
Revenue – Operating Costs = Returns over Operating Costs (Gross Margin)

ALFALFA HAY – MONTHLY AVERAGE PRICE

Received by Farmers, U.S., Crop Year



\$ Per Ton

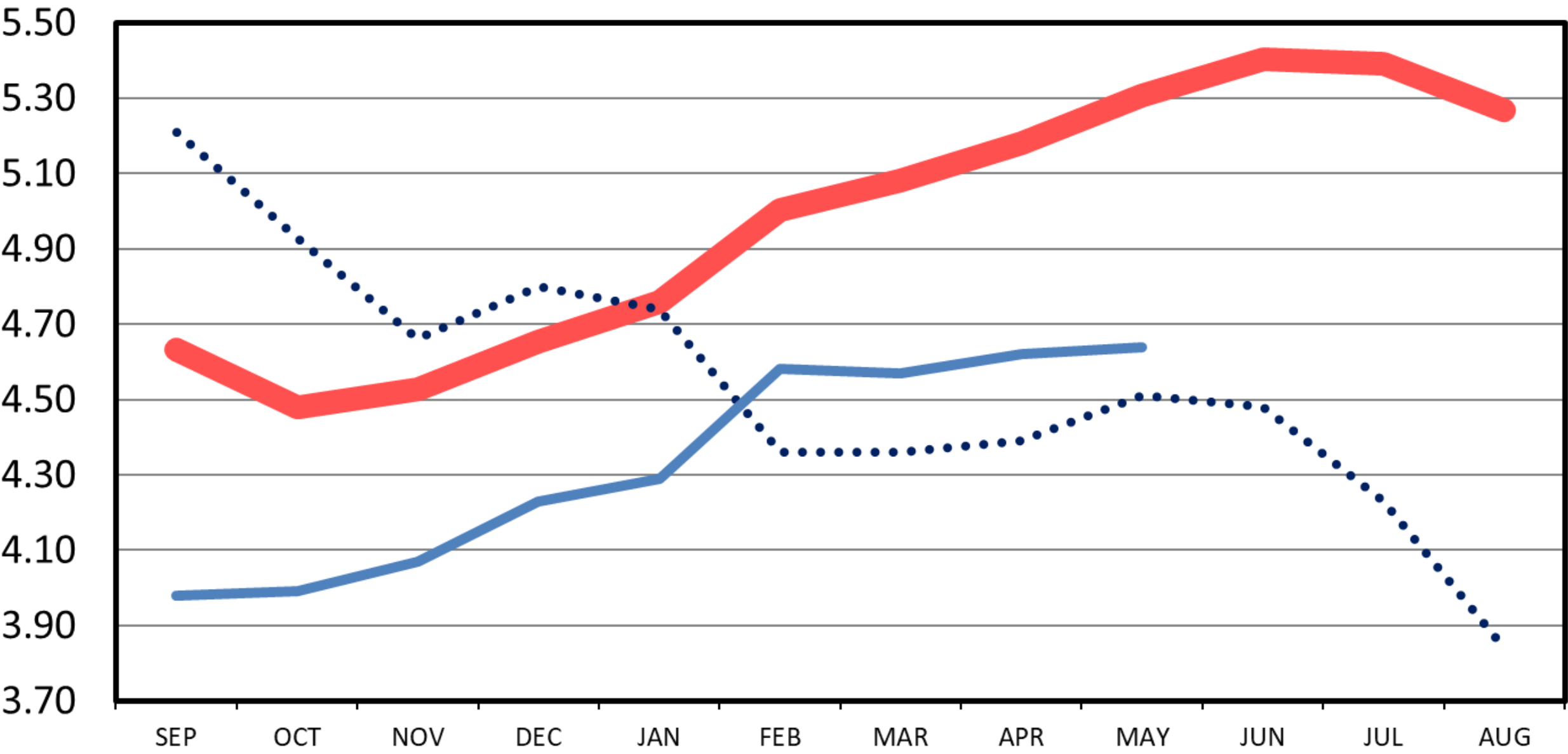


Avg. 19/20-23/24 2024/25 2025/26

CORN – MONTHLY AVERAGE PRICE

Received by Farmers, U.S., Crop Year

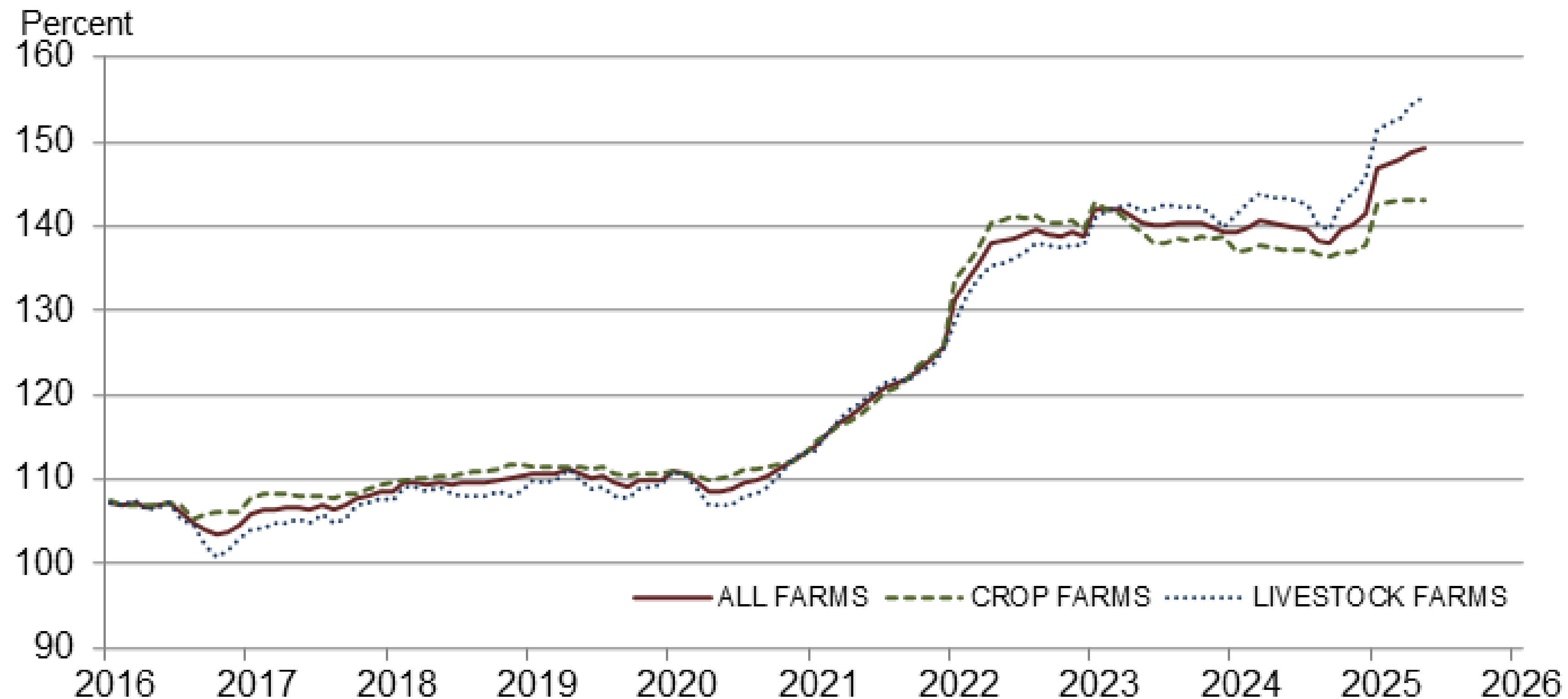
\$ Per Bu.



Avg. 18/19-22/23 2023/24 2024/25



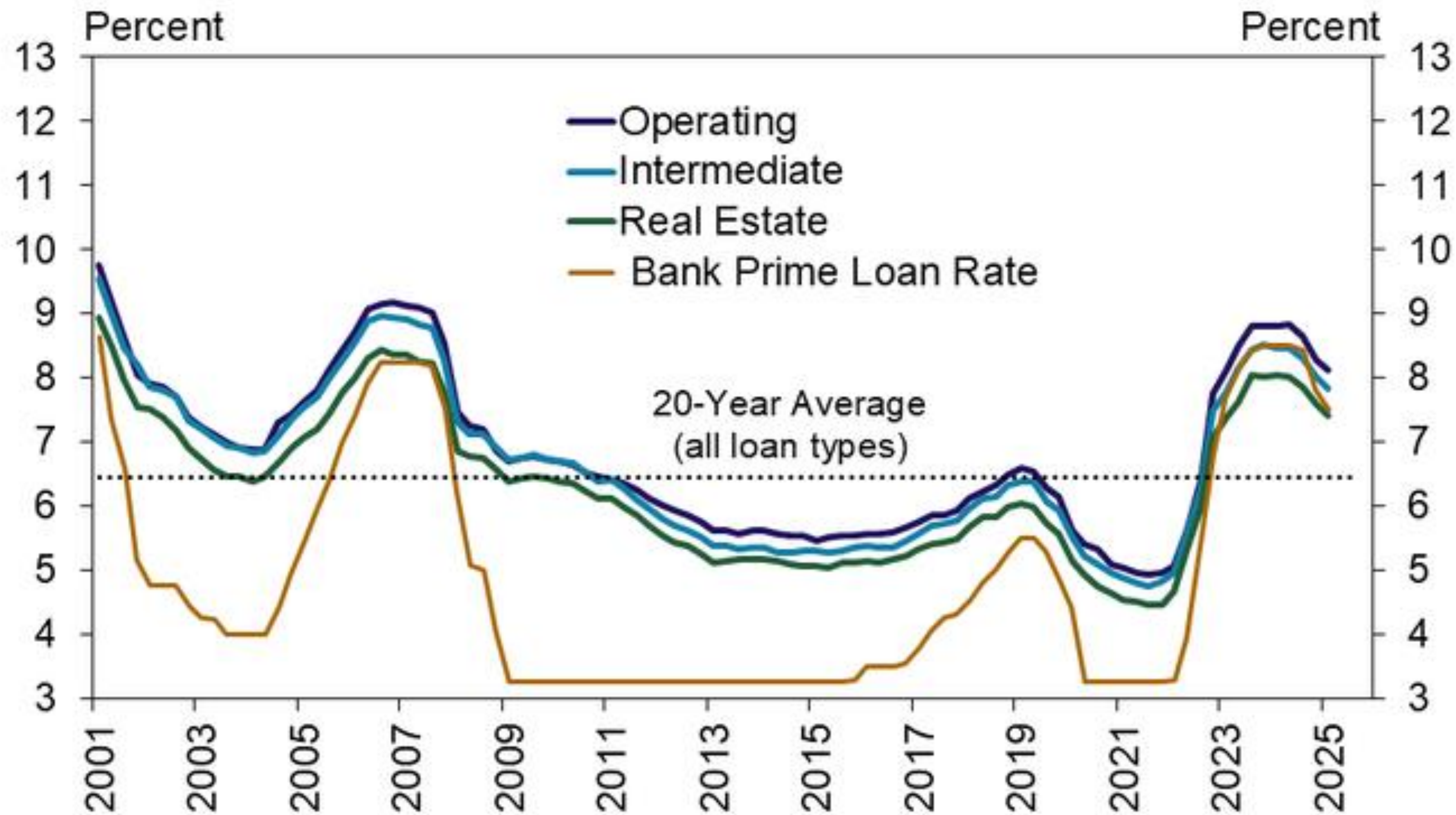
Paid Indexes by Farm Type and Month, All Items – United States: 2011=100



In general: input costs are trending high, and highest for livestock **USDA – NASS 06/27/2025**

- **Know what to watch – How does it impact me?**

Chart 3: Tenth District Average Interest Rates



Note: Average rates are calculated as the average of fixed and variable rates for each loan category.
Sources: Federal Reserve Board and Haver Analytics

OWNERSHIP COSTS

Costs that occur regardless of the daily management (Fixed costs)

- **General overhead**
 - **Rent, Utilities, Insurance**

- **Capital recovery, Depreciation, Interest**
 - **Retained Livestock**
 - **Building/Improvements**
 - **Machinery & Equipment**
 - **Vehicles**

ANALYSIS WITH ENTERPRISE BUDGETS

Are expected revenues greater than the expected operating costs?

- **Are you at least covering some of the fixed costs?**

Which categories exhibit the highest risk or uncertainty?

- **Are there ways to mitigate that risk?**

Breakeven analysis

- **Breakeven price**
 - **The price needed to cover costs at a given production level**
- **Breakeven yield**
 - **The yield needed to cover costs at a given price**

ENTERPRISE BUDGETS FOR RECORD KEEPING

We mentioned budgets are FORWARD LOOKING, but...

- **The most accurate budgets are updated often**
- **As costs are incurred, update the budget**
 - **Record keeping**
 - **The budget becomes more accurate for the future**
 - **Over time, trends will emerge**

WHY RECORD KEEPING MATTERS

- **To comply with income tax reporting requirements**
- **To assist in planning and management such as obtaining credit, participating in government programs, and deciding what to produce**
 - **Knowing the cycle within the business**
 - **Anticipate the inflows and outflows of money**
- **Without record keeping, the chances of managing a successful business are poor**
 - **You must know where you are at before you can plan where you want to be in the future**
 - **Measures the business performance against projections**
- **Highlights areas where problems could arise and enable solutions**

ENTERPRISE BUDGETS FOR RESEARCH BENCHMARKING

- **What does the AVERAGE operation look like in an area?**
- **Built with a focus group of producers from a region of interest**

- **Who might need this information?**
 - **New extension educators**
 - **Graduate students or researchers less familiar with on-the-ground operations**
 - **Policy makers**

- **Why?**
 - **Production trends – is there room for improvement**
 - **Areas of high risk – insurance, education, etc**

ENTERPRISE BUDGETS FOR RESEARCH BENCHMARKING

- **What does the AVERAGE operation look like in an area?**
- **Built with a focus group of producers from a region of interest**
- **The most challenging part of an enterprise budget for researchers is knowing WHAT goes into them**
- **The “easy” part is digging up prices**
- **Possibly flipped scenario from producer’s viewpoint**

2014 Idaho Livestock Costs and Returns Estimate



EBB-SR1-14

Sheep - Range

Lambing on Range; Lambs Sold as Feeders in Sept.

Kathleen Painter and Neil Rimbey

University of Idaho
Extension

Agricultural Economics & Rural Sociology

Background and Assumptions

Economic costs are used in the University of Idaho costs and returns estimates. All resources are valued based on market price or opportunity cost. This budget presents both the average costs and returns per ewe and total costs and returns for a typical 1,000-head sheep range operation. Public range is used for about six months of the year, with private range and pasture for the remaining months. Some winter-time feeding is required. Lambs are weaned before the ewes are moved backed to private range in early October and sold as feeders.

LIVESTOCK INVESTMENT

Livestock investment is 1,000 ewes, 30 rams, 2 horses, and 6 dogs. Ewes have a useful life of 5 years after they are placed in the breeding herd. The culling rate is 15 percent and the ewes have a 5 percent death loss. Ewe replacements are raised in a separate dry band, and occur as a cost in this budget. Of the ewe replacements, 8 percent of them are either culled or die. The ranch also purchases rams and replaces them every 4 years. The lambing rate is 120% at marking and 110% at weaning.

MACHINERY AND EQUIPMENT

Machinery and equipment investment is 60 percent use of a pickup, 30 percent use of a 2-ton water truck, 40 percent use of a tractor and scraper, and 100 percent use of a camp trailer, feed wagon, and miscellaneous equipment and tools. Values on machinery and equipment are calculated at 50 percent of new replacement cost to reflect typically aged, but functional ranch equipment.

BUILDINGS AND IMPROVEMENTS

Buildings and improvements include fencing, feed bunks, water troughs, and grain storage facilities. The sheep enterprise uses about 15 percent of the ranch water system. Improvements are valued at 80 percent of new replacement cost.

MANAGEMENT PRACTICES

Lambing takes place from April through early June on the open range. Lambs are weaned in

September and sold as feeders. Monthly feed quantities for the herd are listed in Table 3.

Ewes are trailed from the ranch to public range and graze on public range from June 1 to mid-September, when they are brought in to private pasture in order to wean the lambs. Ewes are on public or private range from October 1 through May 30. They are fed an average of 6 pounds of hay per day in January, February, March, and half of April. They are fed 0.7 lb of grain per day during lambing in April and 0.42 lb of grain per day in May. Ewes are bred in November. The price on all feed consumed reflects the purchase price plus transportation costs.

Trucking to transport sheep is hired as needed throughout the year. Lambs are transported to market in September, while rams are transported to range in November for breeding. Before breeding, ewe replacements are transported from the dry band to where they will be bred.

Veterinary care is minimal. Ewes receive a vibrio/EAE vaccination just before lambing, while the lambs are given two vaccinations for treatment of enterotoxemia.

Labor provided by the operator is valued at \$23.47 per hour, based on average wages for agricultural supervisors, from Bureau of Labor Statistics data for 2014, available at http://www.bls.gov/oes/current/oes_id.htm. This hourly rate includes all applicable payroll taxes and benefits. This represents an opportunity cost for owners; if they were not working for themselves, then they could be working elsewhere and earning wages. Regular livestock labor, valued at \$11.53 per hour, is based on average earnings for farm-workers who care for farm and ranch animals in Idaho, for 2014 (http://www.bls.gov/oes/current/oes_id.htm). Part-time livestock labor is valued at \$10.62 per hour, based on average earnings for general agricultural workers, from the same source.

Table1: Sheep - Range

April lambing on open range, with 120% lambing at marking and 110% at weaning.
Lambs are sold at weaning as feeders

EBB-SR1-14

	Weight Each	Unit	Total Number of Head or Units	Price or Cost/Unit	Total Value	Value or Cost/Head	Your Value
1. Gross Receipts							
Feeder lambs	105.00	lb	1100	1.93	222,915.00	222.91	
Cull ewes	175.00	lb	150	0.31	8137.50	8.14	
Cull rams	225.00	lb	5	0.54	607.50	0.61	
Cull replacement ewes	140.00	lb	16	0.65	1456.00	1.46	
Wool - ewe	10.00	lb	1000	1.54	15,400.00	15.40	
Wool - ram, fine wool	12.00	lb	15	2.50	450.00	0.45	
Wool - ram, meat breed	8.00	lb	15	0.65	78.00	0.08	
Total Receipts					\$249,044.00	\$249.04	
2. Operating Costs							
Alfalfa hay		ton	308.40	210.00	64,764.00	64.76	
Feed barley		cwt	202.40	10.43	2111.03	2.11	
Corn		cwt	135.00	10.35	1397.25	1.40	
Salt and minerals		lb	8040.00	0.15	1206.00	1.21	
Federal range		AUM	1276.90	1.35	1723.82	1.72	
Pasture		AUM	883.10	22.00	19,428.20	19.43	
Hauling		head	1000.00	5.00	5000.00	5.00	
Marketing		head	1000.00	1.50	1500.00	1.50	
Shearing - ewe		head	1000.00	4.25	4250.00	4.25	
Shearing - ram		head	30.00	8.50	255.00	0.26	
Wool assessment		head	1000.00	1.03	1030.00	1.03	
Camp supplies		head	1000.00	5.25	5250.00	5.25	
Dog food		head	3675.00	0.40	1470.00	1.47	
ASI lamb checkoff		head	1100.00	0.74	814.00	0.81	
Veterinary Medicine		\$	4367.20	1.00	4367.20	4.37	
Machinery (fuel, lubrication, repair)		\$	405.33	1.00	405.33	0.41	
Vehicles (fuel, repair)		\$	3486.30	1.00	3486.30	3.49	
Equipment (repair)		\$	297.50	1.00	297.50	0.30	
Housing and Improvements (repair)		\$	602.50	1.00	602.50	0.60	
Hired Labor		hour	2920.00	11.33	33,085.20	33.09	
Owner Labor		hour	568.00	23.47	13,330.96	13.33	
Interest on Operating Capital		\$	2350.68	0.05	111.66	0.11	
Total Operating Costs					\$165,885.95	\$165.89	
3. Income Above Operating Costs					\$83,158.05	\$83.16	
4. Ownership Costs							
Capital Recovery:							
Purchased Livestock	\$		29,002.96	1.00	29,002.96	29.00	
Housing and Improvements	\$		1152.12	1.00	1152.12	1.15	
Machinery	\$		374.38	1.00	374.38	0.37	
Equipment	\$		2166.64	1.00	2166.64	2.17	
Vehicles	\$		1786.64	1.00	1786.64	1.79	
Interest on Retained Livestock	\$		0.00	0.04	0.00	0.00	
Taxes and Insurance	\$		320.47	1.00	320.47	0.32	
Overhead	\$		3000.00	1.00	3000.00	3.00	
Total Ownership Costs					\$37,803.22	\$37.80	
5. Total Costs					\$203,689.17	\$203.69	
6. Returns to Risk and Management					\$45,354.83	\$45.35	

ENTERPRISE BENCHMARKING



Extension
Sheep Program

Whit Stewart, Ph.D.

Associate Professor and Extension Sheep
Specialist, Department of Animal Science,
University of Wyoming



**SOUTH DAKOTA
STATE UNIVERSITY**

Jaelyn Whaley, M.S., Sheep Extension Field
Specialist, South Dakota State University

THE BENCHMARKING STUDY

Establish industry benchmarks to allow some level of transparency among producers, those looking to enter the industry, and researchers to prioritize areas of highest research need

Compare enterprise health across operations of similar geographic origin, operational type, and size

2023-24 Initiated as a survey (50 questions) targeting inputs needed for an enterprise budget

THE BENCHMARKING STUDY

OVERALL: 25 RESPONSES

6 STATES (WY, ID, UT, NV, TX, SD)

OPERATION TYPES:

EWE-LAMB (N = 20)

SEEDSTOCK (N = 9)

LAMB FEEDER (N = 5)

OPERATION SIZE:

<100 (N = 5)

100-999 (N = 5)

1000-2499 (N = 7)

≥2500 (N = 8)

THE BENCHMARKING STUDY

- **Number of ewes, rams, and lambs (30-9,000)**
- **Production efficiencies**
 - **Lambing rates(1.2-1.4)**
 - **Docking rates**
 - **Weaning rates (1-1.3)**
- **Replaced feed vs grazing days**
 - **Days on replaced feed decreased as flock size grew**
- **\$ spent on feed**
 - **Increased with operation size**

THE BENCHMARKING STUDY

MOVING FORWARD

- **Survey fatigue may have contributed to low response rate**
- **Passive solicitation vs targeted interviews**
 - **Utilizing national Extension network to develop regional enterprise budgets**
 - **Target in-person events for data collection**
 - **Lower data input needs**
- **Operational Performance Metrics**
- **Analysis on Production and Costs**
- **Sensitivity Analyses related to Inputs**



University of Idaho
Extension

QUESTIONS?



Jessica Windh

jwindh@uidaho.edu



Brett Wilder

bwilder@uidaho.edu