

# NEWS TO EWES

## Management of Ewe Lambs Born in April to Lamb First at Twelve Months of Age (Based on the University of Kentucky Management System)



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### Introduction

The following is a description of the management of ewe lambs born in April at the University of Kentucky Sheep Unit and destined to lamb first at 12 months of age (the next April). Breeds are Polypay and White Dorper. Ewe lambs not selected as replacements and wethers go to market at 100 to 120 lb in October/November. Ewes that produce these ewe lambs begin lambing on April 3 and end on May 2 from a November 15 to December 7 breeding season. This puts the average lambing date at about April 15.

### Creep Feeding Period

Pregnant ewes are brought to the barn for lambing on April 2 so they can lamb in a dry, clean environment and out of the variable weather that occurs in April. Ewes and newborns work through lambing jugs and mixing pens. When lambs are a week old, they are transported, with their mothers, to a barn located in a pasture. A panel across the barn door

**Table 1. University of Kentucky Complete Grain Mix**

Ingredient	% of Mix
Ground/cracked shelled corn <sup>a</sup>	80.00
UK sheep concentrate pellet <sup>b</sup>	20.00

<sup>a</sup>Processed through a hammer mill without a screen.

<sup>b</sup>Composition: Soybean meal (48% CP) = 63.33%, distillers dried grains = 21.25%, ground limestone = 4.38%, salt = 3.13%, dicalcium phosphate = 3.13%, ammonium chloride = 2.50%, sheep complete mineral = 1.50%, vitamin E (20,000 IU/lb) = 0.50%, vitamin A (10,000 IU/lb) = 0.25%, and vitamin D<sub>3</sub> (15,000 IU/lb) = 0.25%.

confines ewes and lambs in the barn for the night, but removal of the panel allows entrance and exit anytime during the day. Lambs are creep-fed a complete grain mix (GM) of 80% ground/cracked shelled corn and 20% UK sheep concentrate pellets. Ingredient composition of this diet is shown in Table 1. All lambs are individually weighed and given the first of three enterotoxemia vaccinations by five weeks of age. Selection of potential replacement ram lambs, based on weight, type of birth/way raised (single, twin, triplet), and visual appraisal is made at

this time. Other ram lambs are castrated at this time.

### Post-Weaning (PW)

All lambs are individually weighed and given a second enterotoxemia vaccination at 60 to 70 days of age (weaning date between June 15 and 25). Weaning weights are adjusted for lamb age, ewe age, lamb sex, and type of birth/way raised. Ewe lambs are ranked from heaviest to lightest for adjusted weaning weight. Actual, unadjusted, weaning weights can be submitted to the National



Sheep Improvement Program (NSIP) for more extensive computations if desired.

Lambs remain in the pre-weaning pasture for seven days after ewes leave. The pre-weaning creep diet continues to be fed. In the afternoon of day seven, feed and water are removed. Lambs are confined in a barn overnight in preparation for de-worming early the next morning. They remain in the facility for three hours after de-worming and before turning back to their original pasture for two more days. Selected ram lambs remain in the barn to be managed differently from ewe and wether lambs.

After two days back on the original parasite-infected pasture, ewe and wether lambs are moved to the highest quality pasture on the farm. As they graze this pasture, they are supplemented, once daily, with the grain mix (GM) shown in Table 1. To begin, the GM is fed at the same level (lb/head/day) as was consumed during the creep feeding phase. Offerings are gradually increased over a two-to three-week period until the daily consumption equals 2% of the actual average weight of all ewe and wether lambs at weaning. The third enterotoxemia vaccine is administered at 11 weeks of age (two to three weeks after weaning). After the 2% level of intake is reached, it is maintained for an additional two weeks. By this time it is about August 1. All lambs are weighed again and daily supplement amounts are adjusted to reach 2% of the new average body weight over the next two to three weeks. Again, once the daily supplement intake reaches 2% of average weight, it is held at this level until September 15.

The goal of this management scheme is to market non-replacement ewe and wether lambs for slaughter in October and November when average weights are 100 to 120 lb. This means they need to gain at least 0.55 lb/head/day from birth to market. Ewe lambs that are eventually selected as replacements gain at least at this rate. Can Polypay and White Dorper ewe lambs gain this fast? Absolutely! Some gain faster. To do so, however, they need to graze the highest quality pasture on the farm and stomach worms must be controlled.

High-quality pastures that can be grazed by lambs from weaning (June 15 to 25) until September 15 include bluegrass/white clover, orchardgrass/white clover, and orchardgrass/alfalfa combinations.

All have to be supplemented with a GM like the one in Table 1 or an equivalent. Pure stands of alfalfa, supplemented at 2% of body weight daily with the GM in Table 1, produce the highest daily gains. However, to prevent winter kill of alfalfa, it must not be grazed from September 15 until the first hard freeze in November or December. Substitution of pure stands of bluegrass or orchardgrass will provide excellent pasture after September 15.

Lambs are rotated to fresh alfalfa pastures at least every two weeks and sometimes more frequently. Dry, open ewes “mob graze” the pasture vacated by lambs. The remaining alfalfa stems are bush-hogged to simulate hay harvesting and initiate rapid regrowth.

Lambs are de-wormed as symptoms of internal parasites occur. Close daily observation is essential because lambs born in April and raised on pasture through summer and fall will have stomach and tape worms regardless of management. **Live with the worms, but try to keep to a minimum.**

In 2017, selected and non-selected replacements were weighed again on October 16. Table 2 shows the post-weaning (PW) growth performance of Polypay and White Dorper ewe lambs from weaning (June 21) until October 16, 2017. These data illustrate the emphasis placed on type of birth/way raised, adjusted weaning weight, and post-weaning (PW) gain when selecting replacement ewe lambs.

## Post-Selection (PS)

All lambs are weighed on September 15. Enough ewe lambs are selected on this date to replace 16 to 20% of the April-lambing ewes that were culled by July 1. Selection is based on adjusted weaning weights and visual appraisals. All lambs are de-wormed. Selected replacement ewe lambs graze orchardgrass pasture and are supplemented with the GM (Table 1) at 1.5 lb/head/day until November 15. Non-selected replacement ewe lambs and wethers also graze orchardgrass pasture and are supplemented with the GM (Table 1) at 2% of body weight daily until marketing in October/November at 100 to 120 lb.

Minimum weights of replacement ewe lambs on November 14 must be **“at least two-thirds of their projected mature weights.”** For example, if mature weights of Polypay and White Dorper ewes are 150 lb when dry and open, replacement ewe lambs need to weigh at least 100 lb at the time of first breeding. All the replacements selected on September 15 are weighed and de-wormed on November 14. The selection pressure applied on September 15 assures all will weigh at least two-thirds of their projected mature weights on November 14.

## Breeding (BR) and Early Gestation (EG)

Fertile rams are introduced to ewe lambs in orchardgrass pastures on No-

**Table 2. Growth Performance of Polypay and White Dorper Ewe Lambs from Weaning (6/21/17) until 10/16/17**

Genetic Type	Polypay		White Dorper		
	Selected Replacements	Yes	No	Yes	No
Number of Lambs		17	19	15	25
Birth date		Apr 13	Apr 14	Apr 10	Apr 16
Type birth/way raised, number					
Single/single		1	9	3	3
Twin/twin		6	1	9	18
Twin/single		1	0	0	3
Triplet/twin		5	5	3	1
Quad/twin		4	4	0	0
Weaning weight, 6/21, lb		48.1	48.5	50.5	42.2
Adjusted weaning wt, lb <sup>a</sup>		54.1	52.3	52.6	46.3
10/16 weight, lb		103.1	101.7	97.3	82.9
Total gain, 6/21 to 10/16, lb		55.0	53.2	46.8	40.7

<sup>a</sup> Adjusted for lamb age, lamb sex, and type of birth/way raised.

**Table 3. Total Feed Costs/Year/Ewe Lamb Born in April and Destined to Lamb First at 12 Months of Age**

Period <sup>a</sup>	No. days	Total lb	Lb/day	Cost/day, \$	Total cost, \$
<b>Creep (4/15 - 6/20)</b>					
Pasture	66	-	-	0.02	1.32
GM <sup>b</sup>	66	30	0.45	0.05	3.30
<b>PW (6/20 - 9/15)</b>					
Pasture	87	-	-	0.03	2.61
GM <sup>b</sup>	87	131	1.50	0.15	13.10
<b>PS (9/15 - 11/15)</b>					
Pasture	61	-	-	0.03	1.83
GM <sup>b</sup>	61	92	1.50	0.15	9.20
<b>BR (11/15 - 12/7)</b>					
Pasture	22	-	-	0.03	0.66
GM <sup>b</sup>	22	33	1.50	0.15	3.30
<b>EG<sup>a</sup> (12/7 - 3/15)</b>					
Pasture	98	-	-	0.03	2.94
Hay <sup>c</sup>	98	196	2.00	0.14	13.72
GM <sup>b</sup>	98	147	1.50	0.15	14.70
<b>LG (3/15 - 4/15)</b>					
Pasture	18	-	-	0.03	0.54
Hay <sup>d</sup>	31	93	3.00	0.24	7.44
GM <sup>b</sup>	31	47	1.50	0.15	4.70
<b>Total</b>					<b>\$79.36</b>

<sup>a</sup>Creep = pre-weaning; PW = post-weaning; PS = post-selection; BR = breeding; EG = early gestation; LG = late gestation.

<sup>b</sup>GM = grain mix (80% ground/cracked shelled corn 20% UK sheep concentrate pellet) @\$200.00/ton.

<sup>c</sup>Orchardgrass hay (vegetative) @\$140.00/ton.

<sup>d</sup>Alfalfa hay (mid-bloom)@\$160.00/ton.

November 15. They continue together until the 3-week breeding season ends on December 7. The ewe lambs continue to be fed 1.5 lb GM (Table 1)/head/day plus any available grass pasture and/or hay during the breeding season. After ram removal, ewe lambs remain on pasture all winter and have ad libitum access to the highest quality grass hay (harvested in vegetative stage) until mid-March. They consume, on average, 2 lb of hay/head/day and are concurrently supplemented once daily with 1.5 lb/head of the GM shown in Table 1.

### Late Gestation (LG)

Feeding the late gestation ration begins on March 15 and continues until all have lambed. This ration, fed once daily, contains 3.0 lb alfalfa hay (mid-bloom) plus 1.5 lb of the GM per head. It is fed while still on pasture and after moving into the barn (April 2). All ewes are de-wormed after lambing and are transported back to the barn and pasture where they were raised the year before. They are rotated through orchardgrass/fescue pasture with 1.0 lb GM/head/day. De-worming is

done as necessary while managed with mature ewes during lactation. Lambing rates in 2018 for 2017-born Polypay and White Dorper ewe lambs (Table 2) were 1.8 and 1.3, respectively.

Table 3 shows the feed cost/ewe lamb for each management period beginning with the creep feeding, progressing through post-weaning (PW), post-selection (PS), breeding (BR), early gestation (EG), and ending through late gestation (LG). Even though lambs were on pasture for essentially the entire year (except for late gestation), this cost is calculated to be only about 12% of the total \$79.36. In contrast, the GM makes up approximately 61% of the total feed costs for each lamb for the year from birth to lambing at 12 months of age. Winter feeding hay accounts for 27% of the total.

### After First Lambing

Lambs are weaned at 60 to 70 days of age (June 15 to 25). All ewes (yearlings and mature) are de-wormed and moved to a low-quality and quantity pasture so milk production will cease. Cull ewes will be marketed for slaughter. The first-

lambing ewes, now 14 months old, will be relatively thin (1.3 to 1.7 body condition score) when lambs are weaned. These are separated from higher body condition score yearlings, graze higher quality grass pasture and are supplemented with 1.0 lb GM (Table 1) per head daily until they reach body condition scores from 2.0 to 2.5. They are managed to remain in this score until nutritional flushing begins on November 1.

Feet are trimmed two times per year (spring and fall). A complete, loose sheep mineral is available ad libitum every day of the year as is fresh, clean, and cool water (50-55°F). Shade is always available during spring, summer, and fall.

### Summary

Sixteen to twenty percent of the ewes in a commercial flock that lamb in April each year are culled annually. If ewe numbers are to remain constant from year to year, enough ewe lambs must be selected to replace the culled ewes. Management of ewe lambs born in April and destined to lamb first at 12 months of age (the next April) must be precise if success is expected. These replacement lambs use pasture forage as a base of nutrient supply throughout their first year of life (creep, post-weaning, post-selection, breeding, early gestation, late gestation). However, they must also be supplemented with a concentrate feed source (shelled corn or grain mix). The amount provided each day depends on the production period within the year (i.e., creep, post-weaning, etc.). Even though supplementation may seem expensive, it becomes economical because it allows these lambs to reach two-thirds of their mature weights by the time of first breeding. In turn, an acceptable lambing rate at 12 months of age can be attained.

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