UNL-Sheep Budget Tool

An Excel spreadsheet for evaluating the value of potential sheep production revenue, expenses, and profitability

N
AGRICULTURAL ECONOMICS
Farm and Ranch Management

INTRODUCTION

The University of Nebraska - Lincoln sheep budget tool was developed to help producers determine the value of sheep production. This tool is NOT intended to represent any one operation but rather market prices and average costs estimates. Each individual operation should adjust key inputs and local market prices to reflect their own situation.

FOR MORE INFORMATION:

Developed by:

Daniel Gertner, Graduate Student, Department of Agricultural Economics, University of Nebraska – Lincoln
Elliott Dennis, PhD, Department of Agricultural Economics, University of Nebraska – Lincoln
Randy Saner, Lincoln-Logan-McPherson County Extension, University of Nebraska-Lincoln
Glennis McClure, Department of Agricultural Economics, University of Nebraska-Lincoln

ACKNOWLEDGEMENTS:

UNL-Sheep Budget Tool

An Excel spreadsheet for evaluating the value of potential sheep production revenue, expenses, and profitability

N
AGRICULTURAL ECONOMICS
Farm and Ranch Management

Version: 2021-04-01

Budget Instructions

(1) The "Summary Budget" tab includes total income, total costs, and net revenue, plus breakeven calculations.
(2) DO NOT input numbers directly in the "Summary Budget" tab.
(3) Instead, input numbers directly into "Production Parameters", "Revenue", "Expenses - Variable", "Expenses - Fixed", "Non-Farm Adjustments", and "Taxes" tabs.
(4) Only input numbers and data into the yellow cells. Other numbers will automatically calculate and fill.

Introduction

The University of Nebraska-Lincoln Department of Agricultural Economics Extension and Outreach program has developed sheep and goat budget templates for use by producers in Nebraska. The budget templates contain an interface in which producers can customize production parameters to their specific operations. Enterprise budgets can serve as a useful guide for producers as they make management decisions.

How to Use

Both the sheep and goat production budgets are organized identically and are designed to operate in the same way. The budgets include:
1) Instructions – Provides instructions for how to navigate the spreadsheet.
2) Summary Budget – Includes total income, variable cost, fixed cost, and breakeven calculations.
3) Production Parameters – Contains customizable general flock, feed, and asset value information.
4) Revenue – Contains a breakdown of the revenue components of sheep/goat production.
5) Expenses -Variable – Includes a breakdown of production expenses that vary from year-to-year.
6) Expenses - Fixed – Includes a breakdown of fixed and overhead expenses.
7) Taxes – Contains common taxes paid by sheep/goat producers.
8) Non-Farm Adjustments – Contains sources of other on and off-farm income that producers may include in their sheep or goat budgets.

To use, please follow the following guidelines:
The "Summary Budget" tab summarizes totals from the various budget worksheets or tabs.
Worksheet users should input numbers directly into the yellow highlighted cells in the "Production Parameters", "Revenue", "Expenses – Variable", "Expenses – Fixed", "Non-Farm Adjustments", and "Taxes" tabs.

Methods

The market prices, cost estimates, and production parameters included in the sample budget were developed in consultaton with Nebraska sheep and goat producers. After review of sample production budgets from producers, the template was drafted and presented to producers at their annual meetings. From there, revisions were made and the final budget template was completed and reviewed.

Assumptions

Several assumptions were made in an effort to create a sheep budget representative of average operations. A few of the key assumptions are:

Sheep Budget
- Breeding Flock Size: 250 ewes
- Lambs Born: 350 head/year
- Lambs Weaned: 329 head/year
- Lamb Weaning Weight: 75 pounds
- Lambs Sold at Weaning: 0 head/year
- Total Lambs Finished: 319 head/year

Conclusion

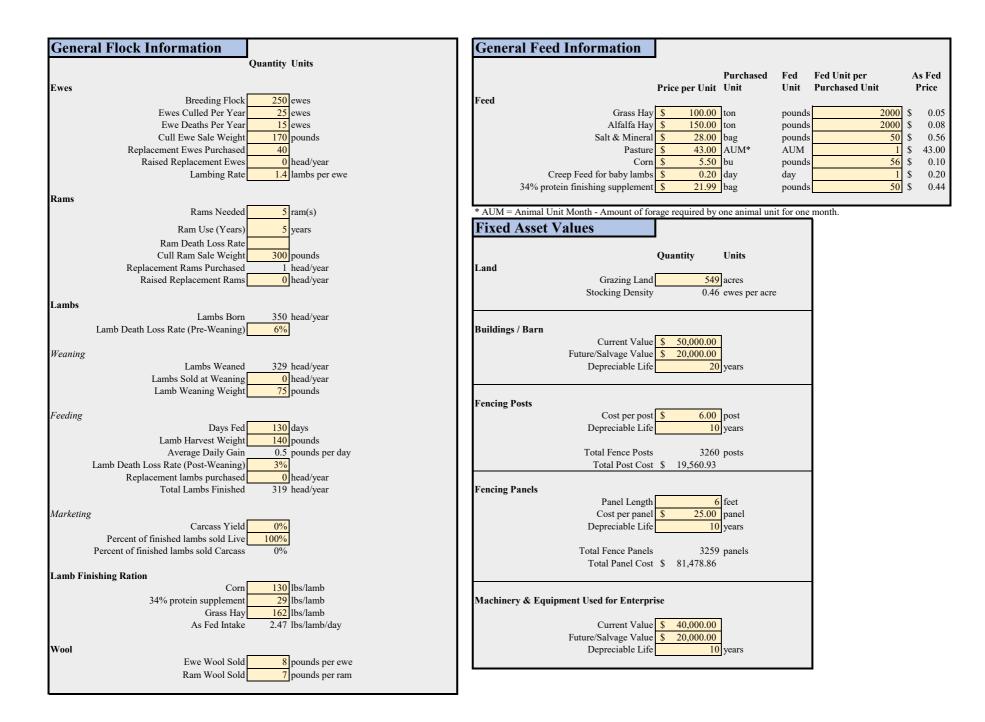The University of Nebraska-Lincoln sheep and goat budget templates were developed to help producers project the value of sheep production and net revenue. This tool is not intended to represent any one operation, but rather to reflect production rates, market prices, and average cost estimates. Each individual operation should adjust key inputs and local market prices to reflect their own situation.

Annual Sheep Budget

	Total	Per Ewe
Revenue	Total Annual Revenue	Per Ewe Revenue
Ewe-Related Sales	$ 4,122.50	$ 16.49
Ram-Related Sales	$ 270.00	$ 1.08
Lamb Sales		
Weaned Lamb Sales		#VALUE!
Finished Lamb Sales	$ 87,087.00	$ 348.35
Wool	$ 2,000.00	$ 8.00
Other Revenue		
Total Gross Revenue	$ 93,514.50	$ 374.06
Expenses - Variable	Total Annual Expenses - Variable	Per Ewe Annual Expenses - Variable
Total Animal Purchases	$ 8,400.00	$ 33.60
Total Feed Expenses	$ 38,531.15	$ 154.12
Total Other Expenses	$ 18,174.61	$ 72.70
Total Expenses - Variable	$ 65,105.76	$ 260.42
Expenses - Fixed	Total Annual Expenses - Fixed	Per Ewe Annual Expenses - Fixed
Total Annualized Fixed Expenses	$ 15,353.98	$ 61.42
Total Overhead and Fixed Expenses	$ 3,000.00	$ 12.00
Total Expenses - Fixed & Overhead	$ 18,353.98	$ 73.42
Taxes	Total Annual Taxes	Per Ewe Taxes
Total Taxes	$ 1,700.00	$ 6.80
Total Expenses (Variable + Fixed + Taxes)	$ 85,159.74	$ 340.64
Net Revenue (Loss)	*$ 8,355*	*$ 33.42*
Non-Farm Adjustments	Total Annual Adjustments	Per Ewe Adjustments
Total Non-Farm Adjustments	$ -	$ -
Grand Total Revenue (Loss)	*$ 8,355*	*$ 33.42*

Breakeven Prices

	Breakeven Price ($/lb)	Sale Price Above Breakeven ($/lb)	Breakeven Price Calculations Explanation
Weaned Breakeven Prices			
Weaned Lamb Breakeven Price ($/lb) Live Weight	$ 3.02	$ (0.62)	*All expenses (excluding finishing expenses) divided by total weight of weaned lambs.*
Finishing Breakeven Prices			
Finished Lamb Breakeven Price ($/lb) Live Weight	$ 1.91	$ 0.04	*All expenses times percent sold by live weight divided by total finished lamb lbs. sold by a live weight basis.*
Finished Lamb Breaken Price ($/lb) Carcass Weight	No Animals Sold by Carcass Weight	No Animals Sold by Carcass Weight	*All expenses times percent sold by carcass weight divided by total finished lamb lbs. sold by a carcass weight basis.*

General Flock Information

	Quantity	Units
Ewes		
Breeding Flock	250	ewes
Ewes Culled Per Year	25	ewes
Ewe Deaths Per Year	15	ewes
Cull Ewe Sale Weight	170	pounds
Replacement Ewes Purchased	40	
Raised Replacement Ewes	0	head/year
Lambing Rate	1.4	lambs per ewe
Rams		
Rams Needed	5	ram(s)
Ram Use (Years)	5	years
Ram Death Loss Rate		
Cull Ram Sale Weight	300	pounds
Replacement Rams Purchased	1	head/year
Raised Replacement Rams	0	head/year
Lambs		
Lambs Born	350	head/year
Lamb Death Loss Rate (Pre-Weaning)	6%	
Weaning		
Lambs Weaned	329	head/year
Lambs Sold at Weaning	0	head/year
Lamb Weaning Weight	75	pounds
Feeding		
Days Fed	130	days
Lamb Harvest Weight	140	pounds
Average Daily Gain	0.5	pounds per day
Lamb Death Loss Rate (Post-Weaning)	3%	
Replacement lambs purchased	0	head/year
Total Lambs Finished	319	head/year
Marketing		
Carcass Yield	0%	
Percent of finished lambs sold Live	100%	
Percent of finished lambs sold Carcass	0%	
Lamb Finishing Ration		
Corn	130	lbs/lamb
34% protein supplement	29	lbs/lamb
Grass Hay	162	lbs/lamb
As Fed Intake	2.47	lbs/lamb/day
Wool		
Ewe Wool Sold	8	pounds per ewe
Ram Wool Sold	7	pounds per ram

General Feed Information

	Price per Unit	Purchased Unit	Fed Unit	Fed Unit per Purchased Unit	As Fed Price
Feed					
Grass Hay	$ 100.00	ton	pounds	2000	$ 0.05
Alfalfa Hay	$ 150.00	ton	pounds	2000	$ 0.08
Salt & Mineral	$ 28.00	bag	pounds	50	$ 0.56
Pasture	$ 43.00	AUM*	AUM	1	$ 43.00
Corn	$ 5.50	bu	pounds	56	$ 0.10
Creep Feed for baby lambs	$ 0.20	day	day	1	$ 0.20
34% protein finishing supplement	$ 21.99	bag	pounds	50	$ 0.44

* AUM = Animal Unit Month - Amount of forage required by one animal unit for one month.

Fixed Asset Values

	Quantity	Units
Land		
Grazing Land	549	acres
Stocking Density	0.46	ewes per acre
Buildings / Barn		
Current Value	$ 50,000.00	
Future/Salvage Value	$ 20,000.00	
Depreciable Life	20	years
Fencing Posts		
Cost per post	$ 6.00	post
Depreciable Life	10	years
Total Fence Posts	3260	posts
Total Post Cost	$ 19,560.93	
Fencing Panels		
Panel Length	6	feet
Cost per panel	$ 25.00	panel
Depreciable Life	10	years
Total Fence Panels	3259	panels
Total Panel Cost	$ 81,478.86	
Machinery & Equipment Used for Enterprise		
Current Value	$ 40,000.00	
Future/Salvage Value	$ 20,000.00	
Depreciable Life	10	years

Total Gross Revenue $ 93,514.50

Revenue

	Quantity	Units	Price	Per Unit		Total Revenue
Ewe-Related Sales						
Cull Ewe Sales	42.5	cwt	$ 97	cwt	$	4,122.50
Ram-Related Sales						
Cull Ram Sales	3.0	cwt	$ 90	cwt	$	270.00
Lamb Sales						
Weaned Lamb Sales	-	cwt	$ 240	cwt		
Finished Lamb Sales						
Live Weight	446.6	cwt	$ 195	cwt	$	87,087.00
Carcass Weight	-	cwt	$ 350	cwt	$	-
Wool						
Ewe Wool Sales	2,000	pounds	$ 1	pound	$	2,000.00
Ram Wool Sales	35	pounds	$ 1	pound	$	35.00
Other Revenue						
Other Revenue		units		unit		
Other Revenue		units		unit		
Other Revenue		units		unit		
Total "Other" Revenue						
Gross Revenue					$	93,514.50

Total Expenses - Variable					$ 65,105.76

Animal Purchases

	Quantity	Units	Price	Per Unit	Annual Variable Costs
Replacement Ewes Purchased	40	head	$ 200	head	$ 8,000.00
Replacement Ram Purchased	1	head	$ 400	head	$ 400.00
Weaned Lambs (Purchased)		head		head	
Other Animal Purchases					
Other Animal Purchases		unit		unit	
Other Animal Purchases		unit		unit	
Other Animal Purchases		unit		unit	
Total Other Animal Purchases					
Total Animal Purchases					$ 8,400.00

Feed Expenses

	Quantity per Animal per Year	Units	Price	Per Unit	Annual Variable Costs
Ewe Feed					
Grass Hay		pounds	$ 0.05	pounds	
Alfalfa Hay	210	pounds	$ 0.08	pounds	$ 3,937.50
Salt & Mineral	4	pounds	$ 0.56	pounds	$ 560.00
Pasture	1.5	AUM	$ 43.00	AUM	$ 16,125.00
Corn	200	pounds	$ 0.10	pounds	$ 4,910.71
Other		pounds		pounds	
Ram Feed					
Grass Hay	200	pounds	$ 0.05	pounds	$ 50.00
Alfalfa Hay	200	pounds	$ 0.08	pounds	$ 75.00
Salt & Mineral	31.25	pounds	$ 0.56	pounds	$ 87.50
Pasture	0.4	AUM	$ 43.00	AUM	$ 86.00
Corn		pounds	$ 0.10	pounds	
Other		pounds		pounds	
Pre-Weaning Lamb Feed					
Grass Hay		pounds	$ 0.05	pounds	
Alfalfa Hay		pounds	$ 0.08	pounds	
Salt & Mineral		pounds	$ 0.56	pounds	
Pasture		AUM	$ 43.00	AUM	
Corn		pounds	$ 0.10	pounds	
Creep Feed for baby lambs	30	days	$ 0.20	day	$ 1,974.00
Other		pounds		pounds	
Finishing Lamb Feed					
Grass Hay	162	pounds	$ 0.05	pounds	$ 2,583.90
Alfalfa Hay		pounds	$ 0.08	pounds	
Salt & Mineral		pounds	$ 0.56	pounds	
Pasture		AUM	$ 43.00	AUM	
Corn	130	pounds	$ 0.10	pounds	$ 4,072.95
34% protein supplement	29	pounds	$ 0.44	pounds	$ 4,068.59
Other		pounds		pounds	
Other		pounds		pounds	
Other Feed Expenses					
Other Feed Expenses		unit		unit	
Other Feed Expenses		unit		unit	
Other Feed Expenses		unit		unit	
Total Feed Expenses					$ 38,531.15

Other Variable Expenses

	Number of Animals	Animal	Price	Per Animal	Annual Variable Costs
Wool Expenses					
Shearing Ewes	250	ewes	$ 5.00	per ewe	$ 1,250.00
Shearing Rams	5	ram(s)	$ 10.00	per ram	$ 50.00
Other Wool Expenses		units		per unit	
Marketing & Risk Management					
Pasture, Rangeland, & Forage Insurance	250	ewes	$ 1.30	per ewe	$ 325.00
Livestock Revenue Protection Insurance	250	ewes		per ewe	$ -
The American Lamb Checkoff	319	lambs finished	$ 1.19	per lamb	$ 379.61
Additional Marketing & Hauling	319	lambs	$ 5.00	per lamb	$ 1,595.00
Other Marketing & Risk Management Costs		units		per unit	
Predator Control					
Dog Food	250	ewes	$ 1.50	per ewe	$ 375.00
Additional Predator Control	250	ewes	$ 1.80	per ewe	$ 450.00
Other Predator Control		units		unit	
Repair Expenses					
Housing Improvement & Repairs	250	ewes		per ewe	
Machinery, Equipment, Vehicle Repairs	250	ewes	$ 5.00	per ewe	$ 1,250.00
Fencing Repairs	250	ewes	$ 3.00	per ewe	$ 750.00
Other Repairs	250	ewes		per ewe	
Other Variable Expenses					
Labor - Hired	250	ewes	$ 26.00	per ewe	$ 6,500.00
Fuel	250	ewes	$ 12.50	per ewe	$ 3,125.00
Veterinary and Medical	250	ewes	$ 4.50	per ewe	$ 1,125.00
Operating Interest	250	ewes	$ 4.00	per ewe	$ 1,000.00
Other Variable Expenses		units		per unit	
Other Variable Expenses		units		per unit	
Other Variable Expenses		units		per unit	
Total Other Expenses					$ 18,174.61

Total Expenses - Fixed & Overhead $ 18,353.98

Annualized Fixed Expenses

	Value	Per Unit	Annualized Fixed Expenses
Annualized Fencing Expenses (Depreciation)			
Buildings /Barn	$ 6.00	per ewe	$ 1,500.00
Fence Posts	$ 7.82	per ewe	$ 1,956.09
Fence Panels	$ 32.59	per ewe	$ 8,147.89
Machinery & Equipment Used for Enterprise	$ 8.00	per ewe	$ 2,000.00
Other Annualized Expenses			
Other Annualized Fixed Expenses	$ -	per ewe	
Other Annualized Fixed Expenses	$ -	per ewe	
Other Annualized Fixed Expenses	$ -	per ewe	
Opportunity Interest Expense	$ 7.00	per ewe	$ 1,750.00
Total Annualized Fixed Expenses			$ 15,353.98

Other Expenses: Fixed and Overhead

	Price	Per Unit	Overhead and Other Fixed Expenses
Overhead Expenses			
Overhead Expense	$ 12.00	per ewe	$ 3,000.00
Other Fixed Expenses			
Land Rent		per ewe	
Other Fixed Expenses		per ewe	
Other Fixed Expenses		per ewe	
Total Overhead and Fixed Expenses			$ 3,000.00

| Total Taxes | | | | $ 1,700.00 |

Taxes

	Unit	Price	Per Unit	Annual Tax Expenses
Taxes				
Real Estate Tax				$ 1,200.00
Personal Propety Taxes				$ 500.00
Total Taxes				$ 1,700.00

Total Non-Farm Adjustments				$	-

Non-Farm Adjustments

	Quantity	Units	Price	Per Unit	Total Adjustment Revenue
Off-Farm Wages					
Custom Feeding		units		per unit	
Custom Bailing		units		per unit	
Custom Grazing		units		per unit	
		units		per unit	
		units		per unit	
		units		per unit	
Off-Farm Income					
Off-Farm Income					
Off-Farm Income					
Other Non-Farm Adjustments					
		units		per unit	
		units		per unit	
		units		per unit	
		units		per unit	
Total Non-Farm Adjustments				$	-