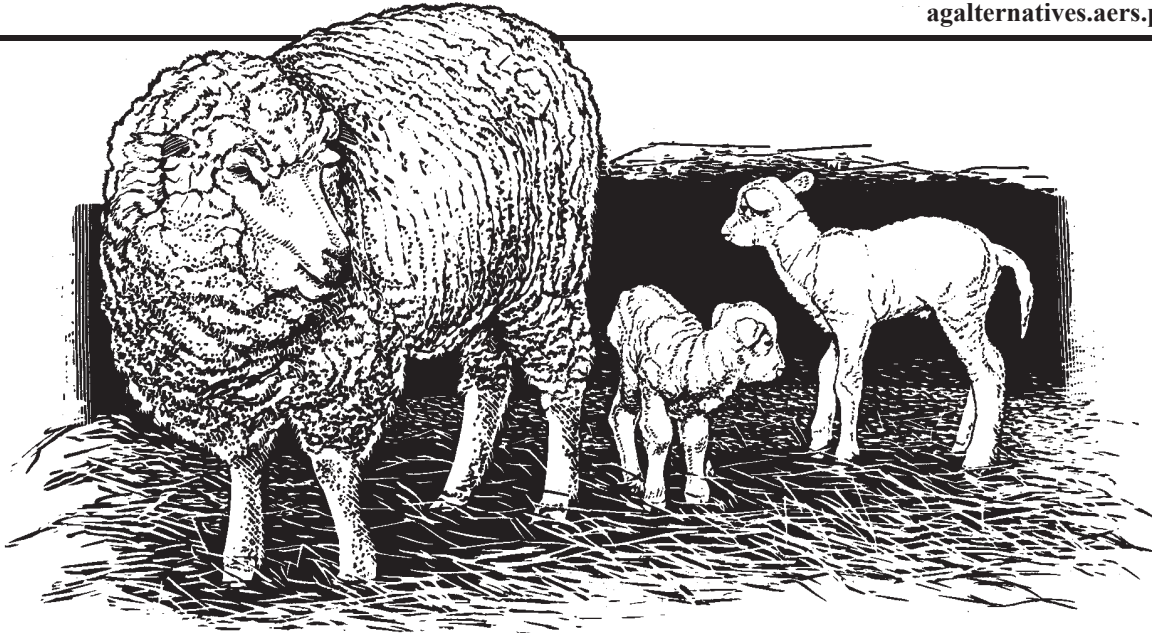

AGRICULTURAL ALTERNATIVES

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Spring Lamb Production

Sheep are ideally suited to a small-scale or part-time farming operation due to their nutritional versatility and adaptability. Sheep can be fed a very high concentrate diet (similar to swine), solely a forage diet, or any combination. Spring lambing uses the ewe's natural breeding cycle (breeding October through December and lambing March to May), which improves breeding efficiency and potential pasture utilization. Compared to most other livestock enterprises, spring lamb production has lower investment costs and labor requirements, and quicker returns on investment. Spring lambing programs also have lower housing, feeding, and labor costs compared to more intensive lambing enterprises.

This publication was developed by the Small-scale and Part-time Farming Project at Penn State with support from the U.S. Department of Agriculture-Extension Service.

Marketing

Marketing opportunities are plentiful for lamb in the northeastern United States. Lambs can be marketed at any age and often vary in weight from 20 to 160 pounds depending on the time of year and market conditions. Although the vast majority of ewes lamb in the spring, lambs can be born from September through May.

Most lambs marketed in Pennsylvania are spring lambs. These lambs are usually sold at around 110 pounds and are marketed through local auctions, slaughterhouses, brokers, and individuals. In recent years, direct markets, niche markets, and cooperatives have become popular for selling lambs. Wool is sold through local and national markets, brokers, and wool cooperatives. About 3,500 sheep producers in Pennsylvania annually maintain 63,000 ewes and produce about 84,000 lambs worth an estimated \$11.3 million.

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Table 1. Recommended sheep breeds for spring lamb production.

BREED	CLASSIFICATION	APPROXIMATE MATURE WEIGHT*
Cheviot	medium wool, meat	135
Columbia	medium wool, meat	165
Corriedale	medium wool, meat	155
Dorper	hair, meat	170
Dorset	short wool, meat	170
Hampshire	short wool, meat	200
Katahdin	hair	160
Merino	fine wool	140
Montadale	medium wool, meat	170
Oxford	fine wool, meat	185
Polypay	short wool	160
Rambouillet	fine wool, meat	170
Shropshire	short wool	170
Southdown	short wool, meat	145
Suffolk	short wool, meat	210
Targhee	medium wool, meat	150

*This weight is for ewes. Ram body weight is approximately 1.65 times ewe body weight.

Although prices for late summer and early fall marketed lambs are generally lower, producers may be able to increase prices received by direct marketing lambs to consumers. Spring lambs are marketed in a period of low demand and high supply, so prices received are the lowest of all sheep enterprises. In Pennsylvania, a four-year-average price for 110-pound lambs during August through October would have yielded about \$10 to \$30 per cwt less than the same lamb marketed at other times of the year.

Getting Started

A variety of production and management strategies can be used in a sheep enterprise. But before starting to raise sheep and lambs, you should consider your situation relative to land, labor, capital, markets, and potential costs. Then you can decide on the size of your intended flock that best matches your marketing plan.

The smallest production unit to consider for spring lambing is a flock of up to 30 to 35 ewes serviced by one ram. Breeding ewes usually cost \$100 to \$200 per head and a good ram will probably cost at least \$300. Ewes are generally bred in October through December and produce one to three lambs annually (gestation period of five months). Lambs are ready for market four to six months after birth, so it is possible to receive a return on your initial investment rather quickly.

If you have little or no previous experience with sheep, starting with only a few bred ewes and going through a lambing season would be invaluable. It may help you decide whether you want to be in the sheep business, while you develop husbandry skills, investigate markets, and test profitability. Also, you may want to investigate the Penn State Cooperative Extension Sheep Home Study Course for additional helpful information (<http://bedford.extension.psu.edu/Agriculture/Lessons/lessonspage.htm>).

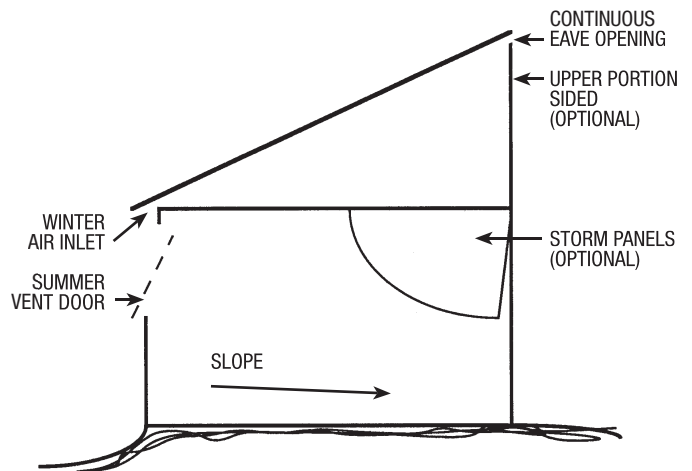
Sheep Breeds

Develop a marketing plan for your lambs before you buy any sheep; this will help narrow your breed choices and help you project long-term breeding plans. The most significant factor affecting income potential in spring lambing enterprises is the number of lambs produced per ewe per year. Crossbred ewes that are derived from more prolific breeds like Dorset and Polypay can help increase the number of lambs produced. See Table 1 for recommended sheep breeds for a spring lambing enterprise.

Housing and Fencing

Housing and equipment for sheep do not have to be expensive and may be very minimal. Ideally, existing barns and sheds can be adapted for sheep, or adequate shelter can be obtained for an initial cost of about \$55 to \$60 per ewe. Adequate shelter for sheep can be provided by small, open sheds located on a well-drained site, preferably on a south-facing slope away from prevailing winds (Figure 1). This type of site helps the lot dry faster and makes it easier to maintain. Consider grading and filling low spots with shale-like material to achieve desired slopes since sheep do not tolerate mud. Locate handling facilities so sheep can be easily sorted and provided routine care with minimal effort.

Figure 1. A typical open-shed design.



Fencing for sheep needs to serve two primary purposes: (1) keep in the sheep, and (2) keep out potential predators. Perimeter fencing should be designed with these two factors in mind. Costs may vary considerably for perimeter fencing due to curves and land contours that will require additional posts. In general, a good perimeter fence for sheep will average about \$1.75 to \$6.00 per linear foot. High-tensile fence is commonly used for sheep production, but woven wire and wooden fences are other alternatives. Consider various fencing alternatives due to price, longevity, maintenance, vegetation, animal pressure, and climate.

Labor

Labor requirements for producing spring lambs are generally low, especially if the flock has sufficient pasture. Little labor is required during spring lambing and winter feeding. Six hours of labor per ewe per year should be sufficient. Approximately 15 acres of fair to good pasture should supply 80 to 90 percent of the nutritional needs of 30 to 35 ewes. Pasture management can be divided into three categories: continuous stocking, rotational grazing, and set stocking. Continuous stocking means the animals are present on the same pasture for several weeks or even for the entire grazing season. Rotational grazing occurs when an area of pasture is grazed quickly and the animals are moved to a new pasture. Set stocking is a special case of continuous stocking in which a fixed number of animals remains on a specified pasture for a prolonged time.

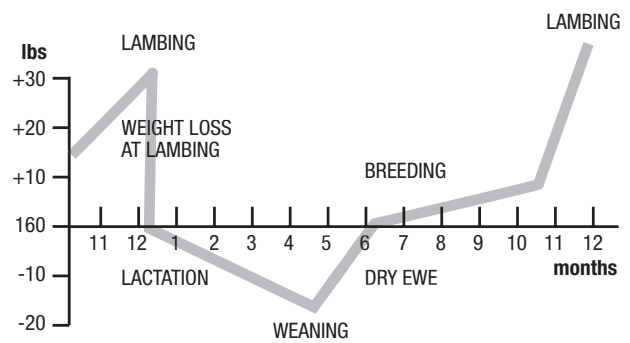
Nutrition

Productivity and profit can be seriously handicapped by nutritional deficiencies. Sheep should be given good-quality feed. Fine, leafy roughages with low crude-fiber content are used most efficiently. Feeds such as corn silage and haylage are excellent roughages for sheep.

The grazing season can be extended into winter by using stockpiled perennial grasses, annual crops such as small grains and brassicas, and corn fodder. This works especially well with a spring lambing operation because the ewes' nutritional needs are low during the time when the grazing season is being extended. Extending the grazing season may have a very positive impact on the profitability of the enterprise.

Nutritional needs for ewes vary according to weight and stage in the breeding cycle (Figure 2). About three weeks before ewes are exposed to rams and bred, it may be necessary to increase their energy intake to increase ovulatory rate and improve the chances of multiple births. Feed intake of bred ewes may be reduced to avoid excessive fatness, but it must remain high enough to maintain body weight and condition.

Figure 2. Annual weight changes expected in ewes rearing twin lambs.



Source: *The Sheep Raiser's Manual*. Note: Weight changes expected in the same ewe giving birth to and rearing a single lamb would be approximately two-thirds of the above changes.

Health Program

A healthy flock is essential to the profitability of a spring lamb enterprise. It is critical that your flock health program include the following considerations:

- Check animals for signs of illness, external and internal parasites, and contagious diseases before buying them.
- Quarantine newly purchased animals for at least 21 days in a dry, well-ventilated area.
- Provide clean, fresh water.
- Provide uncontaminated feeding areas.
- Trim hooves when necessary to avoid lameness problems.
- Use vaccines, antibiotics, and mineral supplements as needed.
- Identify ewes previously vaccinated for clostridium types C and D and give them a booster shot two to three weeks before lambing season begins.
- Identify ewes not vaccinated for clostridium types C and D before lambing. Vaccinate their lambs when they are 10 to 20 days old and give them a booster injection three weeks later.

Environmental Regulations

All agricultural operations in Pennsylvania, including small-scale and part-time farms, operate under the Pennsylvania Clean Streams Law. A specific part of this law is the Nutrient Management Act, also known as Act 38. You may have to comply with certain portions of this law depending on the number and/or size of animals you have on your operation. Because all farms can be a source of surface or groundwater pollution, you should contact your local soil and water conservation district to determine which regulations pertain to your operation.

Sample Spring Lamb Budget

Marketed July through October; 1.65 lambs marketed per ewe. This budget assumes that one ram will service 35 ewes and be replaced after two years.

Items	Quantity	Unit	Price	Total	Your Estimate
<i>Total variable costs</i>				\$3,666.01	_____
Receipts					
Lambs	181.5	pounds	\$0.95	\$172.43	_____
Wool and hides	1	ewe	\$10.00	\$10.00	_____
Cull ewe and ram	25	pound	\$0.40	\$10.00	_____
<i>Total receipts</i>				\$192.43	_____
Variable costs					
Feed for Lambs (including lambs and replacements fed to 110 pounds)					
Corn	6.11	bushel	\$3.00	\$18.33	_____
Protein pellets	37.95	pound	\$0.17	\$6.45	_____
Alfalfa hay	0.05	ton	\$140.00	\$7.00	_____
Feed for ewe					
Corn	2.7	bushel	\$3.00	\$8.10	_____
Hay (mixed)	0.22	ton	\$120.00	\$26.40	_____
Pasture (hay equivalents)	0.44	ton	\$45.60	\$20.06	_____
Shearing and health program	1	ewe	\$6.50	\$6.50	_____
Marketing, supplies, miscellaneous expenses	1	ewe	\$13.00	\$13.00	_____
<i>Total variable costs</i>				\$105.85	_____
Fixed costs					
Family labor	6	hour	—		_____
Ram replacement	1	ewe	\$4.50	\$4.50	_____
Equipment, buildings, fencing (\$58/ewe over 10 years)	1	year	\$5.80	\$5.80	_____
<i>Total fixed costs</i>				\$10.30	_____
Total Costs				\$116.15	_____
Returns					
Returns over variable costs				\$86.58	_____
Net returns				\$76.28	_____

Net returns per ewe and for a 35-ewe flock at various lamb prices (\$/lb).

Meat price	Net return per ewe	Net return per 35 ewes
\$0.65	\$21.83	\$764.03
\$0.75	\$39.98	\$1,399.28
\$0.85	\$58.13	\$2,034.53
\$0.95	\$76.28	\$2,669.78
\$1.05	\$94.43	\$3,305.03
\$1.15	\$112.58	\$3,940.28
\$1.25	\$130.73	\$4,575.53

Initial Resource Requirements

- Land: 25 acres
- Labor: 10 hours x 36 head (1 ram and 35 ewes) = 360 hours per year
- Capital:
 - Ewes: \$150 x 35 ewes = \$5,250
 - Ram: \$250-\$500
 - Fencing: \$1.75-\$6.00 per linear foot
 - Hoof-trimming equipment
 - Handling facilities (gates or chutes)
 - Feeding and watering equipment
 - Truck or trailer to haul lambs to market

Risk Management

You may wish to consider several risk-management strategies for your operation. First, you should insure your facilities, as well as your animals. This may be accomplished by consulting your insurance agent or broker. Second, you may want to insure your income through a crop insurance program called AGR-Lite. To use AGR-Lite you must have five years of Internal Revenue Service (IRS) Schedule F forms. You can then contact an agent who sells crop insurance and insure the income of your operation. For more on agricultural business insurance, please see *Agricultural Alternatives: Agricultural Business Insurance*. For more information concerning crop insurance, contact a crop insurance agent or check the Pennsylvania crop insurance education Web site at <http://cropins.aers.psu.edu/>.

Sample Budget

The sample budget included in this publication provides examples of costs and returns of spring lamb production and guidelines for initial resource requirements. These initial resource requirements may vary if you have existing equipment or structures that may be adapted for use in your enterprise. This sample budget 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, think of the data in these budgets as approximations and make the appropriate adjustments using “Your Estimate” column to reflect specific situations.

For More Information

A variety of publications, Web sites, and associations are available to answer questions you may have. The listing below provides a brief overview of potentially helpful resources.

American Sheep Industry Association,
<http://www.sheepusa.org/>
9785 Maroon Circle, Suite 360, Centennial, CO 80112

Maryland Small Ruminant Page,
<http://www.sheepandgoat.com/>

Northeast Sheep and Goat Marketing Program,
<http://sheepgoatmarketing.info/>

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

Penn State Cooperative Extension Sheep Home Study Course,
<http://bedford.extension.psu.edu/Agriculture/Lessons/lessonspage.htm>

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

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

Virtual Livestock Library,
<http://www.ansi.okstate.edu/library/>

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