

The Lazy U Ranch

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The **Lazy U Ranch** is representative of a sheep/hay operation in the central Rockies of northern Colorado. Production practices, costs of production, market prices, weather patterns, and other information are based on data from the region in order to provide a realistic setting. The probabilities of risk events were also calculated using actual data where available. Slight modifications were sometimes made to maintain the workability and realism of the game.

The ranch runs 1,500 ewes with annual non feed productions costs of \$58 per ewe. This includes the costs associated with maintaining approximately 40 rams used for breeding. Lambing typically occurs from mid-March through April. Lambs are weaned in October and typically weigh a combined average of 100 pounds for ewes and whethers. The Lazy U Ranch historically has a 125 percent weaning percentage and replaces 20 percent of their ewe flock each year. This results in a typical weaned lamb crop of 1,875 head, from which 300 head of ewe lambs will be retained as replacements. This leaves 1,575 weaned lambs to market on an annual basis. Each year, the ranch chooses from one of three options for marketing their lamb crop: 1) forward contract the weaned lambs to a feedlot for October delivery; 2) sell weaned lambs to a feedlot on the October cash market; 3) retain ownership of the weaned lambs through the feedlot and sell them on the February cash market for slaughter. Cull ewes weighing 180 pounds are sold at the end of each year for \$36.00 per hundredweight. A death rate of 3% is assumed on the ewe flock leaving 255 head of live culls sold each year. Wool production for the ranch is assumed constant at 8.8 lbs. per ewe per year. The initial wool price is set at 55 cents per pound.

Sheep Production	
Ewe Quantity	1500 head
Production costs per unit	\$58 per ewe
Weaning Percentage	125%
Average Net Sale Weight	100 pounds per weaned lamb
Initial Market Price	\$84.00 per hundredweight
Wool Production	8.8 pounds per ewe
Initial Wool Price	\$0.55 per pound
Annual Hay Consumption	0.10 tons per ewe
Annual Death Ewe Loss	3%
Replacement percentage	20%
Sale weight per cull unit	180 pounds per ewe
Net Sale Price	\$36.00 per hundredweight

The ranch also raises 100 acres of hay each year to use as winter feed for their flock. Normal annual yield is 2.5 tons per acre, which costs \$60.00 per acre to produce. When you begin the simulation, there is 250 tons of hay in inventory with a market value of \$80 per ton. Under normal conditions, the ranch will feed 150 tons of hay each winter leaving 100 tons that could be sold on an annual basis.

Hay Production	
Crop Acres	100 acres
Normal Annual Yield	2.5 tons per acre
Production Costs	\$60.00 per acre
Initial Inventory	250 tons
Initial Market Price	\$80.00 per ton

The ranch utilizes a combination of public and private grazing lands throughout a majority of the year. Total available AUMs are 4,175. Of this total, public land resources provide 2,300 AUMs at a cost of \$1.98 per AUM, while private land resources provide 1,875 AUMs at a cost of \$10.90 per AUM.

Taking all of the above information into account, the ranch expects to sell 1,575 head of weaned lambs, 255 head of cull ewes, 13,200 pounds of wool, and 100 tons of hay each year of the simulation. Total sales would generate \$164,084 in revenues. Their expenses would total \$117,992 leaving an annual ranch profit of \$46,093.

Expected Annual Net Ranch Income			
<u>Expected Revenues</u>		<u>Expected Expenses</u>	
Weaned Lambs	1575 head = \$132,300	Ewes	1500 ewes = \$87,000
Cull Ewes	255 head = \$16,524	Hay	100 acres = \$6,000
Wool	13200 pounds = \$7,260	Grazing	4175 AUMs = \$24,992
Hay	100 tons = \$8,000		
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Annual total:	\$164,084	Annual total:	\$117,992
Profit = \$46,093 per year			

DECISIONS

Year 1		
Period 1	Risk and Probability of Occurrence	Impact
Nov. 1 to Feb. 1	<u>Winter Conditions</u> Good Weather Conditions (15%) Normal Weather Conditions (45%) Poor Weather Conditions (30%) Horrible Weather Conditions (10%) <u>Sheep Market Reports</u> Positive Market Reports (20%) Normal Market Reports (60%) Negative Market Reports (20%)	<ul style="list-style-type: none"> Hay prices will decrease under good or normal weather conditions due to seasonal trends and decreased demand. Hay price will increase under poor or horrible weather conditions due to increased demand. Weaning percentage will increase under good conditions and decrease under poor or horrible conditions. The exact effect depends upon the alternative feeding decision. Poor or horrible weather conditions will increase the need for hay and decrease forage availability in the coming year. Good weather conditions will have the opposite effect. Positive market reports increase prices. Negative market reports decrease prices.
Risk Management Strategy Decisions		
Decision 1: Alternative Feeding You have the opportunity to feed your breeding flock an alternative diet prior to and during the breeding season in an effort to increase conception rates. Decision 2: Buy or sell hay Hay may be purchased to increase feed inventory or sold to generate cash income. Consider current inventory, possible feed usage and probabilities of increases or decreases in price and feed usage. You may not carry a negative inventory. Any shortages are automatically covered by additional purchases at the prevailing market price.		

Period 2	Risk and Probability of Occurrence	Impact
Feb. 1 to June 1	<u>Market Reports</u> Positive Market Reports (20%) Normal Market Reports (65%) Negative Market Reports (15%) <u>Spring Precipitation Conditions</u> Excellent (20%) Normal (50%) Poor (23%) Very Poor (7%)	<ul style="list-style-type: none"> • Hay prices will fall while lamb and wool prices will rise when market reports are positive. • Hay prices will increase while lamb and wool prices decline if market reports are negative. • Due to seasonal trends, normal market reports result in a slight increase in hay price and a slight decrease in lamb and wool prices. • If spring precipitation is excellent, forage yields will increase. If you choose to add labor it will also increase your weaning percentage. • Excellent spring precipitation will decrease hay prices due to a decrease in demand. It will have a positive effect on lamb and wool prices. • Poor or very poor precipitation will decrease overall yields. This will have a positive effect on hay prices and a negative effect on lamb and wool prices.
Risk Management Strategy Decisions		
Decision 1: Add Labor You have the opportunity to add to your labor force during lambing season. Increasing your labor force would hopefully pay off with more live lambs but there are no guarantees. Decision 2: Sell wool at shearing You can decide whether to sell your wool at shearing time or to store your wool in a building on your ranch and sell it later in the year.		
Period 3	Risk and Probability of Occurrence	Impact
June 1 to Sept. 1	<u>Summer Precipitation Risk</u> Poor precipitation (15%) Average precipitation (65%) Good precipitation (15%) Too much precipitation (5%) <u>Market Reports</u> Extremely positive market reports (3%) Positive market reports (38%) Normal market reports (50%) Negative market reports (9%)	<ul style="list-style-type: none"> • Poor summer precipitation will decrease forage yields. This will have a positive effect on hay prices and a negative effect on lamb prices. It will also have a negative effect on livestock yields. • Good summer precipitation will increase forage yields. This will have a negative effect on hay prices and a positive effect on lamb prices. It will also have a positive effect on livestock yields. • Too much summer precipitation will decrease forage and livestock yields from increased sickness/disease and decreased pasture access. Expect a small positive effect on prices. • Positive market reports will increase lamb and wool prices while decreasing hay prices. • Negative market reports will decrease lamb and wool prices while increasing hay prices. • A normal market report will follow the seasonal trends and increase hay prices while decreasing lamb prices.
Risk Management Strategy Decisions		
Decision 1: Forward price weaned lambs to feedlot Forward contract any number of head of your weaned lambs to a feedlot for October delivery at their currently offered price. Keep in mind you will later be given the opportunity to retain ownership of weaned lambs through the feeding phase until they reach slaughter weight. You will not be able to retain ownership of any animals promised under a forward contract. Decision 2: Acquire additional grazing You can secure 300 additional AUMs of grazing at this time for a cost of \$3,000. This grazing would be used in the fall if your public grazing AUMs run short due to poor conditions. Your committed to the expense if you decide to do this, regardless if the additional AUMs are needed. Decision 3: Sell wool from storage If you chose to store your wool at shearing, you now have the option of selling it at the current cash price.		

Period 4	Risk and Probability of Occurrence	Impact
Sept. 1 to Nov. 1	<u>Fall Precipitation Conditions</u> Extremely dry (5%) Dry (15%) Normal (65%) Wet (15%) <u>Market Reports</u> Positive market reports (20%) Normal market reports (65%) Negative market reports (15%)	<ul style="list-style-type: none"> • Dry conditions will decrease available grazing AUMs resulting in higher hay prices and a decrease in lamb prices. • Wet conditions will increase available grazing AUMs resulting in lower hay prices and an increase in lamb prices. Livestock yields will decrease slightly due to production difficulties. • All other price impacts reflect seasonal trends. • Positive market reports will increase lamb and wool prices while decreasing hay prices. • Negative market reports will decrease lamb and wool prices while increasing hay prices. • The normal market report impacts reflect the seasonal trends and increase prices.
Risk Management Strategy Decisions		
Decision 1: Acquire Fall grazing resource You have another opportunity to add to your grazing resources through a private agreement. This time, 300 AUMs may be added at a cost of \$3,600. Decision 2: Buy or sell hay Hay may be purchased to increase winter feed inventory or sold to generate cash income. Consider current inventory, possible winter feed usage and probabilities of increases or decreases in price. You may not carry a negative inventory. Any shortages are automatically covered by additional purchases at the prevailing market price. Decision 3: Sell wool from storage If you chose to store your wool at shearing, you now have the option of selling it at the current cash price. Post Period Decision: Retain ownership of lambs You may choose to retain ownership of some or all of your weaned lambs as they enter the feedlot.		
Year 2		
Period 5	Risk and Probability of Occurrence	Impact
Nov. 1 to Feb. 1	Same as Year 1.	Same as Year 1.
Risk Management Strategy Decisions		
Same as Year 1.		
Period 6	Risk and Probability of Occurrence	Impact
Feb. 1 to June 1	Same as Year 1.	Same as Year 1.
Risk Management Strategy Decisions		
Same as Year 1.		
Period 7	Risk and Probability of Occurrence	Impact
June 1 to Sept. 1	Same as Year 1.	Same as Year 1.
Risk Management Strategy Decisions		
Same as Year 1. However, since the game ends at the end of this year there will be no opportunity to retain ownership of your weaned lambs until they reach slaughter weight. Keep this in mind as you make your forward contracting decision. All weaned lambs not forward contracted will be sold on the cash market.		
Period 8	Risk and Probability of Occurrence	Impact
Sept. 1 to Nov. 1	Same as Year 1.	Same as Year 1.
Risk Management Strategy Decisions		
Same as Year 1 without the post period decision.		
Game End	Hay inventory must be at 250 tons. Hay is automatically bought or sold at the current price. Remaining weaned lambs and wool inventories are automatically sold at cash market prices.	



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