Livestock Development

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NDSU NORTH DAKOTA STATE UNIVERSITY

Topics for Discussion

- Decision tools/calculators
- Dairy (update)
- Swine (update)

Decision Tools/Calculators

- Commercial range-based sheep operations (online)
- Smaller, intensive sheep operations (in development)
- Hoop barns tools (in development)

Commercial Range-Based Sheep Tool

- Size of operation: 250 ewes, 8 rams (31:1)
- Produce and market feeder lambs (75 lbs/hd)
- Detailed budgets, including land and owner labor
- NDSU and Producer projections

Projected Sources of Revenue, Production Costs, and Net returns

	NDSU projections		Producer projections	
Gross receipts:	**$/ewe**	**$/flock**	**$/ewe**	**$/flock**
Feeder lambs	225.00	56,250	270.00	67,500
Cull ewes	16.32	4,080	16.32	4,080
Cull rams	1.04	259	1.04	259
Wool, inluding loan deficiency payments	10.14	2,536	10.14	2,536
Total gross receipts	**252.50**	**63,125**	**297.50**	**74,375**
Variable costs:	**$/ewe**	**$/flock**	**$/ewe**	**$/flock**
Pasture	60.00	15,000	60.00	15,000
Hay	39.34	9,835	39.34	9,835
PRF rainfall insurance	5.50	1,375	5.50	1,375
Feed grain	36.88	9,220	36.88	9,220
Salt and mineral	6.03	1,507	6.03	1,507
Veterinarian and health	2.50	625	2.50	625
Breeding (ram cost per ewe)	6.35	1,589	6.35	1,589
Marketing and hauling	5.13	1,283	5.13	1,283
Fuel, lube, repairs and utilities	16.58	4,144	16.58	4,144
Shearing ewes and rams	9.36	2,340	9.36	2,340
Predator control (non leathal)	2.40	600	2.40	600
Dog food for three sheep dogs	7.88	1,971	7.88	1,971
ALB checkoff	0.75	189	0.75	189
Operator/family labor	24.30	6,075	24.30	6,075
Hired labor	2.70	675	2.70	675
Interest on operating capital	7.82	1,952	7.82	1,952
Total variable costs	**233.52**	**58,378**	**233.52**	**58,378**
Fixed costs:	**$/ewe**	**$/flock**	**$/ewe**	**$/flock**
Machinery, equipment and vehicles	21.88	5,470	21.88	5,470
Interest on retained livestock	0.21	52	0.21	52
Taxes and insurance	5.50	1,375	5.50	1,375
Total fixed costs	**27.59**	**6,897**	**27.59**	**6,897**
Total costs	**261.11**	**65,275**	**261.11**	**65,275**
Net return to management and overhead	**-8.61**	**-2,150**	**36.39**	**9,100**
Net return above land and owner's labor	**75.69**	**18,925**	**120.69**	**30,175**

Projections for Essential Prices, Quantities and Other Assumptions

Price/assumptions	NDSU $/unit	Producer $/unit
Feeder lambs ($/lb)	2.50	3.00
Wool, market ($/lb)	0.00	0.00
Pasture rental rate ($/acre)	30.00	30.00
Price of hay ($/ton)	80.00	80.00
Price of grain-based feed ($/ton)	150.00	150.00
Distance to market (miles)	50	50
Price for shearing ($/ewe)	8	8
Price for shearing ($/ram)	12	12
Round trip distance to shear site (miles)	300	300
Wage rate for hired labor ($/hour)	25.00	25.00
Wage rate for owners/family labor ($/hour)	25.00	25.00
Interest rate for operating capital (% APR)	6.50%	6.50%

Summary of economic results	NDSU	Producer
Revenue ($/hd)	252.50	297.50
Total cost ($/hd)	261.11	261.11
Net return to management and overhead ($/hd)	-8.61	36.39
Net return minus the cost of land and owner's labor ($/hd)	75.69	120.69

Small Intensive-based Sheep Tool

- Growing interest for smaller land holders
- Marketing finished lambs = 120 lbs/hd
- Market: Urban areas with populations that prefer lamb
- Size of operation: 1 - 50 ewes (25 ewes)
- Target completion date: March 1, 2027

Collaborators

- Rachel Gibbs, Small Ruminant Systems Specialist, Hettinger-REC
- Karl Hoppe, Livestock Systems Specialist, Carrington-REC
- Tim Petry, Livestock Marketing Specialist, Fargo

Hoop Barn Livestock Tools

- Backgrounding calves (450 - 750 lbs/hd) (November)
- Finishing feeder cattle (750 – 1500 lbs/hd) (February)
- Heifer development (April)
- Small intensive-based sheep operations (Next fall)

Collaborators

- Jason Hagen, Hagen Cattle Company, Oaks, ND
- Lucas Mota, Research Animal Scientist, Carrington-REC
- Karl Hoppe, Livestock Systems Specialist, Carrington-REC
- Tim Petry, Livestock Marketing Specialist, Fargo
- Rachel Gibbs, Small Ruminant Systems Specialist, Hettinger-REC

Links to Decision Tools

- https://www.ndsu.edu/agriculture/ag-hub
- https://www.ndsu.edu/agriculture/ag-hub/ag-topics/livestock/tools
- https://www.ndsu.edu/agriculture/ag-hub/range-based-sheep-decision-tool

Riverview Dairies

- Hillsboro (25K cows) and Abercrombie (12.5K cows)
- District court Judge upheld NDDEQ EQP/CAFO permit for the Hillsboro dairy on October 1 (herd arguments July).
- Both dairies are currently under construction
- Milk production expected by summer/fall 2027

Dakota SAO II, LLP (Wolford)

- 9,200 pigs (6,500 sows plus gilt replacement grow barns)
- NDDEQ reissued the CAFO permit in July, 2026
- Cropland fields near Hurricane Lake were removed from nutrient management plan, replaced with new acres in safe zone.

Blackhawk Farms (Barnes Co.)

- 8,500-pig feeding operation (5K sows + gilt development barns)
- Owned (2 farm families); managed by Pipestone Management
- Conditional Use (zoning) permit was approved in March, 2026
- Next step is to submit a request to NDDEQ for a EQP/CAFO permit.
- Evaluations and periods of public comments, meetings, notices.

Monthly Extension Programs

- Market Situation & Outlook Webinar
  - First Thursday after USDA releases WASDE reports
  - Contact: David Ripplinger to get signed up

- Agriculture By the Numbers: Research Brief
  - Published first of each month (10 months/year)
  - Contact: Bryon Parman to get signed up

Thank you!
Questions?

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