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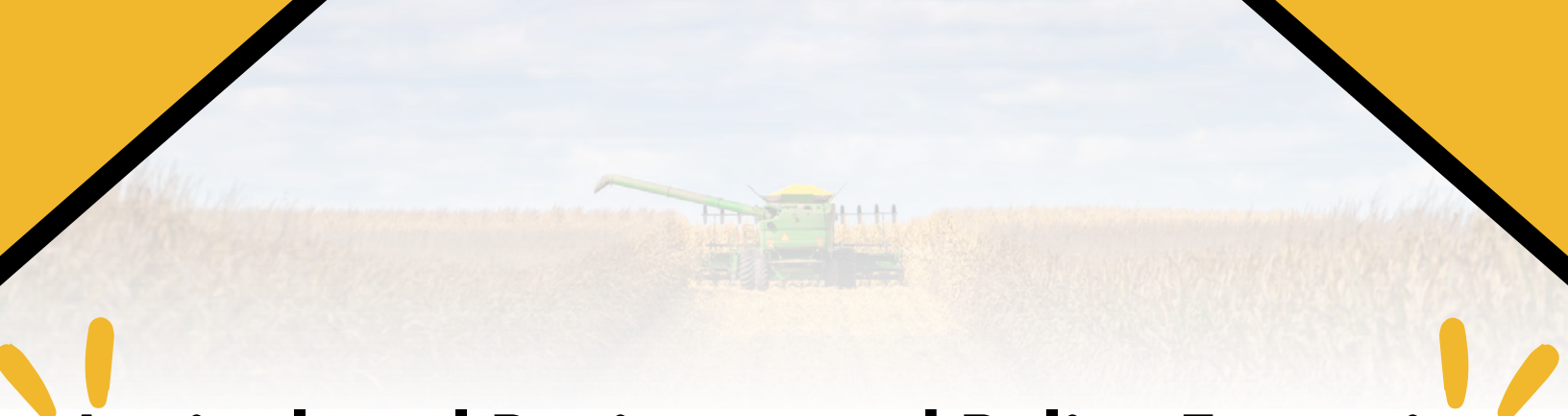
2025 Enterprise Budgets for Southeast Missouri Crops and Livestock



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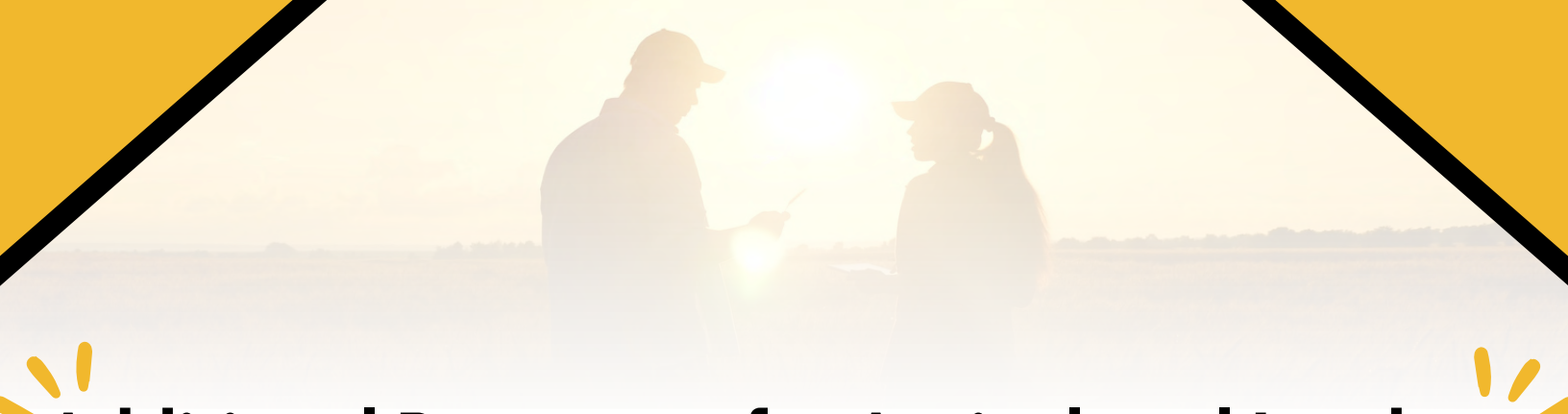

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Learn more: ruralandfarmfinance.com

Southeast Missouri Crop and Livestock Budgets for 2025

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

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Beef Backgrounding Planning Budget

Using this planning budget, beef backgrounders may estimate their costs and returns for 2025. Table 1 presents estimates for steer calves purchased and backgrounded in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed inputs, feed requirements and machinery investments are summarized in Tables 2, 3, 4 and 5. The production practices used to develop these cost estimates are common in Missouri beef farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri beef steer backgrounding planning budget for 2025.

	Winter backgrounding	Pasture backgrounding	Your estimate
	Dollars per steer[1]	Dollars per steer[1]	
Income			
Market steer sales	2,163.99	2,132.10	
Less death loss (1 percent)	–21.64	–21.32	
Total income	2,142.35	2,110.78	
Operating costs			
Purchased steer	1,671.94	1,740.62	
Pasture (rental rate)	0.00	47.78	
Feed, mineral and stored forage	134.32	63.84	
Labor	49.50	29.70	
Veterinary, drugs and supplies	20.00	17.00	
Marketing and hauling	54.10	53.30	
Machinery and utilities	69.23	30.05	
Livestock facility repair	4.00	1.00	
Professional fees (legal, accounting, etc.)	1.00	1.00	
Miscellaneous	4.00	4.00	
Operating interest	40.49	41.05	
Total operating costs	2,048.57	2,029.31	
Ownership costs			
Depreciation on livestock facilities	3.87	0.62	
Interest on livestock facilities	4.32	0.69	
Insurance and taxes on capital items	5.95	5.02	
Total ownership costs	14.13	6.33	
Total costs	2,062.71	2,035.64	
Income over operating costs	**93.77**	**81.47**	
Income over total costs	**79.64**	**75.14**	
Pounds of gain per steer purchased	216.85	177.25	
Feed cost per pound gain	0.62	0.63	
Breakeven steer price per pound	2.56	2.65	

1. Totals may not sum due to rounding.

Written by
Adauto Rocha Jr., Assistant Extension Professor, Agricultural Business and Policy; **Wesley Tucker,** Field Specialist in Agricultural Business; **Zachary Erwin**, Field Specialist in Livestock

Table 2. Input assumptions used in beef steer winter backgrounding planning budget for 2025.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Steer purchase weight, pounds	590	Steer purchase price, per hundredweight	283.38
Market steer sale weight, pounds	815	Market steer sale price, per hundredweight	265.52
Labor, hours per head	2.5	Labor cost, per hour	19.80
Feeding period, days	105		
Average daily gain, pounds	2.14		

Table 3. Input assumptions used in beef steer pasture backgrounding planning budget for 2025.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Steer purchase weight, pounds	590	Steer purchase price, per hundredweight	295.02
Market steer sale weight, pounds	775	Market steer sale price, per hundredweight	275.11
Labor, hours per head	1.5	Labor cost, per hour	19.80
Feeding period, days	105		
Average daily gain, pounds	1.76		

Table 4. Feed and stored forage in beef steer backgrounding planning budgets for 2025, on a per steer basis.

		Winter backgrounding[1]		Pasture backgrounding[2]	
Feed description	Dollars per unit	Pounds	Dollars	Pounds	Dollars
Mixed hay, per ton	115.00	1,053	60.55		
Corn, per bushel	4.70	450	37.77		
Protein supplement, per ton	180.00	270	24.30	525	47.25
Salt and minerals, per ton	1,200.00	18	10.80	27	16.38
Limestone, per hundredweight	10.00	9	0.90	2	0.21
Total		**1,800**	134.32	**554**	63.84

1. Winter backgrounding ration assumes 105 days on feed and 2.14 pound average daily gain for a steer.
2. Pasture backgrounding ration assumes 105 days on feed and 1.76 pound average daily gain for a steer.

Table 5. Machinery assumptions used in beef steer backgrounding planning budgets for 2025.

		Winter backgrounding[1]		Pasture backgrounding[2]	
Description	Cost per hour	Hours	Dollars	Hours	Dollars
Tractor, 105 MFWD	53.67	25	1,341.75		
Truck	40.00	20	800.00	10.0	400.00
Livestock trailer	20.00	8	160.00	8.0	160.00
4-wheeler	12.00	40	480.00	52.5	630.00
Total			2,781.75		1,190.00
Total per steer			**66.23**		**27.04**

1. Machinery needs for winter backgrounding budget are based on 42 steers.
2. Machinery needs for pasture backgrounding budget are based on 44 steers.

Abbreviations: MFWD = mechanical front-wheel drive tractor

Farmers can customize this budget using the Missouri Beef Budget spreadsheet, which can be downloaded from the beef section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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Beef Heifer Planning Budget

Using this planning budget, farmers raising beef heifers may estimate their costs and returns for 2025. Table 1 presents estimates for calves purchased and sold later as bred replacement heifers in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed inputs, feed requirements and machinery investments are summarized in Tables 2, 3 and 4. The production practices used to develop these cost estimates are common in Missouri beef farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri beef heifer planning budget for 2025.

	Dollars per heifer sold[1]	Your estimate
Income		
Bred heifer sales (0.875 head times 3,000)	2,625.00	
Cull heifer sales (0.05 head)	111.49	
Yearling heifer sales (0.075 head)	107.55	
Less death loss (1 percent of heifer sales)	–28.44	
Total income	2,815.60	
Operating costs		
Purchased heifer calf	1,437.37	
Pasture	163.42	
Feed, mineral and stored forage	196.62	
Labor	99.00	
Veterinary, drugs and supplies	35.00	
Marketing costs	85.32	
Breeding costs	45.00	
Machinery and utilities	110.67	
Livestock facility repairs	8.50	
Miscellaneous	6.00	
Interest on calf purchase and operating costs	143.76	
Total operating costs	2,330.66	
Ownership costs		
Depreciation on livestock facilities	9.75	
Interest on livestock facilities	11.32	
Insurance and taxes on capital items	24.43	
Total ownership costs	45.50	
Total costs	2,376.16	
Income over operating costs	**484.94**	
Income over total costs	**439.44**	
Total cost per head per day (excluding calf price)	2.47	
Total cost per pound of gain	2.30	
Bred heifer breakeven price per head	2,493.78	

1. Totals may not sum due to rounding.

Written by
Adauto Rocha Jr., Assistant Extension Professor, Agricultural Business and Policy; **Wesley Tucker,** Field Specialist in Agricultural Business; **Zachary Erwin**, Field Specialist in Livestock

Table 2. Input assumptions used in replacement beef heifer planning budget for 2025.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Heifer purchase weight, pounds	550	Heifer purchase price, per hundredweight	261.34
Yearling heifer sale weight, pounds	750	Yearling heifer sale price, per hundredweight	191.20
Heavy cull heifer sale weight, pounds	1,000	Heavy cull heifer sale price, per hundredweight	222.98
Bred heifer sale weight, pounds	1,000	Bred heifer sale price, per head	3,000.00
Labor, hours per head	5	Labor cost, per hour	19.80
Pasture, animal unit months	8.17	Pasture, per animal unit month	20.00

Table 3. Feed and stored forage requirements in replacement beef heifer planning budget for 2025, on a per heifer basis.

		November to May[1]	May to October[2]	October to December[3]		
Feed description	Dollars per unit	Pounds	Pounds	Pounds	Total pounds	Dollars[4]
Mixed hay, per ton	115.00	1,250			1,250	71.88
Processed corn, per bushel	5.54	240		90	330	32.65
Protein supplement, per ton	180.00	240		90	330	29.70
Salt and minerals, per ton	1,200.00	49	39	16	104	62.40
Total		**1,779**	**39**	**196**	**2,014**	**196.62**

1. Beginning weight of 550 pounds and ending weight of 750 pounds after a 170-day feeding period.
2. Beginning weight of 750 pounds and ending weight of 925 pounds after a 150-day feeding period.
3. Beginning weight of 925 pounds and ending weight of 1,000 pounds after a 60-day feeding period.
4. Totals may not sum due to rounding.

Table 4. Machinery assumptions used in replacement beef heifer planning budget for 2025.

Description	Dollars per hour	Hours	Total dollars[1]	Dollars attributed to total heifer operation[2]	Dollars per replacement heifer[3]
Tractor, 105 MFWD	53.67	75	2,684	349	47
Truck	40.00	30	600	78	10
Livestock trailer	20.00	8	480	62	8
4-wheeler	12.00	180	2,160	281	37
Total			**5,924**	**770**	**103**

1. Total machinery costs are based on combined cow-calf and replacement heifer operation.
2. 13 percent of the total machinery costs for the beef herd are attributed to the heifer operation.
3. An average of 7.5 replacement heifers are assumed to be raised yearly in a 50-cow herd.

Abbreviations: MFWD = mechanical front-wheel drive tractor

Farmers can customize this budget using the Missouri Beef Budget spreadsheet, which can be downloaded from the beef section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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Missouri Beef Cow-Calf Planning Budget

Using this planning budget, beef cow-calf farmers may estimate their costs and returns for 2025. Table 1 presents estimates for a cow-calf operation (50-cow herd size and purchased replacements) in Missouri with either a fall or spring calving season. Assumptions were based on price forecasts as of October 2024. Detailed assumptions and feed requirements are summarized in Tables 2, 3 and 4. The production practices used to develop these cost estimates are common in Missouri beef farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri beef cow-calf planning budget for 2025.

	Fall calving	Spring calving	Your estimate
	Dollars per cow[1]	Dollars per cow[1]	
Income			
Steer calf sales	765.87	710.58	
Heifer calf sales	660.64	610.88	
Cull cow sales	196.37	215.18	
Total income	1,622.87	1,536.64	
Operating costs			
Pasture (rental rate)	230.40	256.40	
Feed, mineral and stored forage	345.61	290.99	
Labor	158.40	158.40	
Veterinary, drugs and supplies	37.50	37.50	
Marketing	40.57	38.42	
Machinery and utility costs	120.41	111.07	
Livestock facility repairs	8.50	8.50	
Cow replacement	390.00	450.00	
Bull cost	45.00	45.00	
Professional fees (legal, accounting, etc.)	1.00	1.00	
Miscellaneous expense	6.00	6.00	
Operating interest	39.21	37.76	
Total operating costs	1,422.60	1,441.05	
Ownership costs			
Depreciation on facilities and equipment	9.10	9.10	
Interest on breeding stock, facilities and equipment	237.00	241.20	
Insurance/taxes on breeding stock and capital items	69.33	69.81	
Total ownership costs	315.42	320.11	
Total costs	1,738.02	1,761.16	
Income over operating costs	**200.28**	**95.59**	
Income over total costs	**–115.14**	**–224.52**	
Return to land and labor	**273.66**	**190.28**	

1. Totals may not sum due to rounding.

Written by
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Table 2. Income assumptions used in Missouri beef cow-calf planning budget for 2025.

Category	Percent	Weight (pounds)	Dollars per cwt	Calf crop (percent weaned)	Dollars per cow
Fall calving					
Steer	50	590	295.02	88	765.87
Heifers	50	550	272.99	88	660.64
Cull cows	12	1,250	130.91		196.37
Spring calving					
Steer	50	590	283.38	85	710.58
Heifers	50	550	261.34	85	610.88
Cull cows	14	1,250	122.96		215.18

Abbreviations: cwt = hundredweight

Table 3. Other assumptions used in Missouri beef cow-calf planning budget for 2025.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Labor, hours per cow	8	Labor cost, per hour	19.80
Fall calving cows replaced, percent	13	Heifer replacement value, per head	3,000.00
Spring calving cows replaced, percent	15	Fall calving bull value, per head	4,200.00
		Spring calving bull value, per head	4,057.00

Table 4. Feed requirements in Missouri beef cow-calf planning budget for 2025, on a per cow basis.

	Dollars per unit	Cow (units)	Calf (units)	Bull[2] (units)	Total units	Total dollars per cow[3]
Fall calving						
Pasture, per animal unit equivalent	20.00	11.0[1]		0.5	11.5	230.40
Harvested forage, per pound	0.0525	4,392.0	510.0	240.0	5,142.0	269.96
Protein supplement, per pound	0.09	225.0		7.2	232.2	20.90
Salt and mineral mix, per pound	0.6	91.3			91.3	54.75
Total						**690.21**
Spring calving						
Pasture, per animal unit equivalent	20.00	12.3[1]		0.5	12.8	256.40
Harvested forage, per pound	0.0525	4,099.5		240.0	4,339.5	227.82
Protein supplement, per pound	0.09	90.0		3.6	93.6	8.42
Salt and mineral mix, per pound	0.6	91.3			91.3	54.75
Total						**547.39**

1. Cow and calf requirements are combined for pasture animal unit equivalents.
2. Bull feed units are based on 4 percent of its total need being allocated to cow-calf enterprise.
3. Totals may not sum due to rounding.

Farmers can customize this budget using the Missouri Beef Budget spreadsheet, which can be downloaded from the beef section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

The publication revises and replaces MU Extension publications G679, Southern Missouri Beef Cow-Calf Planning Budget, and G680, Northern Missouri Beef Cow-Calf Planning Budget.

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Yearling Beef Steer Feeding Planning Budget

Using this planning budget, beef cattle producers may estimate their costs and returns for 2025. Table 1 presents estimates for yearling steers purchased in November 2024 and sold in April 2025 in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed assumptions and feed requirements are summarized in Tables 2, 3 and 4. The production practices used to develop these cost estimates are common in Missouri beef farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri yearling beef steer feeding planning budget.

	Dollars per steer sold[1]	Your estimate
Income		
Market steer sales	2,481.38	
Less death loss (2 percent)	–49.63	
Total income	2,431.76	
Operating costs		
Purchased steer calf	2,027.36	
Purchased feed	412.30	
Labor	39.60	
Veterinary, drugs and supplies	11.75	
Marketing	60.79	
Machinery and feed preparation	66.60	
Utilities	6.00	
Facility and equipment repair	11.00	
Professional fees	1.00	
Miscellaneous	1.00	
Operating interest	100.80	
Total operating costs	2,738.21	
Ownership costs		
Depreciation on facilities and equipment	4.50	
Interest on facilities and equipment	5.44	
Insurance and taxes on capital items	7.09	
Total ownership costs	17.03	
Total costs	2,755.24	
Income over operating costs	**–306.46**	
Income over total costs	**–323.48**	

1. Totals may not sum due to rounding.

Written by
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Wesley Tucker, Field Specialist in Agricultural Business
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Table 2. Assumptions in Missouri yearling beef steer feeding planning budget.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Steer purchase weight, pounds	750	Steer purchase price, per hundredweight	270.32
Market steer sale weight, pounds	1,350	Market steer sale price, per hundredweight	183.81
Labor, hours per head	2	Labor cost, per hour	19.80
Operating interest, annual percentage	7.75		

Table 3. Feed requirements per steer in Missouri yearling beef steer feeding planning budget.

Feed description	Unit	Percent	Dollars per unit	Total pounds[1]	Dollars
Corn	bushel	68.00	4.70	3,264	273.94
Dried distiller grains	ton	18.25	180.00	876	78.84
Mixed hay	ton	12.00	115.00	576	33.12
Limestone	ton	1.00	200.00	48	4.80
Salt and additives	ton	0.75	1,200.00	36	21.60
Total		**100.00**		**4,800**	**412.30**

1. Ration assumes 180 days on feed and 3.33 pound average daily gain for a steer.

Table 4. Machinery assumptions used in Missouri yearling beef steer feeding planning budget.

Description	Dollars per hour	Hours	Dollars
Tractor, 105 MFWD	53.67	90	4,830.30
Grinder/mixer wagon	15.00	90	1,350.00
Pickup	40.00	8	320.00
Stock trailer	20.00	8	160.00
Total			6,660.30
Total per steer[1]			**66.60**

1. Machinery needs are based on 100 fed steers.

Abbreviations: MFWD = mechanical front-wheel drive tractor

Farmers can customize this budget using the Missouri Beef Budget spreadsheet, which can be downloaded from the beef section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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On-Farm Beef Finishing Planning Budget

Beef cattle producers raising calves from birth to finish may use this planning budget to estimate their costs and returns in 2025. Table 1 presents estimates for the costs and returns associated with raising and finishing calves born in spring- and fall-calving herds, based on price forecasts as of October 2024. Detailed assumptions and feed requirements for systems starting with each calving season are summarized in Tables 2 through 5.

The production practices used to develop these estimates assume a 50-cow herd with purchased replacements, drylot backgrounding for spring calves and pasture backgrounding for fall calves, and grain-based finishing using self-feeders. Finishing weight is roughly 1,400 pounds and animals are sold by live weight. Animals are 520 days of age at slaughter.

Table 1. Missouri on-farm beef finishing planning budget for 2025.

	Fall calving		Spring calving	
	Dollars per animal sold[1]	Dollars per live pound	Dollars per animal sold[1]	Dollars per live pound
Income				
Live cattle sales	2,580.60		2,594.40	
Culled breeding stock	213.88		244.55	
Total income	**2,794.48**	**2.02**	**2,838.95**	**2.01**
Operating costs				
Cow herd feed	678.53	0.49	688.90	0.49
Backgrounding feed	90.07	0.07	149.05	0.11
Finishing feed	413.97	0.30	408.01	0.29
Labor	250.00	0.18	276.35	0.20
Veterinary and drugs	57.01	0.04	60.03	0.04
Machinery and utilities	321.88	0.23	365.60	0.26
Livestock facility repairs	16.22	0.01	25.15	0.02
Cow and bull replacement	481.40	0.35	571.09	0.40
Marketing and professional fees	73.02	0.06	74.17	0.06
Miscellaneous	11.00	0.01	11.00	0.01
Operating interest	132.11	0.10	145.15	0.10
Total operating costs	**2,525.20**	**1.83**	**2,774.50**	**1.97**
Ownership costs				
Depreciation on facilities and equipment	14.52	0.01	18.64	0.01
Interest on capital assets	228.91	0.17	233.86	0.17
Insurance and taxes on capital assets	57.79	0.04	61.04	0.04
Total ownership costs	**301.22**	**0.22**	**313.55**	**0.22**
Total costs	2,826.42	2.05	3,088.05	2.19
Income over operating costs	**269.27**	**0.20**	**64.45**	**0.05**
Income over total costs	**–31.95**	**–0.02**	**–249.10**	**–0.18**

1. Totals may not sum due to rounding.

Revised by
Drew Kientzy, Research Analyst, Agricultural Business and Policy Extension
Jennifer Lutes, Field Specialist, Agricultural Business and Policy Extension
Jake Hefley, Field Specialist, Agricultural Business and Policy Extension

Table 2. Assumptions in Missouri on-farm beef finishing planning budget (fall calving, pasture backgrounding, grain finishing).

Description	Value	Description	Value
Live cattle price, dollars per hundredweight	187.00	Cows in herd	50
Cull cow price, dollars per hundredweight	123.00	Bulls in herd	2
Days to weaning	210	Weaning weight, pounds	590
Days backgrounded	120	Backgrounded weight, pounds	810
Days on feed	190	Finished weight, pounds	1,380
Replacement heifer value, dollars per head	3,000	Marketing fee, percent of sales	2.5
Replacement rate, percent of cow herd	13.0	Operating interest, percent APR	7.75
Labor, hours per head	11.5	Labor cost, dollars per hour	19.8

Table 3. Assumptions in Missouri on-farm beef finishing planning budget (spring calving, drylot backgrounding, grain finishing).

Description	Value	Description	Value
Live cattle price, dollars per hundredweight	184.00	Cows in herd	50
Cull cow price, dollars per hundredweight	123.00	Bulls in herd	2
Days to weaning	210	Weaning weight, pounds	570
Days backgrounded	120	Backgrounded weight, pounds	840
Days on feed	190	Finished weight, pounds	1,410
Replacement heifer value, dollars per head	3,000	Marketing fee, percent of sales	2.5
Replacement rate, percent of cow herd	15.0	Operating interest, percent APR	7.75
Labor, hours	12.5	Labor cost, dollars per hour	19.80

Table 4. Feed assumptions per animal sold in Missouri on-farm finishing planning budget (fall calving, pasture backgrounding, grain finishing system).

Feed description	Stages used	Pricing unit	Price per unit	Total pounds	Feed cost, dollars[1]
Pasture	Cow-calf, backgrounding	AUM	20.00		269.04
Mixed hay	Cow-calf, finishing	tons	115.00	6,556	376.97
Shelled corn	Finishing	bushels	4.70	3,230	271.09
Dried distillers grain	All stages	tons	180.00	1,678	151.04
Salt and mineral	All stages	tons	1,200.00	180	107.99
Limestone	Backgrounding, finishing	tons	200.00	64	6.44
Total				**11,709[2]**	**1,182.56**

1. Totals may not sum due to rounding.
2. Weight of grazed forage is not included. Consumption of 13.5 AUM totalling roughly 10,530 pounds of dry matter is assumed in this system.

Table 5. Feed assumptions per animal sold in Missouri on-farm finishing planning budget (spring calving, drylot backgrounding, grain finishing).

Feed description	Stages used	Pricing unit	Price per unit	Total pounds	Feed cost, dollars[1]
Pasture	Cow-calf	AUM	20.00		309.35
Mixed hay	All stages	tons	115.00	7,016	403.40
Shelled corn	Backgrounding, finishing	bushels	4.70	3,729	313.00
Dried distillers grain	All stages	tons	180.00	1,279	115.13
Salt and mineral	All stages	tons	1,200.00	166	99.32
Limestone	Backgrounding, finishing	tons	200.00	58	5.75
Total				**12,248[2]**	**1,245.95**

1. Totals may not sum due to rounding.
2. Weight of grazed forage is not included. Consumption of 15.5 AUM totalling roughly 12,090 pounds of dry matter is assumed in this system.

Returns to on-farm finishing

Producers considering finishing beef strictly for direct-to-consumer freezer beef should understand how production scale affects their decisions. The finishing costs in this model reflect a small-scale feedlot that buys, mixes and processes raw feed inputs into an incomplete ration fed through self-feeders. The balance of the ration (roughage) is fed through free-choice hay. This business model depends on the cost of gain being lower than the opportunity cost of selling the calves at weaning. For example, a 550-pound calf selling for $250 per hundredweight is more profitable than a 1,400-pound steer selling for $180 per hundredweight when the cost of gain is more than $1.35 per pound.

Economies of scale are important in the cattle finishing business. Small operators may be better suited to buying feed premixed rather than mixing it on the farm. Similarly, larger operations than the one described will have the scale to justify the equipment and facilities necessary to handle wet feed ingredients that can sometimes be produced or obtained at a lower cost. The costs and returns experienced on an individual operation can vary widely from what is described in this budget.

Other resources

Use the resources below to customize on-farm finishing budgets for your operation, explore marketing opportunities or see other beef cattle budgets from University of Missouri Extension.

- Missouri Beef On-Farm Finishing Budget for Fall Calving (XLSX) (extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/on-farm-finishing-budget-fall-calves.xlsx)
- Missouri Beef On-Farm-Finishing Budget for Spring Calving (XLSX) (extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/on-farm-finishing-budget-spring-calves.xlsx)
- Evaluating Marketing Opportunities for Local Beef in Missouri (extension.missouri.edu/publications/g204) showcases opportunities to market beef raised and finished on-farm directly to consumers as either freezer beef (wholes, halves and quarters) or as retail cuts.
- Other beef cattle budgets and related information can be found on the Beef Extension publications page (extension.missouri.edu/programs/beef-extension/publications).

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Feeder Pigs Planning Budget

Using this budget, farmers can estimate the costs and returns associated with feeder pig production. Table 1 presents estimates for a confinement feeder pig operation in Missouri producing 24.2 pigs per sow per year and selling 23.6 feeder pigs at 50 pounds each. Assumptions were based on price forecasts as of October 2024. Detailed assumptions and feed requirements are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for Missouri swine farms. Use the "Your estimate" column to estimate your operation's costs and returns for 2025.

Table 1. Missouri feeder pigs planning budget for 2025.

	Dollars per sow[1]	Your estimate
Income		
Feeder pigs sold (23.6 head)	1,545.47	
Cull sows sold (2.2 hundredweight)	114.10	
Manure value (1,470 gallons)	4.73	
Total income	1,664.30	
Operating costs		
Feed and processing	458.00	
Labor	235.95	
Veterinary and medicine	133.02	
Replacement gilts	197.24	
Semen and genetics	28.60	
Utilities and fuel	67.88	
Facility repair and maintenance	70.09	
Marketing and miscellaneous	25.01	
Operating interest	26.76	
Total operating costs	1,242.55	
Ownership costs		
Taxes and insurance	21.55	
Machinery and equipment	358.74	
Interest on breeding stock	23.40	
Total ownership costs	403.70	
Total costs	1,646.24	
Income over operating costs	**421.76**	
Income over total costs	**18.06**	

1. Totals may not sum due to rounding.

Written by
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Magdiel Soriano, Field Specialist in Livestock
Tim Safranski, Professor, Animal Sciences

Table 2. Assumptions used in Missouri feeder pigs budget for 2025.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Feeder pig sale weight, pounds	50	Feeder pig sale price, per head	65.50
Cull sow sale weight, pounds	400	Cull sow price, per hundredweight	52.45
Replacement gilt weight, pounds	280	Replacement gilt price, per head	322.76
Labor, hours per sow	12.1	Labor rate, per hour	19.50
Weaned pigs/sow/year	24.2	Feed processing, per ton	15.50
Manure production, 1,000 gallons	1.5	Manure value, per 1,000 gallons	3.22
Weaned to feeder death loss, percent	2.5		
Sow/gilt death loss, percent	11.0		
Operating interest, annual percentage	7.75		

Table 3. Annual feed requirements for the Missouri feeder pigs budget for 2025.

Feed description	Pounds per sow	Dollars per pound	Total per sow
Corn	2,586.0	0.08	217.04
Soybean meal	605.0	0.19	111.93
Dried distillers grain with solubles	91.0	0.09	7.78
Vitamin and mineral supplement	54.0	0.50	27.00
Nursery pellets	49.0	0.40	19.60
Other feed additives	2.2	22.00	48.40
Total	**3,387.2**		**431.74**

Farmers can customize this budget using the Missouri Confinement Swine Budgets spreadsheet, which can be downloaded from the swine section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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Farrow to Finish Swine Planning Budget

Using this budget, farmers raising hogs from farrow to finish can plan their costs and returns in 2025. Table 1 presents estimates for a confinement farrow to finish operation in Missouri producing 24.2 pigs per sow per year and selling 22 market hogs at 280 pounds. Assumptions were based on price forecasts as of October 2024. Detailed assumptions and feed requirements are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for Missouri swine farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri farrow to finish swine planning budget for 2025.

	Dollars per sow[1]	Your estimate
Income		
Market hogs sold (66.1 hundredweight)	4,076.27	
Cull sows sold (2.2 hundredweight)	114.10	
Manure value (4,800 gallons)	46.90	
Total income	4,237.27	
Operating costs		
Feed and processing	1,551.78	
Labor	257.40	
Veterinary and medicine	229.25	
Replacement gilts	197.24	
Semen and genetics	28.60	
Utilities and fuel	150.63	
Facility repair and maintenance	159.22	
Marketing and miscellaneous	159.22	
Operating interest	103.94	
Total operating costs	2,837.28	
Ownership costs		
Taxes and insurance	56.82	
Machinery and equipment	922.00	
Interest on breeding stock	23.40	
Total ownership costs	1,002.22	
Total costs	3,839.50	
Income over operating costs	**1,399.98**	
Income over total costs	**397.76**	

1. Totals may not sum due to rounding.

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Table 2. Assumptions used in Missouri farrow to finish budget for 2025.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Market hog sale weight, pounds	280	Market hog sale price, per hundredweight	61.70
Cull sow sale weight, pounds	400	Cull sow price, per hundredweight	52.45
Replacement gilt weight, pounds	280	Replacement gilt price, per head	322.76
Labor, hours per sow	13.2	Labor rate, per hour	19.50
Weaned pigs/sow/year	24.2	Feed processing, per ton	15.50
Manure production, 1,000 gallons	4.8	Manure value, per 1,000 gallons	9.77
Weaned to finish death loss, percent	5.0		
Sow/gilt death loss, percent	11.0		
Operating interest, annual percentage	7.75		

Table 3. Annual feed requirements for the Missouri farrow to finish budget for 2025.

Feed description	Pounds per sow	Dollars per pound	Total per sow
Corn	12,900.0	0.08	1,082.68
Soybean meal	1,020.0	0.19	188.70
Dried distillers grain with solubles	300.0	0.09	25.65
Vitamin and mineral supplement	150.0	0.50	75.00
Nursery pellets	49.0	0.40	19.59
Other feed additives	2.2	22.00	48.40
Total	**14,421.2**		**1,440.02**

Farmers can customize this budget using the Missouri Confinement Swine Budgets spreadsheet, which can be downloaded from the swine section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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Hog Finishing Planning Budget

Using this budget, farmers can estimate the costs and returns of finishing hogs in Missouri. Table 1 presents estimates for a confinement hog finishing operation in Missouri that purchases 103 head of 50 pound pigs and sells 100 head of 280 pound market hogs. Assumptions were based on price forecasts as of October 2024. Detailed assumptions and feed requirements are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for Missouri swine farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri hog finishing budget for 2025.

	Dollars per lot of 100 hogs[1]	Your estimate
Income		
Market hogs sold (100 head)	17,276.00	
Manure value (10,230 gallons)	151.30	
Total income	17,427.30	
Operating costs		
Purchased pigs	6,713.75	
Feed and processing	7,198.93	
Labor	331.50	
Veterinary and medicine	913.10	
Utilities and fuel	432.40	
Facility/equipment repair and maintenance	483.00	
Marketing and miscellaneous	342.70	
Operating interest	257.27	
Total operating costs	16,672.64	
Ownership costs		
Taxes and insurance	271.40	
Machinery and equipment	1,584.70	
Total ownership costs	1,856.10	
Total costs	18,528.74	
Income over operating costs	**754.66**	
Income over total costs	**–1,101.44**	

1. Totals may not sum due to rounding.

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Table 2. Assumptions used in Missouri hog finishing budget for 2025.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Feeder pig purchase weight, pounds	50	Feeder pig purchase price, per head	65.50
Market hog weight, pounds	280	Market hog sale price, per hundredweight	61.70
Labor, hours per pig	0.17	Labor rate, per hour	19.50
Manure production, per hog, 1,000 gallons	0.102	Manure value, per 1,000 gallons	14.79
Death loss, percent	2.5	Feed processing, per ton	15.50
Operating interest, annual percentage	7.75		

Table 3. Feed requirements used in Missouri hog finishing budget for 2025.

Feed description	Pounds/hog/cycle	Dollars per pound	Dollars per lot of 100 hogs
Corn	500	0.08	4,196.43
Soybean meal	100	0.19	1,850.00
Dried distillers grain with solubles	30	0.09	256.50
Vitamin and mineral supplement	10	0.40	400.00
Total	**640**		**6,702.93**

Farmers can customize this budget using the Missouri Confinement Swine Budgets spreadsheet, which can be downloaded from the swine section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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Dairy (Confinement) Planning Budget

Using this planning budget, dairy farmers may estimate their costs and returns for 2025. Table 1 presents estimates for a 150-cow confinement dairy (replacements raised on farm) in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed inputs, feed requirements and investments are summarized in Tables 2, 3 and 4. The production practices used to develop these cost estimates are common for Missouri confinement dairies. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri dairy (confinement) planning budget for 2025.

	20,000 pounds milk sold		25,000 pounds milk sold		Your estimate
	Dollars per cow[1]	Dollars per cwt[1]	Dollars per cow[1]	Dollars per cwt[1]	
Income					
Milk sales	4,499.95	22.50	5,625.00	22.50	
Government payments	0.00	0.00	0.00	0.00	
Bull and surplus heifer sales	264.50	1.32	264.50	1.06	
Cull cow sales	501.12	2.51	501.12	2.00	
Total income	5,265.57	26.33	6,390.62	25.56	
Operating costs					
Feed	2,215.79	11.08	2,465.78	9.86	
Labor	646.55	3.23	646.55	2.59	
Veterinary, drugs and supplies	150.00	0.75	155.00	0.62	
Utilities and water	65.00	0.33	80.00	0.32	
Fuel, oil and vehicle	90.00	0.45	90.00	0.36	
Milk hauling and promotion	370.00	1.85	462.50	1.85	
Building and equipment repair	209.89	1.05	209.89	0.84	
Breeding/genetic charges	60.00	0.30	60.00	0.24	
Professional fees (legal, accounting, etc.)	12.00	0.06	12.00	0.05	
Miscellaneous and DMC premiums	30.00	0.15	37.50	0.15	
Operating interest	134.82	0.67	145.57	0.58	
Total operating costs	3,984.05	19.92	4,364.79	17.46	
Ownership costs					
Depreciation on buildings and equipment	469.99	2.35	469.99	1.88	
Interest on land, buildings and equipment	328.35	1.64	328.35	1.31	
Interest on breeding stock	174.38	0.87	174.38	0.70	
Insurance/tax on capital items	143.05	0.72	143.05	0.57	
Total ownership costs	1,115.77	5.58	1,115.77	4.46	
Total costs	5,099.81	25.50	5,480.55	21.92	
Income over operating costs	**1,281.52**	**6.41**	**2,025.83**	**8.10**	
Income over total costs	**165.75**	**0.83**	**910.07**	**3.64**	

1. Totals may not sum due to rounding.
Abbreviations: cwt = hundredweight

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Scott Poock, Associate Extension Professor, Veterinary Medicine; **Reagan Bluel** and **Chloe Collins**, Field Specialists in Dairy

Table 2. Input assumptions used in dairy (confinement) planning budget for 2025.

Selected input quantities	Quantity	Selected input prices	Dollars per unit
Cull cow sale weight, pounds	1,450	Cull cow sale price, per hundredweight	128.00
Labor, cows per worker	70	Annual labor salary and benefits, per worker	52,500.00
Calf crop, percent	95	Average bull calf sale price, per head	450.00
Heifer replacement, percent	33	Average surplus heifer calf sale price, per head	350.00
Operating interest, annual percentage	7.75	Milk price, per hundredweight	22.50

Table 3. Feed requirements used in dairy (confinement) planning budget for 2025, on a per cow basis.

		20,000 pounds milk sold		25,000 pounds milk sold	
Feed description	Cost per unit	Pounds	Dollars[2]	Pounds	Dollars[2]
Corn silage, per ton	48.00	12,223	293.36	14,416	345.99
Alfalfa baleage, per ton	106.00	3,741	198.27	5,296	280.67
Corn, ground, per bushel	4.50	3,470	278.85	3,658	293.91
Alfalfa hay, per ton	250.00	1,708	213.48	1,934	241.76
Whole cotton seed, per ton	260.00	1,675	217.79	1,897	246.64
Soybean hulls, per ton	180.00	1,125	101.22	752	67.67
Soybean meal, per ton	370.00	1,095	202.54	1,354	250.57
Distillers grain, dry, per ton	171.00	1,005	85.94	949	81.11
Grass hay, per ton	100.00	914	45.68	914	45.68
Minerals/vitamins, per ton	840.00	577	242.37	656	275.46
Total lactating and dry cow feed cost			1,879.49		2,129.47
Replacement heifer feed and forage cost[1]			336.30		336.30
Total feed cost per cow			**2,215.79**		**2,465.78**

1. Total replacement heifer (0 to 24 months) feed cost is $1,019.10 and was adjusted to a 33% heifer replacement rate.
2. Totals may not sum due to rounding.

Table 4. Investment assumptions in dairy (confinement) planning budget for 2025.

Description	Quantity	Dollars per unit	Total dollars	Dollars per cow[2]
Land, acres	4	4,800	19,200	127
Milking parlor, stalls	12	35,000	420,000	2,785
Breeding herd, cows	150	2,250	339,300	2,250
Free stall barn, stalls	130	3,000	390,000	2,586
Land improvements			5,000	33
Feed storage			77,743	516
Manure storage system			130,000	862
Equipment			109,000	723
Total[1]			**1,490,243**	**9,882**

1. Totals may not sum due to rounding.
2. Represents total cows in herd.

Farmers can customize this budget using the Missouri Dairy Budget spreadsheet, which can be downloaded from the dairy section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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Dairy (Grazing) Planning Budget

Using this planning budget, dairy farmers may estimate their costs and returns for 2025. Table 1 presents estimates for a 150-cow rotational grazing dairy (replacements raised on farm) in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed inputs, feed requirements and investments are summarized in Tables 2, 3 and 4. The production practices used to develop these cost estimates are common for Missouri grazing dairies. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri dairy (grazing) planning budget for 2025.

	11,000 pounds milk sold		14,000 pounds milk sold		Your estimate
	Dollars per cow[1]	Dollars per cwt[1]	Dollars per cow[1]	Dollars per cwt[1]	
Income					
Milk sales	2,475.05	22.50	3,150.07	22.50	
Government payments	0.00	0.00	0.00	0.00	
Bull and surplus heifer sales	310.00	2.82	310.00	2.21	
Cull cow sales	253.44	2.30	253.44	1.81	
Total income	3,038.49	27.62	3,713.51	26.52	
Operating costs					
Feed	1,066.05	9.69	1,146.51	8.19	
Labor	437.50	3.98	437.50	3.12	
Veterinary, drugs and supplies	110.00	1.00	120.00	0.86	
Utilities and water	60.00	0.55	60.00	0.43	
Fuel, oil and vehicle	70.00	0.64	70.00	0.50	
Milk hauling and promotion	203.50	1.85	259.01	1.85	
Building and equipment repair	194.17	1.77	194.17	1.39	
Breeding/genetic charges	60.00	0.55	60.00	0.43	
Professional fees (legal, accounting, etc.)	12.00	0.11	12.00	0.09	
Miscellaneous and DMC premiums	16.50	0.15	21.00	0.15	
Operating interest	78.52	0.71	82.20	0.59	
Total operating costs	2,308.24	20.98	2,462.38	17.59	
Ownership costs					
Depreciation on buildings and equipment	136.97	1.25	136.97	0.98	
Interest on land, buildings and equipment	486.96	4.43	486.96	3.48	
Interest on breeding stock	174.38	1.59	174.38	1.25	
Insurance/taxes on capital items	75.23	0.68	75.23	0.54	
Total ownership costs	873.53	7.94	873.53	6.24	
Total costs	3,181.77	28.92	3,335.91	23.83	
Income over operating costs	**730.25**	**6.64**	**1,251.13**	**8.94**	
Income over total costs	**–143.28**	**–1.30**	**377.60**	**2.70**	

1. Totals may not sum due to rounding.
Abbreviations: cwt = hundredweight

Written by
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Table 2. Input assumptions used in dairy (grazing) planning budget for 2025.

Selected input quantities	Quantity	Selected input prices	Dollars per unit
Cull cow sale weight, pounds	1,100	Cull cow sale price, per hundredweight	128.00
Labor, cows per worker	100	Annual labor salary and benefits, per worker	52,500.00
Calf crop, percent	95	Average bull calf sale price, per head	450.00
Heifer replacement, percent	20	Average surplus heifer calf sale price, per head	350.00
Operating interest, annual percentage	7.75	Milk price, per hundredweight	22.50

Table 3. Feed requirements in dairy (grazing) planning budget for 2025, on a per cow basis.

		11,000 pounds milk sold		14,000 pounds milk sold	
Feed description	**Cost per unit**	**Pounds**	**Dollars[2]**	**Pounds**	**Dollars[2]**
Pasture (intensive dairy), dry matter per ton	100.00	7,335	366.77	7,658	382.88
Alfalfa hay, per ton	250.00	1,289	161.18	1,289	161.18
Corn, cracked, per bushel	4.50	910	73.13	1,384	111.24
Soybean hulls, per ton	180.00	910	81.90	1,068	96.13
Distillers grain, dry, per ton	171.00	791	67.59	949	81.11
Grass hay, per ton	100.00	670	33.50	639	31.97
Minerals/vitamins, per ton	840.00	186	78.18	186	78.18
Total lactating and dry cow feed cost			862.23		942.69
Replacement heifer feed and forage cost[1]			203.82		203.82
Total feed cost per cow			**1,066.05**		**1,146.51**

1. Total replacement heifer (0 to 24 months) feed cost is $1,019.10 and was adjusted to a 20% heifer replacement rate.
2. Totals may not sum due to rounding.

Table 4. Investment assumptions in dairy (grazing) planning budget for 2025.

Description	Quantity	Dollars per unit	Total dollars	Dollars per cow[2]
Land, acres	200	4,800	960,000	5,333
Milking parlor, stalls	24	8,000	192,000	1,067
Breeding herd, cows	180	2,250	405,000	2,250
Working facility			17,060	95
Feed storage			14,350	80
Manure storage system			37,500	208
Equipment			50,000	278
Total[1]			**1,675,910**	**9,311**

1. Totals may not sum due to rounding.
2. Represents total cows in herd.

Farmers can customize this budget using the Missouri Dairy Budget spreadsheet, which can be downloaded from the dairy section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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Dairy Heifer Planning Budget

Using this planning budget, farmers raising dairy heifers may estimate their costs and returns for 2025. Table 1 presents estimates for dairy calves purchased at birth, bred and sold at 24 months in Missouri. Assumptions were based on price forecasts in October 2024. Inputs and feed requirements are summarized in Tables 2 and 3. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri dairy heifer planning budget for 2025.

	Dollars per heifer sold[1]	Your estimate
Income		
Springer heifer sales (0.95 head)	2,137.50	
Cull heifer sales (0.025 head)	52.00	
Yearling heifer sales (0.025 head)	29.00	
Less death loss (4 percent) of purchased calves	-14.00	
Total income	2,204.50	
Operating costs		
Purchased heifer calf and interest	406.42	
Feed (birth to 24 months of age)	1,019.10	
Labor	195.00	
Veterinary, drugs and supplies	25.00	
Breeding costs for artificial insemination services	50.00	
Transportation and marketing	20.00	
Utilities, fuel and oil	20.00	
Building and equipment repairs	10.50	
Miscellaneous	18.00	
Operating interest	52.61	
Total operating costs	1,816.63	
Ownership costs		
Depreciation on buildings and equipment	55.80	
Interest on buildings and equipment	44.76	
Insurance and taxes on buildings and equipment	15.53	
Total ownership costs	116.08	
Total costs	1,932.71	
Income over operating costs	**387.87**	
Income over total costs	**271.79**	
Total cost per day per heifer sold	2.12	
Total cost per pound of gain per heifer sold	1.28	
Springer heifer break-even price per head	1,963.91	

1. Totals may not sum due to rounding.

Written by
Ryan Milhollin and **Adauto Rocha Jr.,** Assistant Extension Professors, Agricultural Business and Policy;
Scott Poock, Associate Extension Professor, Veterinary Medicine; **Reagan Bluel** and **Chloe Collins**, Field Specialists in Dairy

Table 2. Input assumptions used in dairy heifer planning budget for 2025.

Selected input quantities	Quantity	Selected input prices	Dollars per unit
Cull heifer sale weight, pounds	1,300	Cull heifer sale price, per hundredweight	160.00
Yearling heifer sale weight, pounds	725	Yearling heifer sale price, per hundredweight	160.00
Labor, hours	10	Springer heifer sale price, per head	2,250.00
		Labor cost, per hour	19.50
		Heifer purchase price	350.00

Table 3. Feed requirements for dairy heifer planning budget for 2025.

Birth to 6 months (90 to 400 pounds)		Pre-weaning ration (90 to 180 pounds)		Transition ration (180 to 235 pounds)		Early growing ration (235 to 400 pounds)	
Feed description	**Cost per unit**	**Units**	**Dollars[1]**	**Units**	**Dollars[1]**	**Units**	**Dollars[1]**
Milk replacer, per pound	1.75	100	175.00				
Calf starter, per pound	0.25	100	25.00	100	25.00		
Alfalfa hay, per pound	0.125	20	2.50	90	11.25	225	28.13
Calf grower, per pound	0.20			50	10.00	450	90.00
Grass hay, per pound	0.05					225	11.25
Pasture, per animal unit month	20.00					0.4	8.17
Feed cost per period			**202.50**		**46.25**		**137.54**
Total feed costs[2]			**386.29**				
6 to 12 months (400 to 725 pounds)		**Winter ration**		**Spring/Fall ration**		**Summer ration**	
Feed description	**Cost per unit**	**Units**	**Dollars[1]**	**Units**	**Dollars[1]**	**Units**	**Dollars[1]**
Corn gluten feed, per pound	0.0925	525	48.56			270	24.98
Corn, cracked, per pound	0.0804	387	31.10	252	20.25	234	18.80
Soybean hulls, per pound	0.09	263	23.63	360	32.40	270	24.30
Grass hay, per pound	0.05	1,350	67.50				
Mineral, per pound	0.421	36	15.16	36	15.16	36	15.16
Pasture, per animal unit month	20.00			1.1	22.50	1.7	33.75
Feed cost per period			**185.94**		**90.31**		**116.98**
Average total feed costs			**241.77**				
12 to 24 months (725 to 1,380 pounds)		**Winter ration**		**Spring/Fall ration**		**Summer ration**	
Feed description	**Cost per unit**	**Units**	**Dollars[1]**	**Units**	**Dollars[1]**	**Units**	**Dollars[1]**
Corn gluten feed, per pound	0.0925	225	20.81			207	19.15
Corn, cracked, per pound	0.0804	135	10.85	90	7.23	117	9.40
Soybean hulls, per pound	0.09	90	8.10	180	16.20	207	18.63
Grass hay, per pound	0.05	1,710	85.50				
Mineral, per pound	0.421	18	7.58	18	7.58	18	7.58
Pasture, per animal unit month	20.00			2.1	42.10	3.2	63.15
Feed cost per period			**132.84**		**73.11**		**117.91**
Average total feed costs[3]			**396.97**				

1. Totals may not sum due to rounding; 2. Feed cost adjusted to account for death loss (4 percent); 3. Feed cost adjusted to account for sale of yearling heifers (2.5 percent).

Farmers can customize this budget using the Missouri Dairy Budget spreadsheet, which can be downloaded from the dairy section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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Sheep Planning Budget

Table 1. Missouri hair sheep planning budget for 2025: Late lambing, sell in January (50 ewes, 180% lambing rate).

	Head per ewe	Quantity	Unit	Dollars per unit	Dollars per ewe	Dollars per enterprise
Returns						
Heavy lambs	0.22	75	pound	2.78	45.87	2,293.50
Light lambs	1.48	65	pound	2.97	285.71	14,285.70
Culled ewes	0.14	170	pound	1.05	21.42	1,071.00
Culled rams	0.02	200	pound	1.05	4.20	210.00
Total returns					357.20	17,860.20
Operating costs						
Ewe replacement	0.14		head	200.00	28.00	1,400.00
Ram cost and breeding supplies	0.04		head	400.00	9.00	450.00
Pasture		1.06	acre	35.00	37.15	1,857.63
Hay		846.0	pound	0.052	44.35	2,217.44
Supplement		67.0	pound	0.119	7.94	396.92
Mineral		5.9	pound	0.50	7.13	356.73
Animal health					5.59	279.25
Guard dog replacement and food					10.60	529.88
Bedding and stock supplies					3.25	162.50
Marketing		7	percent		25.00	1,250.21
Machinery fuel, lube, repair					24.11	1,205.61
Facility maintenance					3.90	195.00
Operating interest		7.75	percent		9.05	452.70
Operator and hired labor		3.76	hour	19.80	74.45	3,722.40
Total operating costs					289.53	14,476.28
Ownership costs						
Business overhead (professional fees, utilities, miscellaneous)					4.50	225.00
Property taxes and insurance					11.00	550.00
Economic depreciation, facility and equipment					37.96	1,897.92
Interest on capital investment		7.25	percent		37.42	1,870.95
Total ownership costs					90.88	4,543.87
Total costs					380.40	19,020.15
Return over operating costs					**67.68**	**3,383.92**
Return over total costs					**–23.20**	**–1,159.95**
Return to land and labor					88.40	4,420.08
Shutdown lamb price, all else equal, dollars per pound					2.34	
Breakeven lamb price, all else equal, dollars per pound					3.15	

Written by
Jennifer Lutes, Field Specialist, Agricultural Business

This sheep budget is designed to reflect the economic costs and returns of a 50 ewe, spring lambing flock (March/April) with lambs marketed between 65 and 75 pounds the following January. This management system takes advantage of spring forage production and the fall breeding season.

Farmers can customize this budget using the Missouri Sheep Budget spreadsheet, which can be downloaded from the sheep and goat section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets). Download the spreadsheet tool to keep an electronic copy of your cost and return estimates for sheep in Missouri.

Table 2. Budgeted production rates in sheep budget for 2025.

Rates	Quantity
Lambings, per ewe per year	1
Ewe numbers, start of breeding season	50
Rams for breeding	2
Lamb crop (live birth per exposed), percent	180
Lamb crop (raised to sale weight), percent	170
Adult death loss, percent	2
Lamb death loss, pre-weaning, percent	3
Lamb death loss, post-weaning, percent	2

Table 3. Feed and labor assumptions in sheep budget for 2025.

Cost description	Unit	Units per head, adults	Units per head, lambs	Total units per ewe	Weighted price (dollars per unit)	Total dollars per ewe
Pasture	acre	0.600	0.250	1.06	35.00	37.15
Hay	pound	813.3	0.0	846	0.052	44.35
Supplement	pound	57.0	4.4	66.9	0.119	7.94
Mineral	pound	8.0	5.0	11.9	0.60	7.13
Labor	hour	2.75	0.5	3.76	19.80	74.45

Table 4. Capital investment assumptions in sheep budget for 2025.

Investment description	Unit	Quantity	Dollars per unit	Enterprise total dollars	Dollars per ewe
Breeding stock unit	ewe	50	293	14,650	293
Buildings and facilities				11,500	230
Machinery, equipment and pickup				26,000	520
Total				**52,150**	**1,043**

Note: Building and machinery investment for the farm is allocated across multiple enteprises.

The publication revises and replaces MU Extension publications G685, Sheep (Early Lambing) Planning Budget, and G686, Sheep (Late Lambing) Planning Budget.

Goat Planning Budget

Table 1. Missouri meat goat planning budget for 2025: Late kidding, sell at weaning (50 does, 170% kidding rate).

	Head per doe	Quantity	Unit	Dollars per unit	Dollars per doe	Dollars per enterprise
Returns						
Heavy kids	0.32	70	pound	3.25	72.80	3,640.00
Light kids	1.28	55	pound	3.50	246.40	12,320.00
Culled does	0.14	125	pound	1.25	18.75	937.50
Culled bucks	0.02	175	pound	1.70	5.95	297.50
Total returns					343.90	17,195.00
Operating costs						
Doe replacement	0.14		head	200.00	28.00	1,400.00
Buck cost, breeding supplies	0.04		head	400.00	9.00	450.00
Pasture		1.04	acre	31.56	32.71	1,635.73
Hay		535	pound	0.053	28.13	1,406.38
Supplement		66	pound	0.117	7.77	388.46
Mineral		5.8	pound	0.60	7.01	350.46
Animal health					5.47	273.75
Guard dog replacement and food					10.60	529.88
Bedding and stock supplies					3.25	162.50
Marketing		7	percent		24.07	1,203.65
Machinery fuel, lube, repair					24.11	1,205.61
Facility maintenance					3.90	195.00
Operating interest		7.75	percent		7.83	391.49
Operator and hired labor		3.71	hour	19.80	73.46	3,672.90
Total operating costs					265.32	13,265.81
Ownership costs						
Business overhead (professional fees, utilities, miscellaneous)					4.50	225.00
Property taxes and insurance					11.00	550.00
Economic depreciation, facility and equipment					37.96	1,897.92
Interest on capital investment		7.25	percent		37.27	1,863.70
Total ownership costs					90.73	4,536.62
Total costs					356.05	17,802.43
Return over operating costs					**78.58**	**3,929.19**
Return over total costs					**–12.15**	**–607.43**
Return to land and labor					94.02	4,701.20
Shutdown kid price, all else equal, dollars per pound					2.59	
Breakeven kid price, all else equal, dollars per pound					3.57	

Written by
Jennifer Lutes, Field Specialist, Agricultural Business

The meat goat budget is designed to reflect the economic costs and returns of a 50 doe, spring kidding herd (March and April) with kids marketed between 55 and 70 pounds in January. This management system takes advantage of spring forage production, the natural breeding season, and high seasonal market prices.

Farmers can customize this budget using the Missouri Goat Budget spreadsheet, which can be downloaded from the sheep and goat section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets). Download the spreadsheet tool to keep an electronic copy of your cost and return estimates for meat goats in Missouri.

Table 2. Budgeted production rates in goat budget for 2025.

Rates	Quantity
Kiddings, per doe per year	1
Doe numbers, start of breeding season	50
Bucks for breeding	2
Kid crop (live birth per exposed), percent	170
Kid crop (raised to sale weight), percent	160
Adult death loss, percent	2
Kid death loss, pre-weaning, percent	3
Kid death loss, post-weaning, percent	2

Table 3. Feed and labor assumptions in goat budget for 2025.

Cost description	Unit	Units per head, adults	Units per head, kids	Total units per doe	Weighted price (dollars per unit)	Total dollars per doe
Pasture	acre	0.6	0.25	1.04	31.56	32.71
Hay	pound	514.5	0.0	535	0.053	28.13
Supplement	pound	57.0	4.4	66.5	0.117	7.77
Mineral	pound	8.0	5.3	11.7	0.60	7.01
Labor	hour	2.75	0.5	3.71	19.80	73.46

Table 4. Captial investment assumptions in goat budget for 2025.

Investment description	Unit	Quantity	Dollars per unit	Enterprise total dollars	Dollars per doe
Breeding stock unit	doe	50	291	14,550	291
Buildings and facilities				11,500	230
Machinery, equipment and pickup				26,000	520
Total				**52,050**	**1,041**

Note: Building and machinery investment is allocated across multiple enteprises.

The publication revises and replaces MU Extension publications G690, Goat (Early Kidding) Planning Budget, and G691, Goat (Late Kidding) Planning Budget.

Southeast Missouri Wheat Planning Budget

Using this planning budget, wheat producers may estimate their costs and returns for 2025. Table 1 presents estimates for wheat production in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for southeast Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Southeast Missouri wheat planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Grain sales	391.95	
Government payments	20.00	
Total income	411.95	
Operating costs		
Seed	34.00	
Fertilizer and soil amendments	98.88	
Crop protection chemicals	72.00	
Crop supplies, storage, and marketing	8.00	
Crop consulting and insurance	27.00	
Custom hire and rental	7.02	
Operator labor	9.40	
Machinery fuel	11.46	
Machinery repairs and maintenance	32.29	
Management	12.36	
Operating interest	12.11	
Total operating costs	324.51	
Ownership costs		
Farm business overhead	4.12	
Machinery ownership	52.16	
Real estate charge	112.50	
Total ownership costs	168.78	
Total costs	493.29	
Income over operating costs	**87.44**	
Income over total costs	**–81.34**	
Return to land and management	**43.52**	
Operating costs per bushel	4.99	
Ownership costs per bushel	2.60	
Total costs per bushel	7.59	

1. Totals may not sum due to rounding.

Written by
Drew Kientzy, Research Analyst, Agricultural Business and Policy
Ben Brown, Extension Specialist, Agricultural Business and Policy
Justin Chlapecka, Assistant Research Professor, Plant Science and Technology

Table 2 shows input assumptions for the wheat budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land and assumes wheat is followed by either double crop soybeans or milo.

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in Southeast Missouri wheat planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, bushels	65	Wheat market price, per bushel	6.03
Seeding rate, pounds	100	Seed price, per pound	0.34
Nitrogen rate (urea), pounds	95	Nitrogen (urea), per pound N	0.60
Phosphorus rate, pounds P_2O_5	42	Phosphorus, per pound P_2O_5	0.45
Potassium rate, pounds K_2O	21	Potassium, per pound K_2O	0.38
Lime rate, tons	0.5	Lime, per ton	30.00
Sum of allocated labor, hours	0.47	Skilled labor, per hour	20.00
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in Southeast Missouri wheat planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Air seeder drill with cart (52 feet), 340 HP MFWD	1	0.05	0.68	10.64	22.66	33.30
Self-propelled boom sprayer (120 feet), 275 HP	2	0.02	0.22	11.16	2.89	14.05
Draper platform (45 feet), 440 HP combine	1	0.06	0.97	14.80	14.40	29.20
Grain trailer (1,000 bushel), 475 HP road tractor		0.09	0.57	5.32	2.61	7.93
Grain cart (1,000 bushel), 280 HP MFWD		0.03	0.37	3.43	4.85	8.28
Grain auger (13 inch), 130 HP MFWD		0.02	0.11	1.31	1.32	2.63
Pickup (1 ton), 4WD		0.20	0.60	6.48	3.44	9.92
Dry fertilizer application, custom charge	1					7.02
Total[3]		**0.47**	**3.53**	**53.15**	**52.16**	**112.33**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor

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Southeast Missouri Corn Planning Budget

Using this planning budget, corn producers may estimate their costs and returns for 2025. Table 1 presents estimates for GMO furrow-irrigated corn grain production in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for southeast Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Southeast Missouri corn (furrow-irrigated) planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Grain sales	989.00	
Government payments	20.00	
Total income	1,009.00	
Operating costs		
Seed	119.25	
Fertilizer and soil amendments	242.40	
Crop protection chemicals	101.00	
Irrigation[2]	119.22	
Crop supplies, storage, and marketing	8.00	
Crop consulting and insurance	32.00	
Custom hire and rental	22.04	
Operator labor and management	49.74	
Machinery fuel and grain drying energy	113.85	
Machinery repairs and maintenance	50.00	
Operating interest	33.23	
Total operating costs	890.73	
Ownership costs		
Farm business overhead	10.09	
Machinery ownership	94.34	
Real estate charge	225.00	
Total ownership costs	329.43	
Total costs	1,220.16	
Income over operating costs	**118.27**	
Income over total costs	**–211.16**	
Return to land and management	**44.11**	
Operating costs per bushel	3.87	
Ownership costs per bushel	1.43	
Total costs per bushel	5.31	

1. Totals may not sum due to rounding.
2. Irrigation costs are explained in detail on page 2.

Written by
Drew Kientzy, Research Analyst, Agricultural Business and Policy; **Ben Brown,** Extension Specialist, Agricultural Business and Policy**;**
Justin Calhoun, Assistant Professor, Plant Science and Technology

Irrigation costs in Table 1 include fuel, labor and any leveling, ditching or leveeing required for irrigation; and ownership costs for the pumping engine and aboveground irrigation systems.

Table 2 shows input assumptions for the corn budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land.

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in Southeast Missouri corn (irrigated) planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, bushels	230	Corn market price, per bushel	4.30
Seeding rate, count	36,000	Seed, per 80,000 seed bag	265.00
Nitrogen rate (urea), pounds	250	Nitrogen (urea), per pound N	0.60
Phosphorus rate, pounds P_2O_5	95	Phosphorus, per pound P_2O_5	0.45
Potassium rate, pounds K_2O	60	Potassium, per pound K_2O	0.38
Other nutrients, pounds (S, B)	12.5	Other nutrients, average price per pound	0.71
Lime rate, tons	0.60	Lime, per ton	30.00
Sum of allocated labor, hours	0.97	Skilled labor, per hour	20.00
Irrigation water, acre-inches applied	18.0	Irrigation water applied, cost per acre-inch	6.62
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in Southeast Missouri corn (irrigated) planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Subsoiler (20 feet), 340 HP MFWD	1/3[3]	0.04	0.54	3.35	4.46	7.81
Disk bedder (36 feet), 280 HP MFWD	1	0.06	0.74	4.88	6.65	11.53
Bed leveler (36 feet), 340 HP MFWD	1	0.06	0.90	5.56	7.48	13.05
Row crop planter (40 feet), 280 HP MFWD	1	0.05	0.66	8.71	16.60	25.31
Self-propelled boom sprayer (120 feet), 275 HP	3	0.03	0.33	16.74	4.33	21.08
Corn head (36 feet), 440 HP combine	1	0.07	1.22	18.68	18.16	36.83
Grain cart (1,000 bushel), 280 HP MFWD		0.07	0.74	6.86	9.70	16.56
Grain trailer (1,000 bushel), 475 HP road tractor		0.25	1.64	15.30	7.50	22.80
Grain auger (13 inch), 130 HP MFWD		0.04	0.17	1.97	1.97	3.94
Tandem disk (32 feet), 310 HP MFWD	1	0.05	0.80	6.92	13.19	20.11
Pickup (1 ton), 4WD		0.25	0.75	8.09	4.30	12.39
Dry fertilizer application, custom charge	2					14.04
Aerially apply chemicals, custom charge	1					8.00
Total[4]		**0.97**	**8.49**	**97.07**	**94.34**	**213.45**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. One pass every three years.
4. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor

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Southeast Missouri Soybean Planning Budget

Using this planning budget, soybean producers may estimate their costs and returns for 2025. Table 1 presents estimates for GMO furrow-irrigated soybean production in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for southeast Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Southeast Missouri soybean (furrow-irrigated) planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Grain sales	643.86	
Government payments	20.00	
Total income	663.86	
Operating costs		
Seed	69.64	
Fertilizer and soil amendments	80.20	
Crop protection chemicals	109.00	
Irrigation[2]	119.22	
Crop supplies, storage, and marketing	8.00	
Crop consulting and insurance	32.00	
Custom hire and rental	15.02	
Operator labor and management	33.17	
Machinery fuel	18.28	
Machinery repairs and maintenance	33.77	
Operating interest	20.08	
Total operating costs	538.38	
Ownership costs		
Farm business overhead	6.64	
Machinery ownership	66.19	
Real estate charge	225.00	
Total ownership costs	297.83	
Total costs	836.21	
Income over operating costs	**125.48**	
Income over total costs	**–172.35**	
Return to land and management	**72.57**	
Operating costs per bushel	8.55	
Ownership costs per bushel	4.73	
Total costs per bushel	13.27	

1. Totals may not sum due to rounding.
2. Irrigation costs are explained in detail on page 2.

Written by
Drew Kientzy, Research Analyst, Agricultural Business and Policy; **Ben Brown,** Extension Specialist, Agricultural Business and Policy; **Justin Calhoun**, Assistant Professor, Plant Science and Technology

Irrigation costs in Table 1 include fuel, labor and any leveling, ditching or leveeing required for irrigation; and ownership costs for the pumping engine and aboveground irrigation systems.

Table 2 shows input assumptions for the soybean budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land.

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in Southeast Missouri soybean (irrigated) planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, bushels	63	Soybean market price, per bushel	10.22
Seeding rate, count	130,000	Seed, per 140,000 seed bag	75.00
Phosphorus rate, pounds P_2O_5	50	Phosphorus, per pound P_2O_5	0.45
Potassium rate, pounds K_2O	95	Potassium, per pound K_2O	0.38
Sulphur rate, pounds S	12	Sulphur, average price per pound	0.55
Lime rate, tons	0.50	Lime, per ton	30.00
Sum of allocated labor, hours	0.66	Skilled labor, per hour	20.00
Irrigation water, acre-inches applied	18.0	Irrigation water applied, cost per acre-inch	6.62
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in Southeast Missouri soybean (irrigated) planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Subsoiler (20 feet), 340 HP MFWD	1/3[3]	0.04	0.54	3.35	4.46	7.81
Disk bedder (36 feet), 280 HP MFWD	1	0.06	0.74	4.88	6.65	11.53
Bed leveler (36 feet), 340 HP MFWD	1	0.06	0.90	5.56	7.48	13.05
Row crop planter (40 feet), 280 HP MFWD	1	0.05	0.66	8.71	16.60	25.31
Self-propelled boom sprayer (120 feet), 275 HP	2	0.02	0.15	11.16	4.18	15.34
Draper platform (45 feet), 440 HP combine	1	0.06	0.97	14.80	14.40	29.20
Grain cart (1,000 bushel), 280 HP MFWD		0.03	0.37	3.43	4.85	8.28
Grain trailer (1,000 bushel), 475 HP road tractor		0.07	0.43	3.99	1.96	5.95
Grain auger (13 inch), 130 HP MFWD		0.02	0.11	1.31	1.32	2.63
Pickup (1 ton), 4WD		0.25	0.75	8.09	4.30	12.39
Dry fertilizer application, custom charge	1					7.02
Aerially apply chemicals, custom charge	2					8.00
Total[4]		**0.66**	**5.62**	**65.29**	**66.19**	**146.50**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. One pass every three years.
4. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor

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Southeast Missouri Soybean (Double-Crop) Planning Budget

Using this planning budget, soybean producers may estimate their costs and returns for 2025. Table 1 presents estimates for GMO center-pivot-irrigated double-crop soybean production in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for southeast Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Southeast Missouri soybean (irrigated, double-crop) planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Grain sales	562.10	
Government payments	0.00	
Total income	562.10	
Operating costs		
Seed	66.43	
Fertilizer and soil amendments	56.60	
Crop protection chemicals	100.00	
Irrigation[2]	140.70	
Crop supplies, storage, and marketing	8.00	
Crop consulting and insurance	24.00	
Custom hire and rental	15.02	
Operator labor and management	26.98	
Machinery fuel	11.43	
Machinery repairs and maintenance	29.95	
Operating interest	18.57	
Total operating costs	497.68	
Ownership costs		
Farm business overhead	5.62	
Machinery ownership	46.31	
Real estate charge	112.50	
Total ownership costs	164.43	
Total costs	662.10	
Income over operating costs	**64.42**	
Income over total costs	**–100.00**	
Return to land and management	**29.36**	
Operating costs per bushel	9.05	
Ownership costs per bushel	2.99	
Total costs per bushel	12.04	

1. Totals may not sum due to rounding. 2. Irrigation costs are explained in detail on page 2.

Written by
Drew Kientzy, Research Analyst, Agricultural Business and Policy; **Ben Brown,** Extension Specialist, Agricultural Business and Policy; **Justin Calhoun**, Assistant Professor, Plant Science and Technology

Irrigation costs in Table 1 include fuel, labor and any leveling, ditching or leveeing required for irrigation; and ownership costs for the pumping engine and aboveground irrigation systems.

Table 2 shows input assumptions for the soybean budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land and assumes double-crop soybeans are preceded by winter wheat.

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in Southeast Missouri soybean (irrigated, double-crop) planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, bushels	55	Soybean market price, per bushel	10.22
Seeding rate, count	155,000	Seed, per 140,000 seed bag	60.00
Phosphorus rate, pounds P_2O_5	46	Phosphorus, per pound P_2O_5	0.45
Potassium rate, pounds K_2O	80	Potassium, per pound K_2O	0.38
Sulphur rate, pounds S	10	Sulphur, average price per pound	0.55
Sum of allocated labor, hours	0.51	Skilled labor, per hour	20.00
Irrigation water, acre-inches applied	12.0	Irrigation water applied, cost per acre-inch	11.72
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in Southeast Missouri soybean (irrigated, double-crop) planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Row crop planter (40 feet), 280 HP MFWD	1	0.05	0.66	8.71	16.60	25.31
Self-propelled boom sprayer (120 feet), 275 HP	2	0.02	0.22	11.16	2.89	14.05
Draper platform (45 feet), 440 HP combine	1	0.06	0.97	14.80	14.40	29.20
Grain trailer (1,000 bushel), 475 HP road tractor		0.07	0.43	3.99	1.96	5.95
Grain cart (1,000 bushel), 280 HP MFWD		0.03	0.37	3.43	4.85	8.28
Grain auger (13 inch), 130 HP MFWD		0.02	0.11	1.31	1.32	2.63
Pickup (1 ton), 4WD		0.25	0.75	8.09	4.30	12.39
Dry fertilizer application, custom charge	1					7.02
Aerially apply chemicals, custom charge	1					8.00
Total[3]		**0.51**	**3.52**	**51.50**	**46.31**	**112.83**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor

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Southeast Missouri Grain Sorghum (Double-Crop) Planning Budget

Using this planning budget, grain sorghum producers may estimate their costs and returns for 2025. Table 1 presents estimates for GMO center-pivot-irrigated double-crop grain sorghum production in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for southeast Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Grain sales	414.75	
Government payments	0.00	
Total income	414.75	
Operating costs		
Seed	10.80	
Fertilizer and soil amendments	79.70	
Crop protection chemicals	112.00	
Irrigation[2]	140.70	
Crop supplies, storage, and marketing	8.00	
Crop consulting and insurance	27.00	
Custom hire and rental	15.02	
Operator labor and management	23.52	
Machinery fuel	15.10	
Machinery repairs and maintenance	34.37	
Operating interest	18.07	
Total operating costs	484.28	
Ownership costs		
Farm business overhead	4.15	
Machinery ownership	61.99	
Real estate charge	112.50	
Total ownership costs	178.63	
Total costs	662.91	
Income over operating costs	**–69.53**	
Income over total costs	**–248.16**	
Return to land and management	**–123.22**	
Operating costs per bushel	4.61	
Ownership costs per bushel	1.70	
Total costs per bushel	6.31	

1. Totals may not sum due to rounding. 2. Irrigation costs are explained in detail on page 2.

Written by
Drew Kientzy, Research Analyst, Agricultural Business and Policy; **Ben Brown,** Extension Specialist, Agricultural Business and Policy; **Justin Calhoun**, Assistant Extension Professor, Plant Science and Technology

Irrigation costs in Table 1 include fuel, labor and any leveling, ditching or leveeing required for irrigation; and ownership costs for the pumping engine and aboveground irrigation systems.

Table 2 shows input assumptions for the grain sorghum budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land and assumes double-crop grain sorghum is preceded by winter wheat.

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in Southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Grain sorghum yield, bushels	105	Grain sorghum market price, per bushel	3.95
Seeding rate, count	90,000	Seed, per 750,000 seed bag	90.00
Nitrogen rate (urea), pounds	90	Nitrogen (urea), per pound N	0.60
Phosphorus rate, pounds P_2O_5	36	Phosphorus, per pound P_2O_5	0.45
Potassium rate, pounds K_2O	25	Potassium, per pound K_2O	0.38
Sum of allocated labor, hours	0.55	Skilled labor, per hour	20.00
Irrigation water, acre-inches applied	12.0	Irrigation water applied, cost per acre-inch	11.72
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in Southeast Missouri grain sorghum (irrigated, double-crop) planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Self-propelled boom sprayer (120 feet), 275 HP	2	0.02	0.22	11.16	2.89	14.05
Row crop planter (40 feet), 280 HP MFWD	1	0.05	0.80	9.32	17.35	26.67
Draper platorm (45 feet), 440 HP combine	1	0.06	0.97	14.80	14.40	29.20
Grain cart (1,000 bushel), 280 HP MFWD		0.04	0.49	4.57	6.47	11.04
Grain trailer (1,000 bushel), 475 HP road tractor		0.10	0.64	5.99	2.93	8.92
Grain auger (13 inch), 130 HP MFWD		0.02	0.11	1.31	1.32	2.63
Pickup (1 ton), 4WD		0.20	0.60	6.48	3.44	9.92
Tandem disk (32 feet), 340 HP MFWD	1	0.05	0.80	6.92	13.19	20.11
Dry fertilizer application, custom charge	1					7.02
Aerially apply chemicals, custom charge	1					8.00
Total[3]		**0.55**	**4.65**	**60.55**	**61.99**	**137.56**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor

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Southeast Missouri Rice Planning Budget

Using this budget, rice producers may estimate their costs and returns for 2025. Table 1 presents estimates for flood-irrigated production of conventional and hybrid rice in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed input and machinery assumptions are summarized in Tables 2 and 3. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Southeast Missouri rice planning budgets for 2025, in dollars per acre.[1]

	Conventional rice	Hybrid rice	Your estimate
Income			
Rice	980.00	1,190.00	
Other income	20.00	20.00	
Total income	1,000.00	1,210.00	
Operating costs			
Seed	24.70	176.87	
Fertilizer	164.10	171.70	
Crop protection	135.00	156.00	
Irrigation[2]	231.15	231.15	
Crop supplies, storage and marketing	8.00	8.00	
Crop consulting and insurance	32.00	32.00	
Custom hire and rental	32.62	32.62	
Operator labor and management	45.54	51.84	
Machinery fuel and grain drying energy	61.07	69.41	
Machinery repairs and maintenance	85.27	85.27	
Operating interest	31.75	39.33	
Total operating costs	851.20	1,054.18	
Ownership costs			
Farm business overhead	10.00	12.10	
Machinery ownership	97.12	97.12	
Real estate charge	225.00	225.00	
Total ownership costs	332.12	334.22	
Total costs	1,183.32	1,388.40	
Income over operating costs	**148.80**	**155.82**	
Income over total costs	**–183.32**	**–178.40**	
Return to land and management	**71.68**	**82.90**	

1. Totals may not sum due to rounding.
2. Irrigation costs are explained in detail on page 2.

Written by
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Irrigation costs in Table 1 include fuel, labor and any leveling, ditching or leveeing required for irrigation; and ownership costs for the pumping engine and aboveground irrigation systems.

Table 2 shows input assumptions for the rice budget. Commodity price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land.

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in southeast Missouri rice planning budgets for 2025.

Selected input quantities	Conventional rice per acre	Hybrid rice per acre	Selected input prices	Dollars per unit
Rice yield, hundredweight (cwt)	70.0	85.0	Rice market price, per cwt.	14.00
Seeding rate, pounds	65.0	23.0	Conventional rice seed price, per pound	0.38
Nitrogen rate, pounds	150.0	150.0	Hybrid rice seed price, per pound	7.69
Phosphorus rate, pounds P_2O_5	50.0	50.0	Nitrogen, per pound N	0.60
Potassium rate, pounds K_2O	70.0	90.0	Phosphorus, per pound P_2O_5	0.45
Zinc rate, pounds Zn	10.0	10.0	Potassium, per pound K_2O	0.38
Labor, hours	0.78	0.78	Zinc, per pound Zn	2.50
Irrigation, acre-inches	30.0	30.0	Skilled labor, per hour	20.00
Irrigation, cost per acre-inch	7.71	7.71	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in the rice planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Tandem disk (32 feet), 340 HP MFWD	2	0.11	1.61	13.84	26.39	40.23
Field Cultivator (42 feet), 340 HP MFWD	1	0.03	0.49	3.97	7.32	11.29
Air drill (52 feet), 340 HP MFWD	1	0.05	0.68	10.64	22.66	33.30
SP boom sprayer (120 feet), 275 HP	3	0.03	0.33	16.74	4.33	21.08
Draper head (35 feet), 440 HP Combine	1	0.07	1.25	18.90	17.82	36.72
Grain cart (1,000 bushel), 280 HP MFWD		0.06	0.62	5.72	8.08	13.80
Grain trailer (1,000 bushel), 475 HP road tractor		0.14	0.93	8.65	4.24	12.89
Grain auger (13 inch), 130 HP MFWD		0.04	0.17	1.97	1.97	3.94
Pickup (1 ton), 4WD		0.25	0.75	8.09	4.30	12.39
Total[3]		**0.78**	**6.83**	**88.53**	**97.12**	**185.65**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor; SP = self-propelled

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Southeast Missouri Cotton Planning Budget

Using this planning budget, cotton producers may estimate their costs and returns for 2025. Table 1 presents estimates for GMO furrow-irrigated cotton production in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for southeast Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Southeast Missouri cotton (furrow-irrigated) planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Cotton lint and seed	945.00	
Government payments	20.00	
Ginning and hauling	–135.00	
Total income	830.00	
Operating costs		
Seed	84.91	
Fertilizer and soil amendments	149.30	
Crop protection chemicals	207.00	
Irrigation[2]	88.96	
Crop supplies, storage, and marketing	8.00	
Crop consulting and insurance	36.00	
Custom hire and rental	38.04	
Operator labor and management	42.97	
Machinery fuel	32.43	
Machinery repairs and maintenance	65.89	
Operating interest	29.20	
Total operating costs	782.70	
Ownership costs		
Farm business overhead	8.30	
Machinery ownership	130.14	
Real estate charge	225.00	
Total ownership costs	363.44	
Total costs	1,146.14	
Income over operating costs	**47.30**	
Income over total costs	**–316.14**	
Return to land and management	**–66.24**	
Operating costs per pound	0.58	
Ownership costs per pound	0.27	
Total costs per pound	0.85	

1. Totals may not sum due to rounding. 2. Irrigation costs are explained in detail on page 2.

Written by
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Irrigation costs in Table 1 include fuel, labor and any leveling, ditching or leveeing required for irrigation; and ownership costs for the pumping engine and aboveground irrigation systems.

Table 2 shows input assumptions for the cotton budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land.

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in Southeast Missouri cotton (furrow-irrigated) planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Cotton yield, pounds	1,350	Cotton market price, per pound	0.70
Seeding rate, count	42,000	Seed, per 230,000 seed bag	465.00
Nitrogen rate (urea), pounds	100	Nitrogen (urea), per pound N	0.60
Phosphorus rate, pounds P_2O_5	80	Phosphorus, per pound P_2O_5	0.45
Potassium rate, pounds K_2O	60	Potassium, per pound K_2O	0.38
Other nutrients, pounds (S, Z, B)	17.5	Other nutrients, average price per pound	0.89
Lime, tons	0.5	Lime, per ton	30.00
Sum of allocated labor, hours	0.9	Skilled labor, per hour	20.00
Irrigation water, acre-inches applied	12.0	Irrigation water applied, cost per acre-inch	7.41
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in Southeast Missouri cotton (furrow-irrigated) planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Subsoiler (20 feet), 340 HP MFWD	1/3[3]	0.04	0.54	3.35	4.46	7.81
Disk bedder (36 feet), 280 HP MFWD	1	0.06	0.74	4.88	6.65	11.53
Bed leveler (36 feet), 340 HP MFWD	1	0.06	0.90	5.56	7.48	13.05
Row crop planter (40 feet), 280 HP MFWD	1	0.05	0.66	8.71	16.60	25.31
Self-propelled boom sprayer (120 feet), 275 HP	8	0.08	0.88	44.65	11.56	56.21
Cotton picker with baler (18 feet), 500 HP	1	0.23	4.37	31.42	63.11	94.53
Pickup (1 ton), 4WD		0.25	0.75	8.09	4.30	12.39
Stalk shredder (20 feet), 200 HP MFWD	1	0.13	1.13	9.71	15.98	25.70
Aerially apply chemicals, custom charge	3					24.00
Dry fertilizer application, custom charge	2					14.04
Total[3]		**0.90**	**9.98**	**116.39**	**130.14**	**284.57**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. One pass every three years.
4. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor

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Southeast Missouri Peanut Planning Budget

Using this planning budget, peanut producers may estimate their costs and returns for 2025. Table 1 presents estimates for GMO furrow-irrigated peanut production in southeast Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common for southeast Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Southeast Missouri peanut (furrow-irrigated) planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Peanut sales	1,150.00	
Government payments	20.00	
Less hauling, cleaning and drying	–57.50	
Total income	1,112.50	
Operating costs		
Seed	121.88	
Fertilizer and soil amendments	90.50	
Crop protection chemicals	148.00	
Irrigation[2]	104.09	
Crop supplies, storage, and marketing	8.00	
Crop consulting and insurance	40.00	
Custom hire and rental	15.02	
Operator labor and management	60.31	
Machinery fuel	40.41	
Machinery repairs and maintenance	55.10	
Operating interest	26.48	
Total operating costs	709.78	
Ownership costs		
Farm business overhead	11.13	
Machinery ownership	153.58	
Real estate charge	225.00	
Total ownership costs	389.70	
Total costs	1,099.49	
Income over operating costs	**402.72**	
Income over total costs	**13.01**	
Return to land and management	**271.39**	
Operating costs per pound	0.12	
Ownership costs per pound	0.07	
Total costs per pound	0.19	

1. Totals may not sum due to rounding. 2. Irrigation costs are explained in detail on page 2.

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Irrigation costs in Table 1 include fuel, labor and any leveling, ditching or leveeing required for irrigation; and ownership costs for the pumping engine and aboveground irrigation systems.

Table 2 shows input assumptions for the peanut budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land.

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Producers can customize this budget using the Southeast Missouri Crop Budget spreadsheet, which can be downloaded from the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in Southeast Missouri peanut (furrow-irrigated) planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Peanut yield, pounds	5,750	Peanut market price, per pound	0.20
Seeding rate, pounds	150	Seed, per 2,000 pound bag	1,625.00
Phosphorus rate, pounds P_2O_5	65	Phosphorus, per pound P_2O_5	0.45
Potassium rate, pounds K_2O	100	Potassium, per pound K_2O	0.38
Sulphur rate, pounds	15	Other nutrients, average price per pound	0.55
Lime rate, tons	0.5	Lime, per ton	30.00
Sum of allocated labor, hours	1.35	Skilled labor, per hour	20.00
Irrigation water, acre-inches applied	15	Irrigation water applied, cost per acre-inch	6.94
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in Southeast Missouri peanut (furrow-irrigated) planning budget for 2025, on a per acre basis.

Machine activity (not custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Disk bedder (36 feet), 280 HP MFWD	1	0.06	0.74	4.88	6.65	11.53
Bed leveler (36 feet), 280 HP MFWD	1	0.06	0.74	4.88	6.64	11.52
Row crop planter (40 feet), 280 HP MFWD	1	0.05	0.66	8.71	16.60	25.31
Self-propelled boom sprayer (120 feet), 275 HP	5	0.05	0.55	27.91	7.22	35.13
Peanut digger (15 feet), 200 HP MFWD	1	0.29	2.55	19.65	30.00	49.65
Peanut combine (15 feet), 280 HP MFWD	1	0.38	4.68	33.62	55.68	89.29
Peanut dump cart (30 feet), 200 HP MFWD	1	0.20	1.76	14.71	26.48	41.19
Pickup (1 ton), 4WD		0.25	0.75	8.09	4.30	12.39
Dry fertilizer application, custom charge	1					7.02
Aerially apply chemicals, custom charge	1					8.00
Total[3]		**1.35**	**12.43**	**122.44**	**153.58**	**291.04**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive tractor or truck; HP = horsepower; MFWD = mechanical front-wheel drive tractor

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Alfalfa Establishment Planning Budget

Using this planning budget, farmers establishing alfalfa can estimate their costs and returns for 2025. Table 1 presents estimates for the establishment of Roundup Ready alfalfa in Missouri. Assumptions were based on price conditions as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common on Missouri farms. Farmers are encouraged to modify this budget based on their circumstances. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri alfalfa establishment planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Hay sales (60 pound bales)	594.00	
Other income	0.00	
Total income	594.00	
Operating costs		
Seed	135.00	
Fertilizer and soil amendments	136.50	
Crop protection chemicals	41.48	
Crop supplies, storage, and marketing	49.50	
Crop consulting and insurance	23.00	
Custom hire and rental	73.44	
Machinery fuel	18.87	
Machinery repairs and maintenance	19.15	
Operator and hired labor	46.67	
Operating interest	21.06	
Total operating costs	564.67	
Ownership costs		
Farm business overhead	22.95	
Machinery ownership	98.54	
Real estate charge	130.00	
Total ownership costs	251.49	
Total costs	816.16	
Income over operating costs	**29.33**	
Income over total costs	**-222.16**	

1. Totals may not sum due to rounding.

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Table 2 shows input assumptions for alfalfa establishment and small bale production. Price estimates reflect prices out-of-the-field. Costs or returns from storage or other marketing methods are not included. No income from government programs is added.

Table 3 details the field activities for this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Farmers can customize this budget using the Missouri Forage Budgets spreadsheet, which can be downloaded from the forages section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in alfalfa establishment planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, 60 pound bales	66	Alfalfa market price, per bale	9.00
Seeding rate, pounds	15	Alfalfa seed, per pound	9.00
Phosphorus rate, pounds P_2O_5	50	Phosphorus, per pound P_2O_5	0.55
Potassium rate, pounds K_2O	50	Potassium, per pound K_2O	0.38
Lime rate, tons	3	Lime, per ton	30.00
Labor, hours	2.52	Labor wage, per hour	18.50
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in alfalfa establishment planning budget for 2025, on a per acre basis.

Machine activity (including custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Tandem disk (21 feet), 160 HP MFWD	1	0.08	0.58	5.87	13.19	19.07
Cultimulcher (21 feet), 160 HP MFWD	1	0.08	0.58	5.31	11.42	16.73
Presswheel drill (16 feet), 105 HP MFWD	1	0.15	0.68	7.13	12.12	19.25
Boom sprayer, pull-type (90 feet), 160 HP MFWD	2	0.04	0.31	2.78	13.69	16.47
Disk mower/conditioner (12 feet), 105 HP MFWD	2	0.26	1.22	13.57	18.98	32.55
Hay rake (20 feet), 75 HP TWD	2	0.13	0.43	4.29	3.39	7.69
Small square baler, 105 HP MFWD	2	0.28	1.27	12.91	21.50	34.41
Pickup (1 ton), 4WD		0.25	0.75	9.69	4.24	13.92
Dry fertilizer application, custom charge						14.04
Accumulate/stack/haul small square bales (mechanical collection), custom charge						59.40
Total[3]		**1.27**	**5.81**	**61.56**	**98.54**	**233.54**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive; TWD = 2-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; HP = horsepower

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Alfalfa Baleage Planning Budget

Using this planning budget, farmers growing alfalfa for baleage can estimate their costs and returns for 2025. Detailed alfalfa establishment costs are found in MU Extension publication G661, Alfalfa Establishment Planning Budget (extension.missouri.edu/publications/g661). Table 1 presents estimates for harvesting established Roundup Ready alfalfa baleage in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri alfalfa baleage planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Baleage sales	954.00	
Other income	0.00	
Total income	954.00	
Operating costs		
Seed	0.00	
Fertilizer and soil amendments	103.50	
Crop protection chemicals	41.48	
Crop supplies, storage, and marketing	54.00	
Crop consulting and insurance	23.00	
Custom hire and rental	72.54	
Machinery fuel	21.88	
Machinery repairs and maintenance	45.46	
Operator and hired labor	35.54	
Operating interest	15.40	
Total operating costs	412.80	
Ownership costs		
Farm business overhead	22.95	
Machinery ownership	110.81	
Alfalfa establishment *(amortized, 4 years)*	151.32	
Real estate charge	130.00	
Total ownership costs	415.08	
Total costs	827.88	
Income over operating costs	**541.20**	
Income over total costs	**126.12**	
Operating costs per ton, as fed	45.87	
Ownership costs per ton, as fed	46.12	
Total costs per ton, as fed	91.99	

1. Totals may not sum due to rounding.

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Table 2 shows input assumptions for the alfalfa baleage budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. No income from government programs is added.

Table 3 details the field activities for this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Farmers can customize this budget using the Missouri Forage Budgets spreadsheet, which can be downloaded from the forages section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in alfalfa baleage planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, tons, as fed	9	Market price, per ton	106.00
Phosphorus rate, pounds P_2O_5	50	Phosphorus, per pound P_2O_5	0.55
Potassium rate, pounds K_2O	200	Potassium, per pound K_2O	0.38
Labor, hours	1.92	Labor wage, per hour	18.50
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in alfalfa baleage planning budget for 2025, on a per acre basis.

Machine activity (including custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Boom sprayer, pull type (90 feet), 130 HP MFWD	1	0.02	0.12	1.34	6.57	7.91
Disk mower-conditioner (12 feet), 130 HP MFWD	4	0.53	3.03	28.55	44.70	73.25
Hay rake (30 feet), 75 HP TWD	4	0.17	0.57	5.93	5.74	11.67
Round baler with net wrap, 130 HP MFWD	4	0.34	1.94	41.65	45.09	86.74
Inline bale wrapper (60 feet)		0.11	0.33	6.48	4.47	10.95
Pickup (1 ton), 4WD		0.25	0.75	9.69	4.24	13.92
Dry fertilizer application, custom charge						14.04
Move round bales on farm, custom charge						58.50
Total[3]		**1.42**	**6.73**	**93.63**	**110.81**	**276.98**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive; TWD = 2-wheel drive tractor; MFWD = Mechanical front wheel drive tractor; HP = horsepower

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Alfalfa Small Bales Planning Budget

Using this planning budget, farmers growing alfalfa can estimate their costs and returns associated with producing small square bales in 2025. Detailed alfalfa establishment costs are found in MU Extension publication G661, Alfalfa Establishment Planning Budget (extension.missouri.edu/publications/g661). Table 1 presents estimates for established Roundup Ready alfalfa with small bale production. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common on Missouri farms. Farmers can modify this budget based on their circumstances. For example, an alfalfa large round bale planning budget could be developed by modifying machinery activities and hay sales. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri alfalfa small bales planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Hay sales (60 pound bales)	1,350.00	
Other income	0.00	
Total income	1,350.00	
Operating costs		
Seed	0.00	
Fertilizer and soil amendments	103.50	
Crop protection chemicals	41.48	
Crop supplies, storage, and marketing	112.50	
Crop consulting and insurance	23.00	
Custom hire and rental	149.04	
Machinery fuel	22.64	
Machinery repairs and maintenance	19.66	
Operator and hired labor	50.50	
Operating interest	20.24	
Total operating costs	542.55	
Ownership costs		
Farm business overhead	22.95	
Machinery ownership	99.20	
Alfalfa establishment (amortized, 4 years)	151.32	
Real estate charge	130.00	
Total ownership costs	403.48	
Total costs	946.03	
Income over operating costs	**807.45**	
Income over total costs	**403.97**	

1. Totals may not sum due to rounding.

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Table 2 shows input assumptions for the alfalfa small bales budget. Price estimates reflect harvest time prices out-of-the-field. Costs or returns from storage or other marketing methods are not included. No income from government programs is added.

Table 3 details the field activities for this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Farmers can customize this budget using the Missouri Forage Budgets spreadsheet, which can be downloaded from the forages section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in alfalfa small bales planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, 60 pound bales	150	Alfalfa market price, per bale	9.00
Phosphorus rate, pounds P_2O_5	50	Phosphorus, per pound P_2O_5	0.55
Potassium rate, pounds K_2O	200	Potassium, per pound K_2O	0.38
Labor, hours	2.73	Labor wage, per hour	18.50
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in alfalfa small bales planning budget for 2025, on a per acre basis.

Machine activity (including custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Boom sprayer, pull-type (90 feet), 130 HP MFWD	1	0.02	0.12	1.34	6.57	7.91
Disk mower/conditioner (12 feet), 130 HP MFWD	4	0.53	3.03	28.55	44.70	73.25
Hay tedder (16 feet), 75 HP TWD	2	0.12	0.40	3.95	2.93	6.88
Hay rake (20 feet), 75 HP TWD	4	0.26	0.85	8.37	6.78	15.15
Small square baler (20 feet), 75 HP TWD	4	0.55	1.82	22.39	33.98	56.37
Pickup (1 ton), 4WD		0.25	0.75	9.69	4.24	14.00
Dry fertilizer application, custom charge	2					14.04
Accumulate/stack/haul small square bales (mechanical collection), custom charge						135.00
Total[3]		**1.73**	**6.97**	**74.29**	**99.20**	**322.53**

1. Machinery operating cost is the sum of fuel, repairs, maintenance and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive; TWD = 2-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; HP = horsepower

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Corn Silage Planning Budget

Using this planning budget, farmers growing corn silage can estimate their costs and returns for 2025. Table 1 presents estimates for corn silage production in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common on Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri corn silage planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Silage sales	960.00	
Other income	0.00	
Total income	960.00	
Operating costs		
Seed	104.00	
Fertilizer and soil amendments	195.48	
Crop protection chemicals	101.00	
Crop supplies, storage, and marketing	10.00	
Crop consulting and insurance	19.00	
Custom hire and rental	207.02	
Machinery fuel	8.23	
Machinery repairs and maintenance	14.28	
Operator and hired labor	18.96	
Operating interest	26.27	
Total operating costs	704.23	
Ownership costs		
Farm business overhead	35.21	
Machinery ownership	49.84	
Real estate charge	160.00	
Total ownership costs	245.05	
Total costs	949.28	
Income over operating costs	**255.77**	
Income over total costs	**10.72**	
Operating costs per ton, as-fed basis	35.21	
Ownership costs per ton, as-fed basis	12.25	
Total costs per ton, as-fed basis	47.46	

1. Totals may not sum due to rounding.

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Table 2 shows input assumptions for the corn silage budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. No income from government programs is added.

Table 3 details the field activities for this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Farmers can customize this budget using the Missouri Forage Budgets spreadsheet, which can be downloaded from the forages section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in corn silage planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, tons, as-fed basis	20	Corn silage market price, per ton	48.00
Seeding rate, corn	32,000	Seed, per 80,000 seed bag	260.00
Nitrogen rate, pounds	180	Nitrogen, per pound N	0.45
Phosphorus rate, pounds P_2O_5	80	Phosphorus, per pound P_2O_5	0.55
Potassium rate, pounds K_2O	146	Potassium, per pound K_2O	0.38
Lime rate, tons	0.5	Lime, per ton	30.00
Labor, hours	1.02	Labor wage, per hour	18.50
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in corn silage planning budget for 2025, on a per acre basis.

Machine activity (including custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Boom sprayer, pull type (90 feet), 130 HP MFWD	2	0.04	0.25	2.52	13.14	15.66
Anhydrous applicator (21 feet), 160 HP MFWD	1	0.10	0.72	8.62	11.11	19.72
Field cultivator (24 feet),160 HP MFWD	1	0.06	0.41	4.02	7.15	11.17
Row crop planter (30 feet), 130 HP MFWD	1	0.07	0.41	7.37	14.21	21.57
Pickup (1 ton), 4WD				9.69	4.24	13.92
Dry fertilizer application, custom charge						7.02
Silage chopping, custom charge						200.00
Total[3]		**0.52**	**2.53**	**32.21**	**49.84**	**289.08**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive; MFWD = mechanical front-wheel drive tractor; HP = horsepower

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Cool-Season Pasture Establishment Planning Budget

Using this budget, farmers establishing cool-season pasture can estimate their costs and returns for 2025. Table 1 presents estimates for cool-season pasture establishment in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common on Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri cool-season pasture establishment planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Grazing	40.00	
Other income	0.00	
Total income	40.00	
Operating costs		
Seed	48.80	
Fertilizer and soil amendments	84.35	
Crop protection chemicals	10.24	
Crop supplies, storage, and marketing	5.00	
Crop consulting and insurance	0.00	
Custom hire and rental	14.00	
Machinery fuel	7.76	
Machinery repairs and maintenance	12.03	
Operator and hired labor	28.43	
Operating interest	8.16	
Total operating costs	218.77	
Ownership costs		
Farm business overhead	8.83	
Machinery ownership	36.15	
Real estate charge	45.00	
Total ownership costs	89.98	
Total costs	309.03	
Income over operating costs	**–178.77**	
Income over total costs	**–268.75**	

1. Totals may not sum due to rounding.

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Table 2 shows input assumptions for the cool-season pasture establishment budget. No income from government programs is added.

Table 3 details the field activities for this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Farmers can customize this budget using the Missouri Forage Budgets spreadsheet, which can be downloaded from the forages section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in cool-season pasture establishment planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Pasture yield, animal unit month	2	Pasture price, per animal unit month	20.00
Seeding rate, pounds orchard grass	10	Orchard grass seed, per pound	2.80
Seeding rate, pounds clover	8	Clover seed, per pound	2.60
Nitrogen rate, pounds N	30	Nitrogen, per pound N	0.60
Phosphorus rate, pounds P_2O_5	35	Phosphorus, per pound P_2O_5	0.55
Potassium rate, pounds K_2O	45	Potassium, per pound K_2O	0.38
Lime rate, tons	1	Lime, per ton	30.00
Labor, hours	1.54	Labor wage, per hour	18.50
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in cool-season pasture establishment planning budget for 2025, on a per acre basis.

Machine activity (including custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
No-till drill (15 feet), 130 HP MFWD	1	0.16	0.90	12.15	21.47	33.62
Rotary mower (15 feet); 130 HP MFWD	1	0.13	0.74	7.88	10.44	18.33
Pickup (1 ton), 4WD		0.25	0.75	9.69	4.24	13.92
Dry fertilizer application, custom charge	1					7.25
Crop chemical application, custom charge	1					6.75
Total[3]		**0.54**	**2.39**	**29.72**	**36.15**	**79.87**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive; MFWD = mechanical front-wheel drive tractor; HP = horsepower

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Mixed Grass Hay Planning Budget

Using this planning budget, farmers growing hay can estimate their costs and returns for 2025. Table 1 presents estimates for established tall fescue and clover hay production in Missouri. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common on Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri mixed grass hay planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Hay	345.00	
Grazing	20.00	
Other income	0.00	
Total income	365.00	
Operating costs		
Seed	0.00	
Fertilizer and soil amendments	108.25	
Crop protection chemicals	0.00	
Crop supplies, storage, and marketing	15.00	
Crop consulting and insurance	23.00	
Custom hire and rental	37.25	
Machinery fuel	6.82	
Machinery repairs and maintenance	13.62	
Operator and hired labor	19.50	
Operating interest	8.66	
Total operating costs	232.09	
Ownership costs		
Farm business overhead	22.95	
Machinery ownership	23.85	
Real estate charge	45.00	
Total ownership costs	91.80	
Total costs	323.89	
Income over operating costs	**132.91**	
Income over total costs	**41.11**	

1. Totals may not sum due to rounding.

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Table 2 shows input assumptions for the mixed grass hay budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. No income from government programs is added.

Table 3 details the field activities for this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Farmers can customize this budget using the Missouri Forage Budgets spreadsheet, which can be downloaded from the forages section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu /programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in mixed grass hay planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Hay yield, tons, 10% moisture	3	Hay price, per ton	115.00
Pasture yield, animal unit month	1	Pasture price, per animal unit month	20.00
Nitrogen rate, pounds N	60	Nitrogen, per pound N	0.60
Phosphorus rate, pounds P_2O_5	35	Phosphorus, per pound P_2O_5	0.55
Potassium rate, pounds K_2O	100	Potassium, per pound K_2O	0.38
Lime rate, tons	0.50	Lime, per ton	30.00
Labor, hours	1.05	Labor wage, per hour	18.50
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in mixed grass hay planning budget for 2025, on a per acre basis.

Machine activity (including custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Disk mower (9 feet), 105 HP MFWD	1	0.18	0.81	8.98	7.98	16.96
Hay rake (30 feet), 75 HP TWD	1	0.04	0.14	1.59	1.44	3.03
Round baler, net wrap (30 feet), 105 HP MFWD	1	0.08	0.39	10.42	10.19	20.62
Pickup (1 ton), 4WD		0.25	0.75	9.69	4.24	13.92
Dry fertilizer application, custom charge	1					7.25
Move round bales on farm, custom charge						30.00
Total[3]		**0.55**	**2.10**	**30.68**	**23.85**	**91.78**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive; TWD = 2-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; HP = horsepower

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Fescue Seed and Forage Planning Budget

Using this planning budget, farmers growing fescue for seed and forage can estimate their costs and returns for 2025. Table 1 presents estimates for established fescue used for seed, hay and grazing purposes. Assumptions were based on price forecasts as of October 2024. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common on Missouri farms. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri fescue seed and forage planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Fescue seed	150.00	
Fescue hay	285.00	
Fescue pasture	20.00	
Other income	0.00	
Total income	455.00	
Operating costs		
Seed	0.00	
Fertilizer and soil amendments	111.50	
Crop protection chemicals	0.00	
Crop supplies, storage, and marketing	10.00	
Crop consulting and insurance	0.00	
Custom hire and rental	81.75	
Machinery fuel	6.82	
Machinery repairs and maintenance	13.62	
Operator and hired labor	24.12	
Operating interest	9.60	
Total operating costs	257.41	
Ownership costs		
Farm business overhead	8.83	
Machinery ownership	23.85	
Real estate charge	45.00	
Total ownership costs	77.68	
Total costs	335.09	
Income over operating costs	**197.59**	
Income over total costs	**119.91**	

1. Totals may not sum due to rounding.

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Table 2 shows input assumptions for the fescue seed and forage budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. No income from government programs is added.

Table 3 details the field activities for this budget and their machinery costs. Machinery costs were estimated using typical life (years), use (hours) and performance (fuel and labor) factors for each power unit and implement used.

Farmers can customize this budget using the Missouri Forage Budgets spreadsheet, which can be downloaded from the forages section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu /programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

Table 2. Input assumptions used in fescue seed and forage planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Hay yield, tons	3	Hay price, per ton	95.00
Seed yield, pounds	300	Seed price, per pound	0.50
Pasture yield, animal unit month	1	Pasture price, per animal unit month	20.00
Nitrogen rate, pounds N	70	Nitrogen, per pound N	0.60
Phosphorus rate, pounds P_2O_5	30	Phosphorus, per pound P_2O_5	0.55
Potassium rate, pounds K_2O	100	Potassium, per pound K_2O	0.38
Lime rate, tons	0.50	Lime, per ton	30.00
Labor, hours	1.30	Labor wage, per hour	18.50
Operating interest, annual percentage	7.75	Farm diesel, per gallon	3.25

Table 3. Machinery assumptions used in fescue seed and forage planning budget for 2025, on a per acre basis.

Machine activity (including custom fieldwork)	Trips across field	Labor (hours)	Fuel (gallons)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Disk mower (9 feet), 105 HP MFWD	1	0.18	0.81	8.98	7.98	16.96
Hay rake (30 feet), 75 HP TWD	1	0.04	0.14	1.59	1.44	3.03
Round baler, net wrap (30 feet), 105 HP MFWD	1	0.08	0.39	10.42	10.19	20.62
Pickup (1 ton), 4WD		0.25	0.75	9.69	4.24	13.92
Dry fertilizer application, custom charge	1					7.25
Combine grass seed, custom charge	1					32.50
Seed hauling, custom charge						12.00
Move round bales on farm, custom charge						30.00
Total[3]		**0.55**	**2.10**	**30.68**	**23.85**	**136.28**

1. Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: 4WD = 4-wheel drive; TWD = 2-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; HP = horsepower

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Native Warm-Season Grass Planning Budget

Using this budget, farmers can estimate the costs and returns of native warm-season grass (NWSG). Table 1 presents estimates for replacing forage stands with NWSG in Missouri. Assumptions were based on price forecasts in October 2024. The NWSG mix used in this budget includes big bluestem, indiangrass, little bluestem and forbs. The mix was assumed planted in a dormant season. Multiple years are needed for NWSG stands to reach full forage yield. Seeding mixes are designed to enhance wildlife habitat and meet eligibility for cost share practices. Use the "Your estimate" column to plan your operation's costs and returns, including any cost share awarded.

Table 1. Missouri big bluestem, indiangrass, little bluestem and forbs budget for 2025.

	Year 1 Preparation	Year 2 Establishment	Year 3 Partial production	Year 4 Full production	Your estimate
	Dollars per acre[1]				
Income					
Haying	0.00	0.00	375.00	500.00	
Grazing	0.00	0.00	26.00	52.00	
Total income	0.00	0.00	401.00	552.00	
Operating costs					
Warm-season grass seed	0.00	181.90	0.00	0.00	
Forb/minor species seed mix	0.00	51.00	0.00	0.00	
Fertility[2]	82.90	0.00	38.92	64.55	
Herbicide	10.24	4.88	0.00	0.00	
Custom hire and rental					
Fertilizer application	7.25	0.00	7.25	7.25	
Chemical application	7.75	7.75	0.00	0.00	
No-till drill rental	0.00	21.00	0.00	0.00	
Hay preparation and baling	0.00	0.00	161.54	215.38	
Mowing (rotary cutter)	0.00	25.00	0.00	0.00	
Operator and hired labor	0.00	9.25	0.00	0.00	
Operating interest	4.19	11.66	8.05	11.37	
Total operating costs	112.33	312.44	215.76	304.81	
Ownership costs					
Business overhead and depreciation	0.00	0.00	0.00	0.00	
Real estate charge	11.25	45.00	45.00	45.00	
Total ownership costs	11.25	45.00	45.00	45.00	
Total costs	123.58	357.44	260.76	349.81	
Income over operating costs	**–112.33**	**–312.44**	**185.24**	**247.19**	
Income over total costs	**–123.58**	**–357.44**	**140.24**	**202.19**	

1. Totals may not sum due to rounding.
2. University of Missouri Soil Test Lab recommends 2 pounds of P_2O_5 and 14.6 pounds of K_2O per ton of hay yield.

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Year 1: Fall burndown and seedbed preparation

Year 1 reflects the fall prior to seeding. Seedbed preparation begins in early fall by chemically eradicating the existing stand. Soil tests are taken and fertilizer and lime are applied accordingly. Fertilizer and chemical application are performed by a custom operator. If the existing pastureland is grazed, allocate 75% of ownership costs to the previous pasture stand and 25% to the new NWSG stand because of lost fall grazing days. If additional pasture must be rented to carry livestock, the cost of renting should be applied to the NWSG.

Year 2: Seeding and competition management

Year 2 no-till drills the seed and forb mix during the winter dormant season. There will be no forage harvested. Weed control includes an application of imazapic for broadleaf and cool-season grass control if the label recommends for the seeding mix used. Mowing with a rotary cutter is included for weed and residual grass control. Ownership costs are limited to a land charge.

Table 2. Input prices in NWSG budget.

Description	Dollars per unit
Hay market price, per ton	125.00
Pasture, per animal unit month	26.00
Big bluestem seed, per PLS pound	16.15
Indiangrass seed, per PLS pound	14.95
Little bluestem seed, per PLS pound	13.20
Forb seed, per PLS pound	51.00
Nitrogen, per pound N	0.60
Phosphorus, per pound P_2O_5	0.55
Potassium, per pound K_2O	0.38
Lime, per ton applied	30.00
Soil testing, per test	25.00
Glyphosate, per ounce	0.16
Imazapic, per ounce	1.22
Operator labor, per hour	18.50
Operating interest, annual percentage	7.75

Year 3: Fertilization, hay and graze, partial yield

Forage production begins in Year 3, which is at least one full year after seeding. Yield will be approximately 75% of full production. Costs include a nitrogen application to boost yield and plant vigor, along with potassium and phosphorous applied according to soil test recommendations and yield goals. If weed pressure is an issue, an application of an approved herbicide can be used or the area can be mowed for broadleaf control.

Yield is measured both in tonnage harvested as hay (3 tons) and animal unit months (AUM) of grazing (1 AUM). The first cutting of hay is typically at the beginning of July, and the second in late August or grazed until 45 days before frost.

Year 4: Fertilization, hay and graze, full production

Full production is achieved in Year 4, or at least two full years after seeding. Costs include fertilizer applied according to soil test recommendations. Forage yield of 4 tons hay and 2 AUM per acre are expected to remain stable in the future if the stand is properly managed.

Develop your own budget

Farmers can customize this budget using the Native Warm-Season Grass Planning Budget spreadsheet, which can be downloaded from the forages section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets). Budgets are available for these NWSG scenarios:

- Big bluestem and indiangrass with no forbs, dormant season planting
- Big bluestem and indiangrass with no forbs, spring planted following winter cover crop
- Big bluestem, indiangrass, little bluestem and forbs, dormant season planting
- Big bluestem, indiangrass, little bluestem and forbs, spring planted following winter cover crop
- Eastern gamagrass, dormant season planting

This guide was supported by the MU/MDC Native Grass Extension Project.

Industrial Hemp for Fiber Planning Budget

Using this budget, growers of industrial hemp fiber can estimate their production costs for 2025. Table 1 presents cost estimates for industrial hemp fiber production based on price conditions in October 2024. Assumptions are summarized in Tables 2 and 3. Use the "Your estimate" column to plan your operation's costs and returns for 2025.

Table 1. Missouri industrial hemp for fiber planning budget for 2025.

	Dollars per acre[1]	Your estimate
Income		
Hemp fiber	975.00	
Other income	0.00	
Total income	975.00	
Operating costs		
Seed	150.00	
Fertilizer	145.20	
Crop protection	24.10	
Crop supplies, storage and marketing	15.00	
Crop consulting and insurance	0.00	
Custom hire and rental	86.20	
Machinery fuel	13.92	
Machinery repairs and maintenance	23.21	
Operator and hired labor	26.76	
Sampling and testing costs	20.00	
Other expense	5.00	
Operating interest	19.74	
Total operating costs	529.13	
Ownership costs		
Farm business overhead	22.95	
Machinery ownership	61.92	
Real estate charge	117.00	
Total ownership costs	201.87	
Total costs	731.00	
Income over operating costs	**445.87**	
Income over total costs	**244.00**	

1. Totals may not sum due to rounding.

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Table 2. Input assumptions used in industrial hemp for fiber planning budget for 2025.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Hemp fiber yield, pounds	6,500	Hemp fiber market price, per pound	0.15
Nitrogen rate, pounds N	100	Nitrogen, per pound N	0.60
Phosphorus rate, pounds P_2O_5	60	Phosphorus, per pound P_2O_5	0.55
Potassium rate, pounds K_2O	90	Potassium, per pound K_2O	0.38
Lime rate, tons	0.6	Lime delivery and spreading, per ton	30.00
Nonmachinery labor, hours	0.50	Labor, per hour	18.50
		Farm diesel, per gallon	3.25

Table 3. Machinery used in industrial hemp for fiber planning budget for 2025, on a per acre basis.

Machinery activity (including custom fieldwork)	Passes or hours per acre	Fuel (gallons)	Labor (hours)	Operating costs[1] (dollars)	Ownership costs[2] (dollars)	Total costs (dollars)
Tandem disk (21 feet), 160 HP MFWD	2.0	1.15	0.16	18.64	18.83	37.47
Cultimulcher (21 feet), 160 HP MFWD	1.0	0.58	0.08	8.40	10.55	18.95
Presswheel drill (16 feet), 75 HP MFWD	1.0	0.49	0.15	6.69	7.61	14.31
Disk mower (9 feet), 75 HP TWD	1.0	0.58	0.18	4.69	5.91	10.60
Hay rake (30 feet), 75 HP TWD	1.0	0.14	0.04	1.26	1.52	2.78
Round baler (30 feet), 160 HP MFWD	1.0	0.60	0.08	8.53	10.98	19.51
Pickup (1 ton), 4WD	0.25	0.75	0.25	6.44	6.52	12.95
Dry fertilizer application, custom charge	1.0					7.02
Liquid fertilizer application, custom charge	1.0					7.84
Moving round or large square bales on farm, custom charge						35.21
Moving round or large square bales locally, custom charge						36.13
Total[3]		**4.28**	**0.95**	**54.64**	**61.92**	**116.56**

1. Machinery operating cost is the sum of fuel, repairs, maintenance and the value of labor.
2. Machinery ownership cost is the sum of machinery overhead and depreciation.
3. Totals may not sum due to rounding.

Abbreviations: HP = horsepower; MFWD = mechanical front-wheel drive tractor; TWD = two-wheel drive tractor; 4WD = four-wheel drive.

Farmers can customize this budget using the Missouri Industrial Hemp Budget spreadsheet, which can be downloaded from the industrial hemp section of the Missouri Crop and Livestock Enterprise Budgets webpage (extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets).

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