



Increasing Your Lamb Crop Series

Match Reproduction to Management

Introduction

Sheep can 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 develop a plan to improve management, and then reproductive efficiency to a level that meets profitability goals. Reproductive performance can vary widely, even within the same breed of sheep. The ewe's reproductive performance is a result of management, health and genetics.

The ewe's **reproductive performance** is a result of **inputs, management, health** and **genetics**.

The Increasing Your Lamb Crop Best Practices fact sheet series, of which this is just one, provides 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.

PRODUCTION VARIES WITH MANAGEMENT, RESOURCES, LOCALE

Farm flocks and range flocks typically have vastly different resources and challenges when it comes to sheep production. These differences are amplified during lambing, which is typically a time when ewes have a higher nutritional demand and increased management may be required. It is critical that producers recognize the needs of their sheep during lambing and match their management to fit the expected production. Recording body condition scores (BCS) regularly on the flock at breeding and through

gestation can help determine if feed resources are adequate. While it can vary by breed, BCS of ewes can significantly influence lamb survival, especially in multiple lamb litters¹.

Farm and range flocks can be categorized into low input or high input flock management systems. Large, extensive range operations are often limited in their ability to provide individual ewe care and nutrition, but rather are highly reliant forage to meet ewe nutritional needs from maintenance through lactation.

Production Stage & Target Min BCS

Breeding	2.5-3.0
Mid-Gestation	3.0-3.5
Lambing	3.0-3.5

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. These operations are also limited to following a production schedule that matches ewe needs with the availability of high quality forage and when temperatures are conducive for survival of lambs born outside, e.g. spring lambing.

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 can circumvent weather challenges at lambing by using 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 efficiency. Furthermore, shed lambing can improve lamb survival, especially in twin and triplet (or more) litters². Shed lambing 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. More intensive farm flock production systems lessen the need for land resources and the impact of weather by reducing those challenges through greater investment in inputs such as labor, infrastructure and higher levels of management. Prolific breeds of sheep that are capable of rearing multiple offspring are often ideal for farm flock scenarios because nutrition and management can support higher lamb crop percentages. It is important to recognize that input costs are much higher per ewe, thus increased production is needed to cover these expenses. This system also allows more flexibility in production schedule and 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 (see table below). 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, if 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 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. There is a cost to increasing productivity with the opportunity to increase profitability.

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**.

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 at LambBoard.com

When reproductive efficiency consistently meets or exceeds the key indicator targets within an input category, then those practices should become

	Range Flock	Farm Flock	My Flock
Input level	High/Low	High/Low	High/Low
Dry Ewes	< 7% < 10%	< 5% < 7%	
Lamb Crop			
Born	150% NA	200% 175%	
Docked	NA 120%	NA NA	
Lamb Losses	15% 17% ^b	11% 15%	
Lambs Weaned	127% 100%	178% 148%	
Ewe Lambs Lambing	50% 30%	85% 65%	

a Data for the Key Reproductive Indicators were generated by the Reproductive Efficiency Task Force base upon research, survey 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

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.

REPRODUCTIVE KEY INDICATORS

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 want 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.

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