

Pumpkin Planning Budget

Using this budget, farmers can estimate the costs and returns for raising pumpkins. Table 1 presents estimates for Missouri based on price forecasts in January 2025. The budget assumes pumpkins are grown on 1 acre with drip irrigation and sold wholesale. Capital investments and a sensitivity analysis are summarized in Tables 2 and 3. Use the “Your estimate” column to plan your pumpkin operation’s costs and returns.

Table 1. Missouri pumpkin budget.

	Unit	Quantity	Price per unit	Dollars per acre	Your estimate
Income					
Pumpkin	pound	30,000	0.20	6,000.00	
Total income				6,000.00	
Operating costs					
Seeds	thousand	2	82.89	165.78	
Fertilizer	pound	330	0.31	103.90	
Herbicide	application	1	14.03	14.03	
Insecticide	application	1	32.39	32.39	
Fungicide	application	1	284.32	284.32	
Plastic mulch	acre	1	174.13	174.13	
Drip lines and irrigation fittings	acre	1	280.07	280.07	
Pollination	hive	1	94.20	94.20	
Packaging	bin	42	17.85	749.70	
Labor	hour	116	18.00	2,088.00	
Machinery fuel/repair/maintenance	acre			259.61	
Irrigation water	acre inch				
Irrigation fuel and oil	hour	90	0.49	44.10	
Irrigation repair/maintenance	acre			174.23	
Marketing	percent of sales	6,000	10	600.00	
Interest on operating capital	percent	6	7.75	196.25	
Total operating costs				5,260.71	
Ownership costs					
Land	acre			185.00	
Machinery	acre			142.92	
Irrigation system	acre			251.16	
Total ownership costs				579.08	
Total costs				5,839.79	
Income over operating costs				739.29	
Return to land and labor				2,433.21	
Income over total costs				160.21	

Note: Totals may not sum due to rounding.

Developed by
Peter Zimmer, Program Leader, Farm-Level Analysis for FAPRI; and **Mallory Rahe**, Associate Professor, Agricultural Business and Policy

Table 2. Capital machinery investments used in Missouri pumpkin budget.

Item	Power unit	Passes	Labor (hours per pass)	Operating costs (dollars per pass)	Ownership costs (dollars per pass)
Chisel plow (9-foot)	2WD 75 hp	1	0.22	6.12	2.76
Disk harrow (10-foot)	2WD 75 hp	2	0.20	12.02	3.68
Fert-cyclone spin (750-pound)	2WD 75 hp	1	0.08	1.93	0.83
Disk + incorporate (10-foot)	2WD 75 hp	1	0.21	7.44	3.70
Planter/Water wheel (2-row)	2WD 75 hp	1	1.47	44.15	20.38
Cultivate + app ins (4-row)	2WD 75 hp	1	0.19	5.35	2.53
Sprayer air blast (16-foot, 100-gallon)	2WD 75 hp	4	0.25	39.60	24.46
Cultivate + sidedress (4-row)	2WD 75 hp	1	0.19	10.31	6.81
Trailer – vegetables (16-foot)	2WD 75 hp	1	0.09	1.87	0.71
Total cost			3.85	259.61	142.92

Table 3 provides annual profitability expectations (returns over total costs) under varying yield and price scenarios in full production and holding all costs constant.

Table 3. Sensitivity analysis for Missouri pumpkin budget, income over total costs (dollars).

Percent change	Sale price per pound	Yield per acre (pound)						
		21,000	24,000	27,000	30,000	33,000	36,000	39,000
15% less	0.17	–2,270	–1,760	–1,250	–740	–230	280	790
10% less	0.18	–2,060	–1,520	–980	–440	100	640	1,180
5% less	0.19	–1,850	–1,280	–710	–140	430	1,000	1,570
Base level	0.20	–1,640	–1,040	–440	160	760	1,360	1,960
5% more	0.21	–1,430	–800	–170	460	1,090	1,720	2,350
10% more	0.22	–1,220	–560	100	760	1,420	2,080	2,740
15% more	0.23	–1,010	–320	370	1,060	1,750	2,440	3,130

The budget presented here aggregates costs for some inputs. Farmers can find additional details and customize this budget to match their own operation by using the [Pumpkin Planning Budget workbook \(XLSX\)](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/pumpkin-budget.xlsx) (extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/pumpkin-budget.xlsx).

This work is supported by the U.S. Department of Agriculture's (USDA) Farm Service Agency through project award number FSA23CPT0012862. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the USDA.



Check out the complete collection of Missouri crop and livestock enterprise budgets at muext.us/MissouriAgBudgets