

AGRICULTURAL ALTERNATIVES

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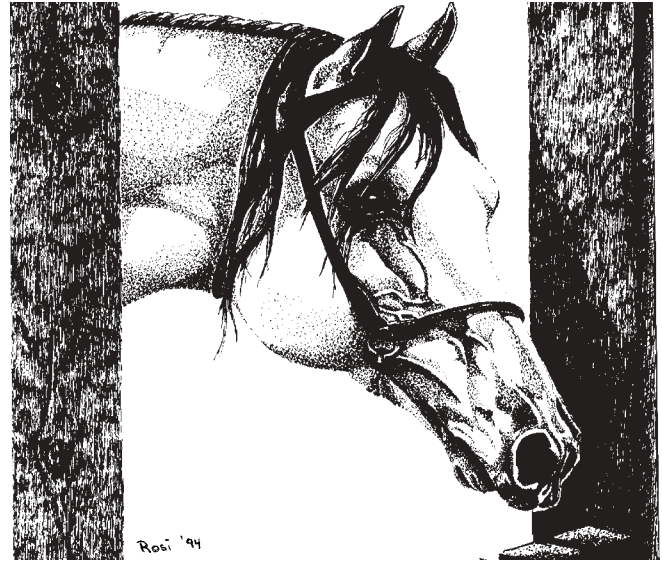
Boarding Horses

The equine industry in Pennsylvania has doubled in size since 1967 and continues to expand and diversify. It is valued at \$1.3 billion, with \$42.1 million expended for boarding horses. Pennsylvania is tied for fourth place with Florida and Oklahoma in number of horses in the United States. According to the Pennsylvania Equine Industry Impact Study conducted in 2002, Pennsylvania has almost 220,000 horses. There are 31,000 horse boarding operations in the state, which employ 20,300 people with a total payroll of \$412.2 million.

Many Pennsylvanians enjoy a variety of recreational activities involving horses, such as trail riding, participating in horse and pony clubs, and competing in shows and other events. Horses contribute to the state's economy by creating a market for feed, supplies, and the services of boarders, veterinarians, trainers, breeders, and farriers.

Pennsylvania's large equine industry provides opportunities for small-scale or part-time farmers to add income by boarding horses. However, caring for horses requires considerable time and financial commitments that will affect all family members. Before starting a boarding operation, you should carefully evaluate all aspects of the enterprise, including the following:

- Considerable knowledge and experience are needed to manage horses.
- Boarding horses results in a loss of privacy on the farm.
- Managers must get along with many types of people and must effectively interact with clients.
- Liability issues are a major concern.



Planning an Operation

When planning a horse boarding operation, you should consider the demand for such services in your area. Information on the local horse population is available from a variety of sources, including other boarding stables, veterinarians, riding clubs, feed store managers, and cooperative extension educators. You also should research the growth potential of the market. Information on changing population, land use, and income levels can help you predict future demand for horse boarding services and is available through cooperative extension offices, planning commissions, chambers of commerce, and libraries.

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When planning a horse boarding operation, it is critical to check on local zoning ordinances. In some locales, zoning ordinances may prohibit land uses like horse boarding or severely restrict animal numbers below levels consistent with an economically-sized boarding operation. There may also be nutrient management regulations that affect manure management practices and set maximum allowable animal numbers.

Marketing Approaches

Marketing can be as simple or sophisticated as individual boarding operations. Posting advertisements in feed and tack stores and contacting horse organizations may be sufficient for smaller boarding facilities. Larger operations may advertise in newspapers and equine journals or magazines. Brochures also can be developed and mailed to prospective clients.

Taking a realistic look at local market and economic conditions is an important, but often neglected, step in planning a horse enterprise. Boarding rates should be determined by economic conditions in the area, and by the specialized services and quality of care you provide.

Boarding Options

Several types of service options can be offered, such as pasture, stall, or deluxe board. With pasture board, the horse is kept on pasture with a source of fresh water. Generally, you would also provide a shelter or protected area for the horse (this is required by law in many places). Additional feed is usually provided by the horse owner. With stall board, you would keep the horse in a stall and would clean the stall and feed the horse. Ideally, the horse would be put on pasture or in an exercise area every day. Deluxe board might include additional services, such as grooming, basic veterinary care, and exercising.

The more services provided, the higher the boarding fee. Horses with an injury or serious health problem (“lay-ups”) usually require special medical care and intensive management, and therefore are boarded for a much higher fee. Boarding facilities also can provide breeding services, riding facilities, riding lessons, and horse training.

Getting Started

One of the most important steps in the planning process for a horse boarding operation is to determine the initial resource requirements and capital expenditures for facilities and services. Investments in facilities can be very high and must be considered carefully to assess potential profitability.

Fencing

Several fencing options are available for horses, including board, post and rail, several types of wire (including smooth, coated, fixed-knot, wire mesh, and high tensile),

pipe, and plastic. Fences should be sturdy, durable, highly visible, and at least 4 1/2 to 5 feet high to discourage jumping. Fence and gate bottoms should either be 8 to 12 inches off the ground or extend completely to the ground to prevent a horse from trapping a foot in the opening. There should be no sharp edges, projections, narrow corners, or confined areas. When pricing fencing, find out what is included in the price. Questions you should ask include: does the price include corner posts, what is the distance between posts, and how many gates are included? Prices for fencing may range from \$1.00 to over \$10.00 per foot, depending on the options you choose. For more information on fencing, see *Horse Facilities 5: Fence Planning for Horses*, available from Penn State Cooperative Extension offices or on the Web at pubs.cas.psu.edu.

Pasture

The amount of pasture needed will vary depending on the season and the variety of forages available. In Pennsylvania, a stocking rate of one horse per 2 to 3 acres is common. Where acreage is limited, pasture is used as an exercise area rather than for grazing. Due to individual horses' body weight, exercise regimen, and other requirements, not all horses will be on pasture at the same time, thus reducing the amount of land and pasture required. Some horses may be housed in the barn for the majority of the time.

Rotational grazing systems can maximize forage production on a limited acreage. Electric fencing can be used to effectively enclose temporary pasture. The following pasture management practices are recommended:

- Avoid over- or undergrazing.
- Clip pastures regularly and spread manure when possible.
- Test soil, fertilize, and lime as needed.
- Identify and remove poisonous plants.
- Use plant species that are well adapted for horse pastures and local growing conditions. Mixtures of a single legume and a single grass are preferred over straight legume or grass seedings.

More information on pasture management and forages for horses can be found in *Agronomy Facts 32: Pasture and Hay for Horses*, available from Penn State Cooperative Extension offices or on the Web at pubs.cas.psu.edu.

Facilities

To have a successful horse boarding operation, your facilities must make a favorable impression on your clients. For the comfort and convenience of your clients, you should provide ready access to clean restroom facilities, a telephone for use in emergencies, and sufficient space to store tack and equipment.

The services you provide will determine the type of facilities you need for boarding horses. Site selection and the arrangement of facilities require careful planning. Your

top priority should be the safety of horses and people. Other important considerations are cost, efficiency, flexibility, maintenance, and local zoning codes.

Housing can be as simple as three-sided sheds to protect horses kept outdoors. Make sure open sheds face away from prevailing winds. Enough space should be provided to reduce the chance of injury to the horses. Timid or less aggressive horses can become trapped in small, enclosed areas or corners. The recommended space for horses in loose housing is 90 to 150 square feet per animal.

Individual box stalls are commonly used in boarding facilities and are preferred by many horse owners. The minimum stall size for most light horses is 10 feet by 10 feet, but 12-by-12-foot or larger stalls are preferred. All interior stall surfaces should be durable, free of projections and sharp edges, and easy to clean.

Sanitation, comfort, ease of cleanup, and safety are the primary factors to consider when choosing floor and bedding materials. Tamped clay and stone screenings are common surfaces for floors. Concrete or asphalt flooring is acceptable when used with rubber mats and traditional bedding, such as straw, wood shavings, sawdust, and shredded paper. Bedding must be free of harmful substances, such as black walnut shavings, which can be highly toxic to horses.

Proper ventilation is critical to prevent respiratory problems and protect the health of stabled horses. Well-ventilated barns allow a continuous exchange of air to maintain proper air quality and humidity and reduce odors. Sufficient ventilation usually can be achieved with proper placement and use of windows, doors, vents, and louvers. Forced-air ventilation systems may be necessary in horse barns that do not have sufficient natural ventilation.

For additional information on facilities, refer to *Horse Handbook, Housing and Facilities* from the Midwest Plan Service, and *Horse Facilities 1: Horse Stall Design*, *Horse Facilities 4: Horse Stable Flooring Materials and Drainage*, and *Horse Facilities 7: Horse Stable Ventilation*, available from Penn State Cooperative Extension offices or on the Web at pubs.cas.psu.edu.

Manure Management

When planning your horse facilities, consult with a nutrient management specialist to determine how you will collect, store, transport, and dispose of manure. Be prepared to meet local and state regulations and codes. A horse produces an average of 45 pounds of manure per day, along with about 50 pounds of bedding soaked with 6 to 10 gallons of urine. If possible, clean stalls and remove manure daily. Allow about 12 square feet per horse for temporary manure storage. Make sure stored manure drains away from neighboring property, facilities, and water supplies. Empty the storage area at least once a week, especially during fly season, and dispose of manure by composting, spreading, or selling it for fertilizer. For more information on horse manure management, see *Horse Facilities 3: Horse Stable Manure Management*.

Safety

Safe farm operations are essential for a successful horse boarding business. On a regular basis, inspect and evaluate the entire facility for potential hazards to horses and people.

Fire prevention is a major concern and the following practices are recommended:

- Regularly inspect electrical wiring.
- Install lightning protection devices.
- Properly store fuels and combustible materials.
- Post “no smoking” signs.
- Have fire extinguishers readily available throughout the facility.
- If possible, store hay in a separate barn away from heat and electrical sources.

More information on fire safety in stables can be found in *Horse Facilities 2: Fire Safety in Horse Stables*.

Other safety recommendations include the following:

- Provide safety training and supervise employees, customers, and visitors.
- Regularly maintain facilities, machinery, and equipment.
- Remove trash from the barns and elsewhere on the farm.
- Install fencing around the perimeter of the property, if possible.
- Fence all hazardous areas, such as ponds and lagoons.
- Store machinery in locked buildings, or if facilities are unavailable, store outside with keys removed, brakes locked, and wheels blocked.
- Store chemicals in secure areas.
- Post “no trespassing” signs to discourage unwanted visitors.

Liability and Contracts

When operating a boarding facility, you must obtain adequate insurance protection. Three types of policies are recommended: 1) fire and theft, 2) commercial liability, and 3) care, custody, and control. A commercial liability policy covers all horse-related activities, including lessons, horse shows, clinics, and meetings, and any actions resulting in property damage or personal injury to a third person. A care, custody, and control policy covers death or injury to a horse due to your negligence. It is a good management practice to require clients to have adequate insurance coverage for their horses.

Liability rates generally are based on the type of activities occurring on the farm. When applying for insurance, the applicant completes a questionnaire concerning the farm’s facilities, the experience of the management staff, and the types of activities that take place on the farm. It is important to notify the insurance carrier of any change in farm activities and operations. Some states have laws concerning the civil liability of horse boarding operations. These laws limit the

liability of the boarding operation for injuries to horses or persons visiting the operation. In any case, insurance is available to protect the owner regarding these same issues. Consult your insurance agent and a lawyer to determine the level of coverage appropriate for your operation.

A contract outlining all specifications and expectations of both parties is recommended. This contract should specify payment options, length of stay for the horse, type of boarding facility, and any special requirements of each horse boarded at the facility. Any other unusual requirements, such as special feeds, veterinary needs, or special care by either party, should be included in the contract. Another consideration to include in the contract is the issue of decision making in the absence of the owner. If the horse becomes ill and the owner is not available, a dollar limit for care should be specified as guidance to the boarding operation owner when authorizing treatment. An attorney should be consulted before signing any contract.

Nutrition

The feeding program should be tailored to meet the nutritional needs of each horse. This will depend on the animal's age, size, health, and temperament as well as breed, degree of activity, and season of the year. Your veterinarian, feed company representative, or cooperative extension office can help you develop a balanced nutrition program or analyze your present feeding programs.

Establish and maintain a regular schedule of at least two feedings per day. Horses evolved as grazing animals, and forages are necessary for their digestive system to function properly. Quality hay or pasture should be the basis of the feeding program. Timothy hay or a timothy/alfalfa mix is commonly used for the average pleasure horse. Hay for horses should be leafy, green, and free of weeds, dust, and mold.

Mature horses generally consume 2 to 2.5 percent of their body weight in total feed per day. Horses should receive at least 50 percent of their total feed requirements through hay, pasture, or other forage sources. Adequate forage in the feeding program also will reduce the incidence of wood chewing and cribbing. Grain can be used to supplement available forage supplies. Grain should be added to the diet of growing horses, pregnant mares, active performance horses, and older horses because forage alone may not meet the nutritional needs of these animals. A convenient alternative to grain supplements is a commercial feed concentrate, which has the added advantage of providing a ration that is consistent in quality.

Vitamin and mineral supplements may be necessary if dietary deficiencies exist. These supplements usually are provided by the owner. A trace-mineral salt block will supply some, but not all, of the needed minerals. Many commercial feeds contain necessary nutrients, including vitamins and minerals.

Fresh water should be available to horses at all times, and should be free of dirt, algae, and food particles. In the winter it is very important to keep water from freezing or to break

up ice on the surface. Serious health problems can develop quickly if a horse's water intake is reduced.

For additional information on feeding management, refer to Dairy and Animal Science Fact Sheet 98-2, *Equine Feeding Management*.

Health Programs

Routine health care is generally the responsibility of the horse owner. However, because a horse can be injured or become ill when owners are absent, you should be prepared to handle emergency situations and have first-aid supplies available. Establish guidelines with clients for emergency care, and form a good working relationship with your local veterinarian before an emergency arises.

Before a horse arrives on your premises, try to ensure that it is free of disease by requiring a health certificate that includes a copy of a current negative coggins test. If facilities are available, isolate new horses for at least two weeks.

A routine vaccination program will help prevent an outbreak of many infectious diseases. The vaccinations recommended will depend on your location, how frequently new horses arrive, and previous disease problems. Your veterinarian will help you determine which vaccinations are advisable.

The horse owner usually pays for vaccinations, but you might suggest or require certain inoculations. Vaccinations for tetanus, eastern and western encephalomyelitis, and rabies are often routinely administered. Vaccinations also may be required for influenza, rhinopneumonitis, Potomac horse fever, strangles, and botulism.

Horses should be routinely dewormed every six to eight weeks. A deworming program may not be effective if individual horse owners are responsible for it. One horse that has not been dewormed could contaminate your pastures and infect other horses. You should work with your veterinarian to develop a sound health and deworming program for all of the horses that you board.

Sample Budget

Included in this publication is a sample budget that summarizes the costs of a horse boarding enterprise. The budget format 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. For example, this budget includes all costs associated with moving the horse (trailer), riding lessons, and an indoor arena, but due to differences in charges, corresponding receipts are not included. Therefore, you should think of this budget as an approximation, and then make appropriate adjustments using the "Your Estimate" column to reflect your specific situation. In order to fully cover the fixed costs involved with a horse boarding enterprise, services other than boarding will probably be required. More information on the use of livestock budgets can be found in *Agricultural Alternatives: Enterprise Budget Analysis*.

Sample Horse Boarding Budget

Based on boarding 10 horses

Item	Monthly per horse	Yearly per horse	Monthly 10 horses	Total yearly 10 horses	Your Estimate
Receipts					
Board (\$150–\$800 per month)	_____	_____	_____	_____	_____
Training (\$350–\$1000 per month) ^a	_____	_____	_____	_____	_____
Lessons (\$20–\$50 per hour)	_____	_____	_____	_____	_____
Trailer (ing) (\$1–\$3 per loaded mile)	_____	_____	_____	_____	_____
Lease (\$199–\$300 per month) ^a	_____	_____	_____	_____	_____
Sales commission (10%–20% of sale)	_____	_____	_____	_____	_____
Specialized care (\$30–\$500 per month)	_____	_____	_____	_____	_____
<i>Total receipts</i>					_____
Variable costs					
Feed requirements for horses					
Commercial feed (\$6–\$12/50-lb bag; 6 lb/horse/day)	\$29.20	\$350.40	\$3,504.00	\$3,504.00	_____
Hay (\$2–\$6 per bale; 1/2 bale/horse/day)	\$45.63	\$547.50	\$456.25	\$5,475.00	_____
Supplements (\$0.25–\$0.50 per day)	\$9.13	\$109.50	\$91.25	\$1,095.00	_____
Salt (block or brick)	\$0.50	\$6.00	\$5.00	\$60.00	_____
Bedding					
Straw (\$2–\$4 per bale; 3/4 bale/horse/day)	\$45.63	\$547.50	\$456.25	\$5,475.00	_____
or shavings (\$4–\$8 per bale; 3/4 bale/horse/day)	\$91.25	_____	_____	_____	_____
or sawdust (\$5–\$7 per cubic yard)	\$33.80	_____	_____	_____	_____
Hired labor (\$6–\$10 per hr; 25 min/horse/day)	\$88.72	\$1,064.58	\$887.15	\$8,871.53	_____
Repair and maintenance					
Vehicles (\$10 per month per horse)	\$10.00	\$120.00	\$100.00	\$1,200.00	_____
Pasture (\$40–\$80 per acre; 2 acres/horse)	\$10.00	\$120.00	\$100.00	\$1,200.00	_____
Building and fences (\$8/horse/month)	\$8.00	\$96.00	\$80.00	\$960.00	_____
Utilities					
Electric (\$5 per horse per month)	\$5.00	\$60.00	\$50.00	\$600.00	_____
Water (\$5 per horse per month)	\$5.00	\$60.00	\$50.00	\$600.00	_____
Replacement of supplies (\$3/horse/month)	\$3.00	\$36.00	\$30.00	\$360.00	_____
Insurance (based on size, location, activities)					
Care, custody, and control	\$8.33	\$100.00	\$100.00	\$1,200.00	_____
Riding instruction	\$8.33	\$100.00	\$100.00	\$1,200.00	_____
Commercial liability	\$33.33	\$400.00	\$400.00	\$4,800.00	_____
Workman's compensation	\$10.42	\$125.00	\$125.00	\$1,500.00	_____
<i>Total variable costs</i>				\$38,100.53	_____

Sample Horse Boarding Budget (cont.)

Based on boarding 10 horses

Fixed cost	Initial investment	Years depreciated	Yearly depreciation	Your Estimate
Building and facilities^b				
Barn (for 10 horses)	\$72,500.00	10	\$7,250.00	_____
Run-in shed (10 by 25 feet)	\$5,500.00	10	\$550.00	_____
Riding arena (100 by 200 feet)	\$7,000.00	10	\$700.00	_____
Indoor arena (60 by 120 feet)	\$57,000.00	10	\$5,700.00	_____
Fencing (10,000 feet)				
Five-strand high tensile installed (\$1.75/ft)	\$17,500.00	10	\$1,750.00	_____
or three-board installed (\$10/ft)	_____	10	_____	_____
Equipment				
Tractor (used)	\$8,000.00	7	\$1,142.86	_____
Manure spreader (used)	\$1,000.00	7	\$142.86	_____
Horse trailer (new)	\$18,000.00	7	\$2,571.43	_____
Four-wheel-drive truck (new)	\$35,000.00	7	\$5,000.00	_____
Insurance/taxes on buildings/equip. (2%)			\$2,120.00	_____
Family labor (240 hours per month)			_____	_____
<i>Total fixed costs</i>	\$221,500.00		\$26,927.15	_____
Total costs	\$53,854.29			_____
Net returns			_____	_____

^aDoes not include boarding.

^bNew construction, barn, and arena costs will vary depending on design and materials used.

Initial resource requirements

(based on 10-horse capacity)

■ Land: 25 acres

■ Labor

Hired: up to 1,600 hours/year

Family: 240 hours/month

■ Capital (buildings and fencing): \$80,000

Tractor

Truck:

Trailer:

■ Equipment: \$40,000

Tractor

Loader

Manure spreader

Mower

Hay rake and baler

For More Information

“Accident Proofing Farms and Stables,” Safety Fact Sheet 605. New Brunswick, N.J.: Rutgers Cooperative Extension, 1992.

2003 Horse Industry Directory. Washington, D.C.: American Horse Council, 2003.

“Equine Feeding Management,” Dairy and Animal Science Fact Sheet DAS 98–2. University Park, PA: Penn State Department of Dairy and Animal Science, 1998.

“Fire Prevention and Safety Measures Around the Farm,” Safety Fact Sheet 608. New Brunswick, N.J.: Rutgers Cooperative Extension, 1992.

Hill, Cherry. *Horsekeeping on a Small Acreage*. Pownal, VT: Garden Way Publishing, Storey Communications, 1991.

Horse Handbook, Housing and Equipment. Midwest Plan Service, 1987 (available through Penn State College of Agricultural Sciences ICT-Publications, \$7).

Horse Industry Handbook. Pueblo West, CO.: American Youth Horse Council, 1999.

Lewis, L.D. *Feeding and Care of the Horse 2nd Edition*. Baltimore, MD: Williams and Wilkins, 1995.

Nutrient Requirements of the Horse, 5th Edition. Washington, D.C.: National Research Council, National Academy Press, 1989.

Pasture and Hay for Horses. Agronomy Facts 32. University Park, PA: Penn State Cooperative Extension, 1995.

“Pennsylvania Horse Industry Profile.” University Park, PA: Penn State Department of Agricultural Economics and Rural Sociology, 2003.

“Safety Recommendations for the Stable, Barnyard and Horse-Livestock Structures,” Safety Fact Sheet 606. New Brunswick, N.J.: Rutgers Cooperative Extension, 1992.

Wheeler, E. and J. S. Zajackowski. *Horse Facilities* series. University Park, PA: Penn State Cooperative Extension, 2002.

1. Horse Stall Design
2. Fire Safety in Horse Stables
3. Horse Stable Manure Management
4. Horse Stable Flooring Materials and Drainage
5. Fence Planning for Horses
6. Riding Arena Footing Materials
7. Horse Stable Ventilation

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American Association of Equine Practitioners
Telephone: 1-859-233-0147
www.aaep.org

Pennsylvania Equine Council
Telephone: 1-888-304-0281
pennsylvaniaequinecouncil.com

Pennsylvania Professional Farriers Association
horseshoes.com/local/ppfahomepage.htm

The Pennsylvania Department of Agriculture
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Pennsylvania Association of Conservation Districts, Inc.
www.pacd.org/districts/defaultu.htm

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