

ASC-126
DEVELOPING A SHEEP ENTERPRISE
ISSUED: 5-90
REVISED:
G.L.M. Chappell

Kentucky has the resources necessary for successful sheep production. We have a vast forage production potential, under utilized-labor and facilities and access to a well-established market. Many Kentucky farmers should consider the sheep enterprise and its many benefits, particularly producers striving to make more efficient use of forages, labor and facilities. In developing this enterprise we must consider: feed supply, labor, facilities and equipment, foundation stock and the production program.

Feed Supply

Forages

More marketable product can be produced from sheep on forage than any other farm animal. Forages can supply up to 90% of the total feed in a sheep program.

In planning a program, establish the annual carrying capacity (the number of animals a forage plan will support for a year, including pasture and hay). Carrying capacity is expressed in animal units. Under Kentucky conditions, a beef cow requires approximately 1 ton of hay and 4 tons of pasture dry matter per year. The ewe's annual requirement is 0.3 ton of hay and 0.5 ton of pasture dry matter. Therefore, 1 cow equals 6-7 ewes. A forage program capable of supporting 25 cows annually will provide feed for 150-175 ewes.

Because of their grazing habits, cattle and sheep complement each other in grazing forage. Sheep graze the shorter, finer material while cattle graze taller, coarser growth. One could normally expect to add a ewe per cow grazed and not increase the amount of pasture land required. The additional feed required would be 600 lb of hay and necessary concentrates.

The quality of forage needed for sheep is as important as the amount. The quality required is related to the flock's stage of production.

Nutrient requirements are highest for ewes in late gestation and early lactation. They need high quality hay, corn silage and/or some cover crop or accumulated grazing from late November to late March. Hay produced for sheep should be at least 50% legume and contain a minimum of 12-14% crude protein. Fifty percent grass-legume, alfalfa, clover or other pure legumes are excellent sheep hays when harvested early without weather damage and stored to prevent spoilage.

The lactating ewe and the fast-growing lamb need large amounts of high quality forage from April to June. Cool season grasses (fescue, orchardgrass or bluegrass) supply the earliest grazing. Later grazing in this important period can come from renovated pastures.

The mature, dry, non-pregnant ewe requires only a maintenance level of nutrition. After ewes have recovered any excessive weight loss from lactation, they need only to maintain or increase their weight slightly until 6 weeks prior to lambing. The ewe should graze lower quality forages in June and July to prevent excessive weight gains. When weight gains are excessive, grazing time or the area grazed needs to be restricted.

Fall grazing may be provided by accumulated fescue, orchardgrass or bluegrass, renovated pastures, hay meadows or cover crops.

A successful forage program for sheep provides 600 lb of high quality hay/ewe/year and some

supplemental winter grazing if possible and large quantities of high quality forage for lactating ewes and lambs growing to market weights (April through June). Lower quality forages can be used in summer and early fall for dry ewes.

Concentrates

When hay containing at least 50% legumes is used in a sheep feeding program, the primary source of supplemental concentrates is corn. The corn required/ewe/year may vary from 1-1/2 to 5 bushels depending on the feeding program. The following are typical rations used in a sheep program.

160 lb ewe - last 6 weeks of gestation

4-5 lb of alfalfa hay

0.5 lb shelled corn

140 lb ewe - first 8 to 10 weeks of lactation

4-5 lb of alfalfa hay

1.0 lb shelled corn (single lamb)

1.5 lb shelled corn (twin lambs)

Creep rations for lambs

89% coarsely ground shelled corn

10% soybean meal

1% antibiotic (supplying 2 grams active material/100 lb ration)

Labor

The labor required/ewe/year amounts to 5-7 hours in a 25-30 ewe flock or 2.5-3.0 hours/ewe in a 200 ewe flock. Here are the labor requirements for a January-February lambing flock.

January-February: General feeding, feed mixing, bedding, barn cleaning, observing and sorting off ewes as they lamb, observing ewes and lambs in lambing pens, docking, castrating, vaccination, record keeping.

March-June: Observe sheep daily, move to fresh pasture as needed, shear, sort, grade and market lambs, cull ewes, trim feet, drench.

July-September: Observe sheep daily, move to fresh pasture as needed, crutch ewes, prepare rams for breeding, keep breeding records.

October-November: Observe sheep daily, drench, move to fresh pasture as needed.

December: Observe sheep daily, start grain feeding, prepare barn for winter feeding and lambing.

The labor you use in your sheep enterprise must be timely and precise. Planning and proper equipment increase labor efficiency. Many jobs can be combined: drenching, foot trimming, foot care and crutching, for example.

Shearing is a special labor consideration. You can hire shearers or you may want to learn to shear your sheep.

Facilities and Equipment

Housing - Sheep can be easily housed in unused tobacco barns or similar structures. Inexpensive feeders, a water source and some small gates are all that you need as basic equipment. The ewes are separated as they lamb into 4' by 4' lambing pens for 3 to 4 days after lambing. From these pens they

can be moved to a nursery pen for a few days and then moved to the pen for ewes with singles and the pen for ewes with twins. The ewes with twins need extra feed. If a stripping room is available in the barn, you can use it as an office and for storage during lambing.

Other large equipment needed are a foot bath and some gates to form a working area for handling and sorting sheep.

Basic fencing requirements can be met by using conventional woven wire or high tensile electric for boundary fencing and electric fence for cross or interior fence.

Small equipment required includes drench guns, syringes, foot trimmers, electric clippers and related items.

The following recommendations on space requirements can guide you as you plan sheep facilities. All space listed is usable space exclusive of feeder and feed storage which is listed later.

Pen Space

Ewes - 10 to 14 sq ft/head

Ewes with lambs - 16 to 20 sq ft/unit

Weaned lambs - 8 to 10 sq ft/head

Lambing pens - 16 sq ft/pen

1 pen/6 ewes in flocks under 100 head

1 pen/8 ewes in flocks over 100 head

Lot area

35 to 50 sq ft/adult sheep

Creep area

2 sq ft/lamb

Feeder space

	Ewe	60 lb+ & Lamb
Self-fed	10-12 inches	3-4 inches
Hand-fed	16-20 inches	9-12 inches

Waterer space

8 to 10 head/ft of perimeter or 25-35 head/automatic waterer

Feed storage

Hay and bedding 350 cu ft/ton

Concentrate 1.25 cu ft/bushel

Using these data, the space required for a one ram flock (35 ewes) including pen space, lambing pens and feed storage is about 1,200 sq ft (a 32 x 40 ft barn). While 100 ewes require 3,200 sq ft (a 40 x 80 ft barn).

Foundation Stock - Selecting Your Ewes

Ewes selected for fall, winter and early spring lambing programs (December-January, February-March) should carry some fine wool breeding (Rambouillet) or Dorset breeding since the major breeding season for these programs is April through October. Some increase in lambing rate, milk production and mothering ability can be expected from crossbred ewes. Ewes of fine wool x black faced (Suffolk, Hampshire) breeding are normally available from the Southwestern and Northwestern US. Limited numbers of crossbred ewes of Finnsheep breeding may also be available. This litter-bearing breed shows promise of increasing lambing percentage.

Consider age when you select ewes. Ewe lambs and yearling ewes are normally available in uniform groups and should produce 5 or 6 lamb crops. They are more difficult to breed and experience more lambing problems than mature ewes. Older ewes offer the advantage of fewer lambing problems and cheaper price, but may have other problems and a shorter production life.

Use a thorough systematic approach to selection including the following considerations:

Eyes - The eyes should be clear, bright and both should be functional.

Mouth - When records are not available as to the age of sheep, the incisor (front) teeth in the lower jaw serve as a reliable indicator of age up to 4 years. Some variation in the time of appearance of permanent teeth reduces the accuracy of the estimate.

The lamb has 20 temporary (milk) teeth. Adult sheep have 32 permanent teeth. The 8 front incisor teeth are used to determine age. At 10-15 months the lamb's 2 center temporary, narrow incisor teeth are replaced by 2 broad permanent teeth. The second pair of permanent teeth (one on either side of the yearling teeth) come in at 20-30 months of age. The 3 year old teeth come through at 34 to 40 months of age and the "full" mouth (8 incisors) appears at 48 months.

After a sheep becomes full-mouthed, the age cannot be told accurately, but the teeth tend to develop a "long" appearance due to receding gums. The teeth also "shoe-peg," becoming wider apart at their inner borders as the sheep gets older. The front teeth should be flush with the dental pad which serves as the upper chewing surface in the front of the sheep's mouth. The teeth should not extend far out over the pad or vice versa.

Feet - When sheep's feet are properly trimmed, they stand squarely on them. Trim overgrown feet early in the pasture season. The feet should be free of disease. Legs and pasterns should be straight and strong and all joints free of stiffness.

Udder - The udder of ewes which have been in production should be soft, pliable and free of lumps. Check teats to eliminate ewes with abnormally large or unproductive teats due to disease or injury.

Wool - As with ewes with large amount of black fiber, avoid ewes with excessive head wool, which may lead to "wool blindness."

Size - Ewe size has been shown to be related to productivity. Selection for large ewes can be expected to increase percent lamb crop. Ewes of larger mature size should also be expected to produce faster growing lambs than smaller ewes.

Condition - Avoid excessively fat ewes since over-condition may reduce reproductive efficiency. Ewes

which lamb early and wean their lambs during the peak season of pasture production can become too fat unless properly managed. Likewise, poor producing and barren ewes fed in amounts above their nutrient requirements can be expected to become too fat.

Health - All sheep should be free of disease, internal and external parasites. Always buy foundation stock early enough to allow for a suitable "isolation period" to prevent the spread of disease or parasites throughout the flock. Ewes accustomed to their surroundings should be expected to breed and settle more readily than "new arrivals."

Rams used as terminal sires of slaughter lambs should be selected for size, muscling and soundness. Mature size of rams is positively related to growth rate in their lambs, so above average size rams should always be selected as market lamb sires. The high-priced cuts in a lamb carcass are the loin and leg, so rams should be heavy muscled in these areas. Rams should be free of disease and able to walk without stiffness in feet or legs.

The ram's age affects the number of ewes he will breed in a season. The following are suggested guidelines: well-grown ram lambs 15-25 ewes, yearling rams 25-35 ewes and rams 2 to 5 years old 25-50 ewes. Older rams are best suited for smaller numbers of ewes in a restricted area.

Hampshire and Suffolk rams are used extensively as sires of slaughter lambs. White-faced (Rambouillet, Rambouillet-Finn cross, Dorset, Dorset-Finn cross) rams may be best when replacements are saved from the flock.

The Production System

Once you evaluate your resources and production goals, you should develop a production system. The 3 systems illustrated each require unique resources and management.

- The fall lambing program, for example, requires specific genetics to be successful.
- The spring lambing production program requires precise internal parasite control and forage management.
- The systems may be combined to increase efficiency.

Summary

A successful sheep enterprise requires a feed supply that allows the ewe, ram and lambs to perform all their productive functions. Labor requirements for sheep are usually greatest when other farm labor is minimal. Usable facilities are essential to success. Selecting breeding stock that will perform to the producers' expectations is critical to the enterprise's economic success. The manager should develop and fine tune a basic production system.

Table 1 — Yearly Sheep Operation Calendar — Fall Lambing

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Basic internal parasite treatment				X	X				X		X	
Flush ewes												

Table 2 — Yearly Sheep Operation Calendar — Winter Lambing

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Basic internal parasite treatment	—	—		X	X		X				X	—
Flush ewes							—	—				
Breed ewes							—	—	—			
Lamb	—	—										—
Dock, castrate, vaccinate lambs	—	—										—
Creep feed	—	—	—	—								—
Weaning			—	—								
Feed lambs*			—	—	—	—						
Market lambs*					—	—						
Shear & market wool†				X							X	
Pasture ewes				—	—	—	—	—	—	—	—	—
Labor input (H-High, M-Medium, L-Low)	H	H	M	M	M	L	L-M	L-M	L-M	L	L	M-U

Key: X — Sheep treated once during month.

* — Timing of these operations will vary with the individual program.

[Table 1 - Yearly Sheep Operation Calendar - Fall Lambing](#)

[Table 2 - Yearly Sheep Operation Calendar - Winter Lambing](#)

Table 3 - Yearly Sheep Operation Calendar - Spring Lambing

Table 3 — Yearly Sheep Operation Calendar — Spring Lambing

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Basic internal parasite treatment		—————			X	X			X		X	
Flush ewes									—————			
Breed ewes									—————			
Lamb		—————										
Dock, castrate, vaccinate lambs		—————										
Creep feed		—————		—————								
Weaning (optional)					—————							
Feed lambs ^a									—————		—————	—————
Market lambs										—————		—————
Shear & market wool*	X											
Pasture ewes—lambs* (L)	—————			L	—————							—————
Labor input (H-High; M-Medium; L-Low)	M	H	H	M	M	M	M	M	M	M	L	L

Key: X — Sheep treated once during month.

* Timing of these operations will vary with the individual program.

^aLambs intended for market in October may require concentrate feeding in Sept.-Oct.

Lambs intended for market in December may require concentrate feeding in Nov.-Dec.