
AGRICULTURAL ALTERNATIVES

Accelerated Lamb Production

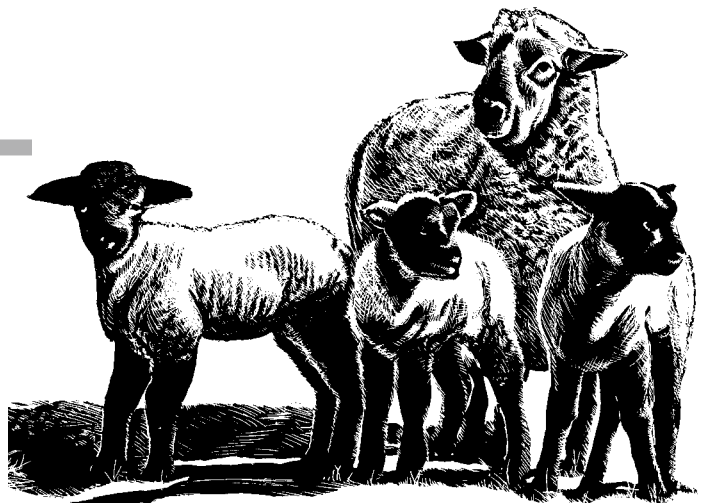
An effective method for increasing revenue from a lamb production enterprise is to increase the number of lambs produced per ewe each year. With high-level management and production skills, it is possible to produce three lamb crops per ewe every two years. This technique is called accelerated lambing. It combines spring, off-season, and holiday lamb production into one enterprise. It also allows for increased efficiency in use of labor, land, equipment, and buildings.

It is possible to breed ewes more often than once a year when a number of factors are favorable. The ewes must be capable of breeding in the spring, fall, and winter. Adequate buildings, equipment, and feed must be available to handle ewes and lambs during the entire year. High-level management, marketing, and production skills are critical to operate spring, off-season, and holiday lamb production enterprises simultaneously.

Lambs are marketed using both conventional (auctions, slaughterhouses, and brokers) and nonconventional (niche markets, specialty stores, and direct marketing) methods. The ideal market weight is 110 pounds for spring and off-season lambs and 40 to 45 pounds for holiday lambs.

Accelerated lamb production is easily adapted to small-scale or part-time farming operations. This type of production has a slightly higher investment cost than other lamb enterprises.

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The most significant advantages of an accelerated lamb program are:

- Increased number of lambs produced per ewe
- Increased market options
- Higher prices paid for off-season and holiday lambs

Before deciding to use an accelerated lambing program, you should consider these important management concerns:

- Lambing rates are approximately 25 percent lower than in a spring lamb enterprise.
- Lambing may interfere with the harvesting of some crops.
- Breeding is more difficult than with spring lambs.
- Ewes must be replaced more frequently.
- Parasites and diseases must be monitored more carefully.
- Incidence of mastitis is increased and more careful monitoring is needed.
- Labor is required year-round.

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Sheep breeds available in Pennsylvania and recommended for an accelerated lamb enterprise.

BREED	CLASSIFICATION	APPROXIMATE MATURE WEIGHT ^a
Coopworth	medium wool, meat	150
Dorset	short wool, meat	140
Finnsheep	medium wool, meat	120
Katahdin	hair, meat	135
Polypay	medium wool, meat	140
Rambouillet	fine wool, meat	150
Romanov	black wool, meat	130
St. Croix	hair, meat	130
Targhee	medium wool, meat	150

^aThis weight is for ewes. Ram body weight is 1.55 to 1.75 times the ewe body weight.

Breeding and Nutrition

A well-planned reproductive management program is important to maximize profitability. Sheep are seasonal breeders and are most fertile during September, October, and November. Day length is the key environmental factor affecting reproduction in ewes. However, certain breeds of sheep seem to be less affected by day length than others. These breeds do well in an accelerated lambing program because a large percentage of their population will breed through the winter and into the spring. Crossbred ewes developed from these breeds often will breed better out-of-season. In addition, crossbred ewes tend to reach sexual maturity earlier. (See the list of breeds recommended for use in an accelerated lambing program.)

Several factors must be considered when developing an accelerated lambing program. Providing ewes with proper nutrition at all stages of their life will optimize reproductive performance by reducing the age of sexual maturity and the interval between pregnancies. Ewes should be well identified and records should be maintained on their breeding activity, including which ewes are bred to which rams, and the number and weight gains of the resulting lambs.

A veterinarian should check rams for fertility before they are used for breeding. During the breeding season, rams should be fitted with marking harnesses or have their chests painted so that they leave clear, visible marks on the ewes they have bred. Observe breeding tendencies carefully and cull any rams that are not effective.

During the fall, when the mature flock is reproductively active, all ewes exposed for breeding should be bred in about 17 days. In a spring breeding season, it is unlikely that all exposed ewes will be bred. This is due to several factors, including lower libido and fertility of rams, as well as seasonal anestrous (lack of estrus and ovulation) in some

ewes. Selection of replacement ewes from those animals that breed in the spring will increase the percentage of animals in the flock that can benefit the off-season breeding program the most.

Certain management practices will induce ewes to breed out-of-season. One method is to separate rams and ewes completely for 60 days prior to breeding. Complete separation means no contact, sight, sound, or smell for the entire isolation period. This technique increases the number of ewes bred and lambs conceived during the first week of the breeding season.

The nutritional needs of ewes should be monitored closely during the reproduction phase. Using feeds high in energy and protein approximately two weeks before breeding can increase the ovulation rate and increase the chance of multiple births. It is important to maintain good body condition throughout the gestation period and carefully monitor health during lactation. Although ewes may be allowed to lose weight during lactation without affecting future lamb crops, good body condition should be maintained in at all times. Nutritional requirements are reduced following lactation.

A way to lower costs and extend the pasture season is to grow crops such as winter wheat, barley, rye, and brassicas. These crops are grown during fall, winter, and spring months and provide good pastures in the spring and fall when adequate moisture is available. There is no loss in grain yield if sheep are taken off small grain pastures by April 15. Besides quality feed, sheep require some free-choice minerals for normal growth and maintenance.

An excellent source of sheep nutrition information is the National Research Council's 1985 booklet on recommended nutrient allowances. These nutrient requirements are designed to maintain optimum production.

Health Program

A thorough preventive health program, rather than a treatment plan, is strongly recommended in an accelerated lamb production system. A vaccination program to prevent those diseases that have been known to occur in your flock and local area is critical. Your local veterinarian can help you develop a health program.

Ewes should be sheared in early spring. At that time, they also should be treated for both internal and external parasites. Internal parasites should be treated at least four times per year: once just prior to lambing, twice during pasturing, and once at breeding time. Internal parasites may also be a problem for lambs, especially during wet seasons.

Docking of tails of all healthy lambs at four to seven days is recommended for most operations. However, you must understand your market, because some consumers want undocked tails.

Fencing and Housing

An accelerated lamb production system requires more investment in fencing, housing, lambing, and animal-handling facilities than most other lamb enterprises. When you plan a sheep facility, get ideas from publications, farm visits, experienced shepherds, animal scientists, and agricultural engineers.

As with other lamb production systems, existing sheds and barns can be renovated to accommodate various phases of production. The *Sheep Housing and Equipment Handbook* from the Midwest Plan Service is a useful reference for buildings and animal-handling facilities. Barns and lots should be placed on a well-drained and south-facing slope. The open side of the building should face away from the prevailing winds. A southern or eastern exposure helps the lot dry faster and makes the lot easier to maintain. Sheep do not tolerate mud, so you should consider grading and filling to develop desired slopes in the lot.

Sample Budgets

The sample budget included in this publication provides an example of the costs and returns for accelerated lamb production. It is a two-year budget comprising three lamb crops (spring, off-season, and holiday lamb production). It should help ensure that all costs and receipts are included in your calculations. Costs and returns are often difficult to estimate in budget preparation because they are numerous and variable. Therefore, you should think of these budgets as an approximation, and then make appropriate adjustments using the “Your estimate” column to reflect your specific situation.

Other sheep titles in the *Agricultural Alternatives* series which may be of interest to you are *Spring Lamb Production*, *Feeder Lamb Production*, *Off-season and Holiday Lamb Production*, and *Milking Sheep Production*.

Prepared by Clair C. Engle, associate professor of animal science; George L. Greaser, senior research associate for agricultural economics; Daniel R. Deaver, associate professor of reproductive physiology; and Jayson K. Harper, assistant professor of agricultural economics

Sample Accelerated Lambing Budget (two-year estimate)

Assume lambing three times in two years with an average of 1.65 lambs born per ewe each year.

Item	Total	Your estimate
Receipts		
Lambs (384 lb/ewe sold @ \$0.73/lb)	\$279.04	_____
Wool (including government payment)	\$30.78	_____
Cull ewe and ram (75.4 lb sold/ewe @ \$0.30/lb)	\$22.63	_____
<i>Total receipts</i>	\$332.45	_____
Variable costs		
Feed		
Lambs and replacements	\$62.81	_____
Ewe	\$112.33	_____
Health program	\$11.28	_____
Off-season breeding	\$6.00	_____
Marketing, supplies and miscellaneous	\$29.04	_____
<i>Total variable costs</i>	\$221.46	_____
Fixed costs		
Labor charge (10 hr/ewe @ \$5/hr)	\$100.00	_____
Ram replacement	\$9.00	_____
Equipment and fence (\$58/ewe over 10 years)	\$11.60	_____
Building charge (\$50/ewe over 10 years)	\$10.00	_____
<i>Total fixed costs</i>	\$130.60	_____
Total costs	\$352.06	_____
Returns		
Returns over variable costs	\$110.99	_____
Net returns	(\$19.61)	_____

Initial resource requirements

- Land: 25 Acres
- Labor (per head)
10 hours x 36 head (1 ram and 35 ewes) = 360 hours
- Capital
Livestock (per head)
\$80 x 35 ewes = \$2,800
\$250 x 1 ram = \$250
Existing buildings, equipment, and fencing: \$3,200.

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied.

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For More Information

Agronomy Guide. AGRS-26, Penn State College of Agricultural Sciences, University Park, PA 16802.

Engle, Clair. *Body Condition Scoring of Sheep*. Fact Sheet No. DA594-09, IVD3g. Department of Dairy and Animal Science, Penn State College of Agricultural Sciences, University Park, PA 16802.

Gates, Norman. *Practical Guide to Sheep Disease Management*. News-Review Publishing Co., Moscow, ID.

Livestock Feeding on Pasture. A.M. Nichol, Ed. Chapters 2, 5, 7. New Zealand Society of Animal Production, Publ. No. 10, Ruakura Agricultural Research Center, Hamilton, NZ.

Sheep Housing and Equipment Handbook. Midwest Plan Service. MWPS-3, Ames, IA.

Murphy, Bill. *Greener Pastures on Your Side of the Fence*. 2nd Edition, Arriba Publishing, Colchester, VT.

Penn State Sheep Budgets. Section in *Farm Management Handbook*, AGRS-10, Penn State College of Agricultural Sciences, University Park, PA 16802.

Pennsylvania Forage Handbook. Department of Agronomy, Penn State College of Agricultural Sciences, University Park, PA 16802.

Ross, C. V. *Sheep Production and Management*. Prentice Hall, Englewood Cliffs, NJ. 07632.

Sheep Production Handbook. American Sheep Industry Association. Paper Systems, Inc. Denver, CO. 80112.

Associations and Periodicals

Sheep Breed Associations

American and Delaine-Merino Record Assn.

1026 Country Rd. 1175, Rt. 3
Ashland, OH 44805

American Black Sheep Registry
4714 Glade Rd.
Loveland, CO 80538

American Border Leicester Assn.
Rt. 4 Box 138
Taylorsville, NC 28681

American Cheviot Sheep Soc., Inc.
RR 1 Box 100
Clarks Hill, IN 47930

American Cormo Sheep Assn.
P.O. Box 696
Ramah, NM 87321

American Corriedale Assn., Inc.
Box 290
Seneca, IL 61360

American Cotswold Record Assn.
18 Elm St.
P.O. Box 59
Plympton, MA 02367

American Hampshire Sheep Assn.
P.O. Box 277
Whiteland, IN 46184

American Karakul Sheep Registry
3026 Thomas Rd.
Rice, WA 99167

American Oxford Down Record Assn.
Rt. 1 Box 75
Stonington, IL 62567

American Polypay Sheep Assn.
609 S. Central, Ste. 9
Sidney, MT 59270

American Rambouillet Sheep Breeders Assn.
2709 Sherwood Way
San Angelo, TX 76901

American Romney Breeders Assn.
29515 N.E. Weslinn Dr.
Corvallis, OR 97333

American Shropshire Registry Assn., Inc.
P.O. Box 250
Hebron, IL 60034

American Southdown Breeder's Assn.
HCR 13 Box 220
Fredonia, TX 76842

American Suffolk Sheep Soc.
P.O. Box 256
17 West Main
Newton, UT 84327

Black-Top Delaine-Merino Sheep Soc.
1775 Damman Rd.
Fowlerville, MI 48836

Columbia Sheep Breeders Assn. of America
P.O. Box 272E
Upper Sandusky, OH 43351

Continental Dorset Club
P.O. Box 506
Hudson, IA 50643

Coopworth Soc. of North America
1335 West U Ave.
Schoolcraft, MI 49087

Finnsheep Breeders Assn.
P.O. Box 512
Zionsville, IN 46077-0512

Jacob Sheep Breeders Assn.
6350 East County Rd. 56
Fort Collins, CO 80524

Jacob Sheep Conservancy Registry and Breed Assn.
9241 Eureka Rd.
Girard, PA 16417

Katahdin Hair Sheep Int'l.
Rt 2 Box 33
Perryville, AR 72126

Montadale Sheep Breeders Assn.
P.O. Box 603
Plainfield, IN 46168

National Lincoln Sheep Breeders' Assn.
RD 6 Box 24
Decatur, IL 62521

National Tunis Sheep Registry
Tunis Shepherd
Route 1 Box 192
Gouverneur, NY 13642

Natural Colored Wool Growers Assn.
P.O. Box 487
Willits, CA 95490

Navajo Churro Sheep Assn.
Box 94
Caliente, NM 87549

North American Clun Forest Assn.
W5855 Mahlum Rd.
Holmen, WI 54636

North American Romanov Sheep Assn.
P.O. Box 1296
Pataskala, OH 43062-1296

North American Shetland Sheep
Registry
1240 North 22nd St.
Allegan, MI 49010

North American Texel Sheep Assn.
Lower Myrick Rd.
Lurrel, MS 39440

Scottish Blackface Sheep
Breeders' Assn.
39282 River Dr.
Lebanon, OR 97355

St. Croix Breeders Assn.
UMC 4815
Utah State University
Logan, UT 84322

U.S. Targhee Sheep Assn.
P.O. Box 15
Jasper, MN 56144

Sheep and Wool Industry Associations

American Lamb Council
c/o American Sheep Industry Assn.
44 No. Michigan Ave.
Chicago, IL 60611

American Sheep Industry Assn.
6911 S. Yosemite St.
Englewood, CO 80112-1414

American Sheep Industry Women
1323 Elkhorn
Belle Fourche, SD 57717

Lamb Committee
c/o National Livestock and Meat Bldg.
44 No. Michigan Ave.
Chicago, IL 60611

National Lamb Feeders Assn.
P.O. Box 238
Bristol, IL 60512-0238

National Wool Marketing Corp.
P.O. Box 32445
3900 Groves Rd.
Columbus, OH 43232

Pennsylvania Sheep and Wool
RD 1 Box 188
Kempton, PA 19529

Sheep Industry Development Program
c/o American Sheep Industry Assn.
6911 S. Yosemite St.
Englewood, CO 80112-1414

Sheep Periodicals

Black Sheep Newsletter
RD 1 Box 288
Scappoose, OR 97056

Lamb Producers' Journal
P.O. Box 384
Monticello, IN 47960

Lamb and Wool Market News
6911 S. Yosemite St.
Englewood, CO 80112-1414

Maryland Sheep News
6184 Ayrshire Dr.
Salisbury, MD 21801

National Wool Grower
6911 S. Yosemite St.
Englewood, CO 80112

Sheep!
Box 329
Jefferson, WI 53549

Sheep Breeder and Sheepman
P.O. Box 796
Columbia, MO 65205

Sheep Canada
Box 777
Airdrie, Alberta TOM OBO
Canada

Shepherd Magazine
5696 Johnston Road
New Washington, OH 44854

Sheep Producer
HCR 71 Box 550
Orbisonia, PA 17243

Sheep Research Journal
American Sheep Industry Assn.
6911 S. Yosemite St.
Englewood, CO 80112

The Stockman/Grass Farmer
P.O. Box 96075
Jackson, MS 39286

The Wool Page
P.O. Box 218
Boston, MA 02124

Sheepdog Associations

Great Pyrenees Club of America
8218 Finister Court Ct.
Fair Oaks, CA 95628

Int'l. Livestock Guarding Dog Assn.
Box FC
Hampshire College
Amherst, MA 01002

Maremma Sheepdog Club of America
P.O. Box 546
Lake Odessa, MI 48849

Sheepdog Periodicals

National Stock Dog
P.O. Box 402
Butler, IN 46721

Ranch Dog Trainer
RD 2 Box 333
West Plains, MO 65775

Working Border Collie
14933 Kirkwood Rd.
Sidney, OH 45365