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# AGRICULTURAL ALTERNATIVES

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## Dairy-beef Production

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Production of high-quality dairy-beef is relatively new to the beef industry and depends almost entirely on Holstein bull calves. Until recently, most Holstein calves were sold for veal. However, the high-quality meat produced when these animals are fed high-energy diets and slaughtered at a young age (12 to 14 months) has become popular with consumers.

Dairy-beef production lends itself well to small-scale and part-time farming operations and also can be an auxiliary enterprise for larger operations. Existing facilities can be used to feed and house the steers, and farm-grown feeds can be used. In addition, this enterprise is easy to enter when profit projections are favorable and to exit when unfavorable. The main disadvantage of a dairy-beef enterprise is the limited availability of calves. Dairy cow numbers in Pennsylvania have been declining in recent years, so it is important that producers secure a good source of calves.

### Marketing

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Producers should carefully research local markets and develop marketing strategies before beginning a dairy-beef operation. Although many large U.S. beef-packing companies readily purchase finished dairy-type steers, this market is not fully established. Therefore, these steers often command lower prices as feeder cattle and finished cattle

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than traditional beef breeds. Over the past few years, however, dairy-beef carcasses marketed from young animals fed high-energy diets have been priced closer to their true value. The price differential is due in part to the lower dressing percentage (percentage of liveweight that is in the carcass) and a higher percentage of bone in dairy-beef carcasses compared to cattle raised in a traditional beef breeding operation.

### Purchasing Calves

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Young dairy calves usually are sold through local auctions at 2 to 5 days of age. Most dairy-beef or veal calf producers rely on livestock brokers to assemble uniform groups of calves for feeding. The producer should work closely with a broker to obtain suitable calves.

### Health Program

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In addition to vaccinations, internal and external parasite treatment programs should be planned. Dairy-beef operations usually have fewer problems with internal parasites than traditional beef feeding programs. Calves normally are

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housed in individual pens until they reach 9 to 10 weeks of age. When calves are received, the following practices are important:

- Make sure that the receiving barn is clean and well ventilated.
- Start the calves on feed or water with electrolytes immediately after their arrival.
- Plan a health maintenance program with a veterinarian who can diagnose illnesses and treat animals promptly.

Producers also should consult a veterinarian to determine which vaccination program is appropriate for the area in which the farm is located. Vaccinations are important for the starter calf during the first 9 to 12 weeks, but they also reduce potential health problems for the feeder in the growing and finishing phases.

## Nutrition

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Starter calves should be fed a milk replacer for about 45 days before weaning. Because there are wide variations in quality, producers should be sure to use only a high-quality milk replacer. In addition, a high-quality, palatable grain mix should be fed at all times to dairy-beef calves, but particularly during the early stages of growth. A grain mix usually is less expensive than a milk replacer, and therefore it is more profitable to transfer the calves from milk replacer to the concentrate mix as soon as possible.

Producing an acceptable-quality carcass from dairy-beef steers requires feeding the animals a high-energy ration and marketing them at an early age (12 to 14 months) and acceptable weight (1,150 to 1,300 pounds). A high-energy (usually high-grain) ration must be fed to the dairy-beef steer throughout its lifetime. Recent Penn State studies indicate that corn silage also can be used to a limited extent (up to 50 percent of ration dry matter from about 400 to 700 pounds of body weight), but a relatively high intake of grain should be maintained throughout both the growing and the finishing phases. Because they are leaner than traditional beef breeds, dairy-beef steers usually will not produce an acceptable-quality carcass if slaughtered beyond 18 months of age. Although dairy-beef steers slaughtered beyond 18 months may be acceptable in some markets, the quality of the beef will be reduced even if a high-energy ration is fed.

## Housing

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Most dairy-beef starter calves are housed in individual stalls at least 24 inches wide until they are 9 to 10 weeks of age. The calves can then be maintained in larger group pens. More than 25 animals should not be kept in the same pen. Larger groups often have a less uniform growth rate, and it

is more difficult for producers to observe and treat the variety of illnesses that might affect the calves. Use of an “all-in, all-out” system gives producers the opportunity to thoroughly clean and disinfect the entire barn where the calves are maintained. If at all possible, the producer should not deviate from the “all-in, all-out” system, because retaining some of the calves in the barn will not allow thorough cleaning and diseases can be more readily transmitted from one group of calves to the next.

Dairy steers require more housing and shelter than conventional beef breeds of the same age. The barn where the cattle are housed should have at least one open side and sliding panels or curtains on the closed side to allow for proper ventilation. One of the most common causes of respiratory problems in cattle is not cold temperatures but high humidity due to inadequate ventilation in the housing area.

Producers also should have a biosecurity system for people and animals entering the barn. Visitors or personnel working in the barn should use footbaths, and dogs, cats, and rodents should be prevented from entering areas where the calves are maintained or the feed is stored and mixed.

## Sample Budget

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Included in this publication is a sample budget that summarizes the costs and returns for a dairy-beef steer enterprise. Calves are purchased at 100 pounds and steers are sold at 1,300 pounds. Feed costs other than milk replacer include a starter mix and a finishing ration. This sample budget should help ensure that all costs and receipts are included in your calculations. Costs are often difficult to estimate in budget preparation because they are numerous and variable. Therefore, you should think of this budget as an approximation and make appropriate adjustments using the “Your Estimate” column to reflect your specific situation. More information on the use of livestock budgets can be found in *Agricultural Alternatives: Enterprise Budget Analysis*.

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## Sample Dairy-beef Steer Budget

Calves bought at 100 pounds and sold at 1,300 pounds.

Item	Quantity	Unit	Price	Amount	Your Estimate
<b>Receipts</b>					
Finished steer (minus death loss)	1,279	pound	\$0.60	\$767.40	_____
<i>Total receipts</i>				\$767.40	_____
<b>Variable costs</b>					
Calf	100	head	\$1.35	\$135.00	_____
<b>Feed costs</b>					
Milk replacer	45	pound	\$0.90	\$40.50	_____
Starter mix	50	pound	\$0.15	\$22.50	_____
Corn	40	bushel	\$3.25	\$130.00	_____
Soybean meal	3.5	cwt	\$12.00	\$42.00	_____
Salt and minerals	50	pound	\$0.09	\$4.50	_____
Dicalcium phosphate	55	pound	\$0.22	\$12.10	_____
Corn silage	4	ton	\$23.75	\$95.00	_____
Hay	0.25	ton	\$100.00	\$25.00	_____
<i>Total feed costs</i>				\$371.60	_____
Health program				\$22.00	_____
Bedding	0.5	ton	\$65.00	\$32.50	_____
Electricity				\$12.00	_____
Equipment and repairs				\$12.00	_____
Insurance and taxes				\$1.50	_____
Marketing and trucking				\$10.00	_____
Miscellaneous				\$3.00	_____
Interest on operating capital				\$39.70	_____
<i>Total variable costs</i>				\$639.30	_____
<b>Fixed costs</b>					
Labor	10		\$0.00	\$0.00	_____
Building (includes stall barn)				\$21.30	_____
Equipment charge				\$29.82	_____
<i>Total fixed costs</i>				\$51.12	_____
<b>Total costs</b>				\$690.42	_____
<b>Returns</b>					
Returns over variable costs				\$128.10	_____
Net returns				\$76.98	_____

### Initial resource requirements for dairy-beef production

- Land: minimal
- Labor: 10 hours
- Capital
  - Calf: \$135
  - Existing buildings, improvements, and fencing per animal: \$51

## For More Information

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*Beef Housing and Equipment Handbook* (MWPS-6). Ames, Ia.: Midwest Plan Service, 1987. Available from the Publications Distribution Center, The Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802-2602.

Greaser, G. and J. Harper. *Agricultural Alternatives: Enterprise Budget Analysis*. University Park, Pa.: Penn State Cooperative Extension, 1994.

*Guide for the Care and Production of Veal Calves*. Harrisburg, Pa.: American Veal Association, 1994.

*Holstein Beef Production Proceedings* (NRAES-44). 1991. Available from the Publications Distribution Center, The Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802-2602.

*Northeast Beef Farm Business Seminar*. Ithaca, N.Y.: Cornell University, 1991.

Special Circulars 276 (*Beef Cattle Rations*, 1992), 301 (*Keeping Feeder Cattle Healthy*, 1984), and 306 (*Cattle Vaccines*, 1994). Available from the Publications Distribution Center, The Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802-2602.

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