

# EASY SHEEP

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## Introduction

The availability of labor on the average North Dakota farm has declined. Smaller family size and greater dependence on off-farm jobs, combined with increased mobility allowing family members more opportunities in educational, social and recreational events have dramatically reduced the available labor supply for traditional animal agriculture. Currently minimum wage off-farm jobs are perceived as competitive with smaller supplemental income on-farm enterprises. Reduced family labor has forced farm operations to become more specialized and often animal production enterprises have been eliminated. This in part explains declines in some of the more labor intensive supplemental enterprises on North Dakota farms including poultry, dairy, swine, and sheep production.

The Hettinger Research Extension Center (HREC) has recently collected data that suggested some economic advantages for pasture lambing systems as compared to more traditional rearing systems. Traditional animal husbandry favors a very strong connection between the caretaker and the animal. Reduced labor systems of sheep production may be more acceptable to today's farm family life styles. The reduced care levels afforded to the animals may not be acceptable to the caretaker. Increasing sheep numbers because of new flocks based on reduced input sheep production may assist the North Dakota sheep industry to rebuild to satisfactory numbers. Regrowth of the industry would help support necessary industry infrastructure.

In the spring of 1999, the HREC provided three small flocks of pregnant ewes to three cooperators. One goal was to collect information on producer responses to pasture rearing of sheep with reduced inputs and labor. Additionally, we wished to see if actual production results on cooperators farms matched those achieved using this system of management at the HREC. Finally we will compare potential financial results of the EZSheep system to more traditional systems of production.

## Procedure

On April 1, 1999 a flock of five and six year old Montadale x Rambouillet ewes was ultrasounded for pregnancy at the HREC and seventy-six head were found to be pregnant. On April 15, 1999 the ewes were delivered to each cooperator based on their capacity to provide resources for sheep. Fifteen head was delivered to a first time producer at Fort Yates, ND, thirty head were delivered to an experienced sheep producer at Walcott, ND, and thirty-one head went to a dairy producer at Towner, ND. These three producers represented a very diverse sample of farms. The ewes were bred to lamb between the period of May 15 and June 18. The lambs and ewes were picked up, counted and weighed between September 24 and October 4. The lambs would have averaged approximately one hundred-twenty days of age.

Producer responsibilities included; ear-tagging and counting the lambs and ewes at the end of the anticipated lambing period, documenting what happened on the farm as it happened, and documenting their personal feelings throughout the course of the project. At the end of the lambing period and again at the conclusion of the summer season the cooperators were asked to fill out a short survey detailing what had happened and how they felt about the project. Producers were afforded the opportunity to participated a second year. The survey also asked if they would participated a second year and why or why not.

### **An Economic Model of EZSheep results**

Three cooperators tested the EZSheep system on their farms in the summer of 1999. The results of their lambing seasons were combined and an economic model (Sheepbud) was constructed to compare the projected financial returns from the EZSheep cooperators to more traditional sheep production systems in North Dakota.

Table 1 shows the actual production results achieved by the EZSheep cooperators, their average results and an estimated set of North Dakota results under more typical production scenarios. In the comparison analysis, EZSheep average production results to weaning were carried through the model to an expected sell weight of 125 pounds. The North Dakota comparison flock modeled a typical winter lambing flock with early weaning and lambs going directly to feed till they reached 125 pound market weight.

**Table 1. Flock summaries.**

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<b>Flock Number</b>	<b>Whapeton</b>	<b>Towner</b>	<b>Fort Yates</b>	<b>EZ Ave.</b>	<b>North Dakota</b>
No. Of Ewes	30	31	15	76	100
Ewes Died	1	2	2	5	4
% Ewe Death	3.3	6.5	13	6	4
Lambs Weaned	39	29	20	88	130
% Lamb Crop	130	97	133	116	130
Lamb Wean Wt	2669	2610	1545	6824	5850
Lamb Sell Wt	-----	-----	-----	11000	16250
Ave. Lamb Wt	68	90	77	78	45
# lamb/Ewe	89	84	103	-----	-----

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In a comparison of economic results of EZSheep to a more traditional lambing scenario a number of assumptions were used. They are:

- All lambs sold for \$75/cwt at 125 pounds
- Wool is assumed to be 8 lb per ewe and is valued at \$0.25/lb
- Replacement rate is 4% for traditional and 6% for EZ
- Ewe death rate is 4% for traditional and 6% for EZ
- Traditional scenario assumed a barn valued at \$5000
- EZ assumed winter shelter to be a windbreak valued at \$500
- Equipment value is \$1000 for traditional and \$500 for EZ
- Traditional scenario markets 130% lamb crop
- EZSheep scenario markets 116% lamb crop (average of 3 cooperators)
- Marketing and trucking expense per head is the same in both scenarios
- Traditional scenario includes 25 lb creep feed per lamb and slightly higher vet expense
- Fuel and utilities expense are 2.5 times higher in winter lambing scenario
- Labor and management time is valued at \$10 per hour in both scenarios
- Labor and management time is 3 hours per ewe in winter and 1 hour per ewe in EZ
- Winter flock total assets are valued at \$17,750 (includes value of ewes)
- EZ flock total assets are valued at \$12,500 (includes value of ewes)
- Both scenarios assume \$5500 debt on ewes (on % basis EZSheep carries higher debt )
- Return on Assets is calculated as  $\frac{\text{Net Cash Income} + \text{interest paid} - \text{value of labor and mgmt}}{\text{total asset value}}$

The traditional winter lambing scenario shows a positive net cash flow of \$6.75. However the increased labor and higher investment means that return on assets used in the sheep operation is a negative 10%. EZSheep shows a higher net cash flow of \$17.13. This is due largely to decreased feed costs for both ewes and lambs. In addition return on assets is positive as 8.7%. The positive return on assets occurs because the labor needs and total assets used in EZSheep are considerably smaller than in traditional systems.

**Table 2. Financial Results of Comparison**

	Net Return Flock	Net Ewe	Interest Paid	Labor Charge	Asset Value	Return on Assets
EZSheep	\$1,302	\$17.13	\$500.00	\$760.00	\$12,500.00	8.7%
North Dakota	\$675	\$6.75	\$550.00	\$3,000.00	\$17,750.00	-10%

## **Results of Cooperators Surveys (Lambing and Weaning Time)**

A questionnaire was sent to each cooperator after lambing and at weaning time. The questionnaires asked animal production questions and questions on the concept of EZSheep. Questions included; In your estimation what was the major cause of lamb losses?, what was the major causes of any losses of ewes?, were there any predation incidences?, what are your feelings on this system of animal production?, and what changes would you make to enhance this form of low input/labor livestock production?

In the lambing time survey cooperators indicated the primary reason for lamb and ewe losses were the condition of ewe at lambing and the size of the lambs. One of the cooperators experienced few difficulties with the ewes lambing, however, another cooperator felt that if he had kept a better watch on the ewes during lambing he would have saved a few lambs due to their size. All of the cooperators but one felt that this idea was a good way to cut labor and cost during lambing but changes had to be made in ewe and ram selection to produce smaller lambs at birth. Two of the three cooperators said they would be willing to cooperate again in 2000, however, they suggested that the selection of ewes for udder size and breed type may provide better lambing success. All cooperators felt that predation was going to be a problem with this method of animal production.

A questionnaire was also distributed during weaning time and at this time producer felt that the number one reason for losses in the flock from lambing to weaning was ewe condition and udder size (large teats make it hard for lambs to drink and they are starving.) The cooperators suggested that a different breed, or selection of rams for smaller lambs may produce better results. Cooperators at this time still thought that this method of animal production was a viable way to go to reduce labor and cost. Two of the three cooperators were willing to give this concept another try next year. One cooperator was not comfortable with this system of livestock management.

The age of the ewes in this study was 5 and 6 years of age. This was identified as one of the potential causes for some of the difficulties experienced during lambing and after lambing. The two producers who agreed to participate will receive the same flock of ewes next year.

## **Conclusion**

EZSheep has potential to be a profitable management system for sheep production in North Dakota. It may be an especially valuable management strategy for new operations that do not have existing facilities. EZSheep may not be for everyone. The cooperator who declined to participate next year appeared to us to want to provide a more nurturing environment for animals in her care than EZSheep provides. This points out quite clearly that this type of system is not for everyone. However, the potential return on asset rates suggested by the scenarios presented here, would suggest that sheep producers take a hard look at the results of the EZSheep work.