



*Increasing Your Lamb Crop Series*

# Match Reproduction to Management

## Introduction

Sheep adapt easily to their environment and readily respond with increased lamb production when appropriate management practices are applied. Sheep producers who are aware of productivity best practices can assess their present inputs of land, labor, capital and management, and then develop a plan to improve reproductive efficiency to a level that meets profitability goals. Reproductive performance may range from a low of 60% to a high of 225% within the same breed of sheep. The ewe's reproductive performance is a result of effective productive inputs and the producer's management practices.

The **Increasing Your Lamb Crop Best Practices** fact sheet series, of which this is just one, provide specific management practices to integrate into a sheep enterprise based on each producer's situation. The degree to which best practice is implemented varies for each producer, and with each type of management system and geographic location. A benefit to raising sheep is their responsiveness to varying degrees of management. A comparison of sheep production management models will help producers determine which one they currently operate under, and will allow them to evaluate the opportunities to modify management practices to meet reproductive efficiency goals.

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## Production varies with management, resources, locale

The farm flock production model experiences a completely different level of demands on management, labor and feed resources versus a range flock production model. As these models are considered, it is important to understand that in no situation should animal health and welfare be compromised for the sake of economic gain. Some production systems may experience higher levels of lamb mortality than others. It is always in the best interest of the producer to make certain appropriate management practices are being conducted to ensure the best outcomes for the livestock and the producer. Environment and weather influence reproductive success and producers need to practice due diligence through their management to lessen any negative impacts.

Farm and range flocks can be categorized into low input or high input flock management systems. Lambing and weaning percentages are directly related to the level of management, land, capital and labor invested. Sheep producers who have access to large land resources can expect ewes to meet their nutritional needs for maintenance, breeding, gestation and lactation by grazing standing forage through most of the year. Input costs are lower with less labor involved and less need for physical structures. However, the variability of the weather has greater year-to-year influence on reproductive performance.

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Range lambing holds less opportunity to control and manage environmental challenges, but can take advantage of the ewes natural reproductive and maternal instincts. Many range flock producers use shed lambing to reduce lamb loss due to extreme weather, allowing the producer to take advantage of best management practices to improve the ewe's reproductive

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The Lamb Resource Center is your one-stop shop for industry resources and information. Visit [www.LambResourceCenter.com](http://www.LambResourceCenter.com) to learn more.

## Production varies with management, resources ... (cont.)

efficiency. This also allows producers to identify parentage of lambs, so that culling and ewe lamb replacement decisions are based on yearly productivity. When lambs are bonded with ewes and are performing well, the flock is returned to grazing.

Competition for land resources can reduce availability and increase cost of this productive input. Farm flock production systems lessen the need for land resources and the impact of weather by reducing those challenges through greater investment in productive inputs such as labor, capital and higher levels of management. Greater investment in productive inputs requires a greater reproductive performance in order to profit. This system allows sheep producers to lamb out of season and possess a marketing advantage by providing finished lambs when inventories are lowest.

## No one best production system

The most appropriate production system varies from operation to operation. The key is to match lambing rate to the available resources. As lambing rates increase from implementation of key management practices, additional planning should be given to the increased prolificacy. Providing additional nutrition for ewes with multiple lambs, methods of rearing orphan lambs and determining optimal weaning dates become priorities for the producer's flock management.

Sheep producers can compare their current reproductive efficiency against the Reproductive Key Indicators. This activity will provide an objective assessment of the current production system's reproductive efficiency. Initially, sheep producers are able to identify key indicators that can be targeted for immediate improvement without greatly altering the current production system. For example, a low input farm flock's "ewe lambs lambing" rate is below 65%, so this farm flock's producer can address this key indicator by developing ewe lambs through a different management group. Likewise, a low input range flock that does not meet the low input "lambs weaned" key indicator can easily incorporate a number of productivity best practices from available fact sheets such as, "Culling Underperforming Ewes," by identifying and removing dry ewes at end of the lambing season and/or providing optimal nutrition during breeding, gestation and lactation.

When setting realistic reproductive efficiency goals, producers need to assess the strengths and limitations of the available productive inputs that are dedicated to the current sheep production operation. This assessment will indicate how some inputs are underutilized and how the lack of an input limits the reproductive efficiency. An investment in a specific productive

## Record Keeping



**Information is fundamental for making improvements, and the cornerstone is keeping flock production records. The record system can include paper-based or computerized records, or a combination of both. What's important is that producers find a system that allows them to make decisions based upon what is actually happening day-to-day.**

Date	Ewe Name	Lamb Name	Sex	Weight	Remarks
10/15/17	10334	10334	F	12.5	
10/15/17	10335	10335	M	13.0	
10/15/17	10336	10336	F	12.8	
10/15/17	10337	10337	M	13.2	
10/15/17	10338	10338	F	12.9	
10/15/17	10339	10339	M	13.1	
10/15/17	10340	10340	F	12.7	
10/15/17	10341	10341	M	13.3	
10/15/17	10342	10342	F	12.6	
10/15/17	10343	10343	M	13.4	
10/15/17	10344	10344	F	12.5	
10/15/17	10345	10345	M	13.5	
10/15/17	10346	10346	F	12.8	
10/15/17	10347	10347	M	13.6	
10/15/17	10348	10348	F	12.9	
10/15/17	10349	10349	M	13.7	
10/15/17	10350	10350	F	13.0	

input can overcome the limitation of another input. For example, a sheep producer lacking land resources to provide ewe nutrition with grazing can compensate this limited input by developing a dry lot system to house and feed ewes, provided that knowledge, labor and capital inputs were available to develop and operate a dry lot facility. The level at which the productive inputs are available will dictate which input category, high or low, the producer is able to apply. When considering productive input investment, expected reproductive efficiency must provide enough return to recover the expense and add profitability to the operation. For example, there are management tools available to change a flock's weaning rate from 85% to 125%. This is a 47% increase in gross flock return. However, failing to invest 25% more inputs (feed, labor, services) to attain a 50% increase in revenue is not uncommon. There is a cost to increasing productivity and, ultimately, profitability. Remember the quote, "nothing ventured, nothing gained"? It applies to increasing reproductive efficiency, too.



## Develop an action plan

After completing the “Reproductive Key Indicators” assessment and identifying the level each productive input can be committed to the enterprise, sheep producers should develop an action plan toward achieving realistic reproductive efficiency targets.

Each of the 12 *Increasing Your Lamb Crop Best Practices* fact sheets provide specific recommendations to implement the practice. Producers should:

1. Select and implement the practices that will have the most immediate and greatest impact to reproductive efficiency.
2. Identify and plan the steps to implement future productivity best practices that require greater consideration of productive input investment.

Resources and support for development and implementation of the 12 lamb crop best practices, and other productivity

best practices as they are developed, can be found through the Lamb Resource Center at [www.lambresourcecenter.com](http://www.lambresourcecenter.com).

When reproductive efficiency consistently meets or exceeds the key indicator targets within an input category, then those management practices should become standard operating procedures. The addition of other management practices or other productive inputs should be evaluated based on costs and benefits to discover if there is potential for further improvement. Using best practices key indicators to match management to reproductive efficiency will ensure producers are the most successful in their sheep operations.

When **reproductive efficiency** consistently meets or exceeds the key **indicator targets** within an input category, then those management **practices** should become **standard** operating procedures.

## Reproductive Key Indicators<sup>a</sup>

### Which best practices will benefit you?

Reproductive Key Indicators have been developed to help you identify and prioritize which of the Lamb Crop Best Practices you should implement. These key indicators are generalized, yet realistic, goals for both range and farm flocks so that you can assess which best practices will be of greatest value to you. Levels are included for high and low input flock management.

- **High input flocks have these characteristics:** shed lambing, herded, multiple management groups, strategic supplementation and improved pastures
- **Low input flocks have these characteristics:** range/pasture lambing, fenced pastures, simple management groups and limited supplementation

First, identify which Key Indicator(s) you need to improve. Then, refer back to the Lamb Crop Best Practices and pinpoint which ones you need to adopt in order to reach your flock goals.

KEY INDICATOR	RANGE FLOCK		FARM FLOCK		MY FLOCK	
	High Input	Low Input	High Input	Low Input	Current	Goal
Dry Ewes	< 7%	< 10%	< 5%	< 7%		
Lamb Crop						
Born	150%	NA	200%	175%		
Docked	NA	120%	NA	NA		
Lamb Losses <sup>b</sup>	15%	17% <sup>b</sup>	11%	15%		
Lambs Weaned	127%	100%	178%	148%		
Ewe Lambs Lambing	50% <sup>c</sup>	30%	85%	65%		

**a** Data for the Key Reproductive Indicators were generated by the Reproductive Efficiency Task Force based upon research, surveys and industry experience

**b** Lamb losses between docking and weaning

**c** Generally, ewe lambs are not bred in range flocks but this may provide a great opportunity to increase overall productivity

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## More information

### U.S. Lamb Resource Center

<http://lambresourcecenter.com/production-resources/productivity/>

### National Sheep Improvement Program

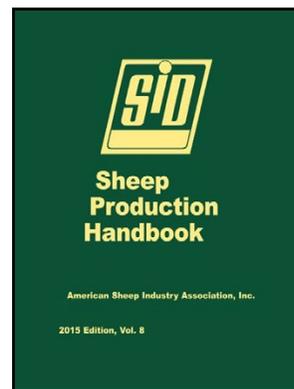
<http://www.nsip.org>

### U.S. Sheep Industry Roadmap

<http://lambresourcecenter.com/reports-studies/roadmap/>

### 2015 Sheep Production Handbook Volume 8

This sheep industry reference book includes chapters on reproduction, management, breeding/selection, forages, nutrition, marketing, predator damage control, health, wool and dairy sheep. The cost is approximately \$90. Order from the American Sheep Industry Association at 303-771-3500, ext. 108, or go online: <http://sheepusa.org/test-sph>



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