

*“Look back at man’s struggle for freedom,
trace his present day strength to its source,
and you’ll find that his pathway to glory
is strewn with the bones of the horse.” (Anonymous)*

In this day of instant communication, it’s difficult to believe that less than a century ago, Pennsylvania still ran on the power of the horse. As recently as the start of World War II, cavalry units still headed off to war on horseback, produce arrived at markets in horse drawn wagons, and horses still delivered milk to Pennsylvania’s households.

While less visible in daily life, horses are still a huge force in Pennsylvania’s culture and economy. Just as horses were important enough to our forefathers to include on Pennsylvania’s State Seal, this study suggests that the state’s thriving equine industry can help enhance the quality of life for future generations.

Pennsylvania hosts many of the country’s oldest and most prestigious equestrian events. Among its farms are some of the largest and most influential breeders of champion horses in the world. Many of the most successful horses in competition and racing both historically and today are Pennsylvania bred. Pennsylvania’s large Amish settlements still use horses for daily transportation and farming.

Horses are such a big part of Pennsylvania—economically, culturally, traditionally, agriculturally—that Olympic and World Cup equestrians in nearly all disciplines have relocated from other states and continents in order to make Pennsylvania their home. Among them is Australian Phillip Dutton of Chester County, a two-time Olympic gold medalist and arguably the most accomplished equestrian competing at this moment.

Though much of this activity goes virtually unnoticed by the majority of Pennsylvanians, this study presents many good reasons to safeguard and promote the equine industry. It shows that in a multitude of ways, horses are good for Pennsylvania.

Pennsylvanians generally support land preservation, and this study shows that equine owners keep more than a million acres of Pennsylvania land in farmland. That does not include land kept as open space for riding and competitions, much of which is located in counties with the highest development pressures.

While much of production agriculture is unprofitable, the equine industry is thriving. This study shows that the number of equine has increased 27% in the last ten years. More horses mean a stronger demand for production agriculture and the infrastructure that supports it. Most Pennsylvanians agree that more farmland and a strong farm economy are good for everyone’s quality of life.

Thousands of horse shows and events take place across the state each year. Among them are many of the country’s most important equestrian competitions at which the best horses and riders from across the US and other nations compete. These competitors bring hundreds of millions of dollars into local economies as thousands of competitors, families and support staffs spend money at hotels, restaurants, and shops.

Horses help children to become responsible, compassionate adults. Tens of thousands of children and families in Pennsylvania have horses in their lives, through 4-H, Pony Club, breed youth organizations, or just the farm next door. Equestrian events are populated with children and adolescents who stay on the honor roll, develop strong, positive relationships with peers and adults, and sacrifice their free time, leisure activities and even sleep in order to ride.

Horses help Pennsylvanians in many other ways. Therapeutic riding programs are a ray of hope as well as effective therapy for thousands of children and adults with disabilities. Inner city programs teach responsibility and the joys of accomplishment to children living in poverty—and sometimes, earn them a full college scholarship.

Pennsylvania’s equine economy, in nearly every way, is bigger than Kentucky’s (home to only 150,000 horses in 1996) and larger than nearly every other state’s. It thrives with little attention from the public and, compared to other agricultural entities, little government assistance. But it should not be overlooked. The Pennsylvania equine industry is vital to economic development, farmland preservation, and an enhanced quality of life for all Pennsylvanians.

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Table of Contents

Introduction and Proposal Justification	1
Economic Value	2
The Equine Industry's Estimated Contribution to the Pennsylvania Economy	3
Some Characteristics of Pennsylvania's Equine Owners	6
Equine Population	6
Numbers and Economic Value of Horses by County & District	8
Equine Operations	
Composition of Pennsylvania's General Equine Operations	9
Composition of Pennsylvania's Racing Facilities	10
Land: Equine Operation Acreage	10
Manure Handling Systems	11
Equine-Related Income	12
Equine-Related Expenditures	14
Equine-Related Assets	16
Equine Industry Highlights	
Showing	18
Recreation	18
Equine Facilities and Venues	19
Racing	19
Farm and Ranching Work	20
Rodeos	20
Other Horse Activities	21
Youth and Education	21
Equine Owners and Participants	22
Appendix A: Methodology and Definitions	23
Table A1: Population Numbers and Values by Breed	27
Table A2: Percent of Horses by Breed for Different Disciplines and Uses	28
Table A3: Distribution of Pa Total Equine Population by Counties and Regions	29
Table A4: Distribution by County & Region for General Equine Population by Equine Values and Related Acreages (Ranked by Equine)	32
Table A5: Distribution of Pennsylvania's Equine Related Acreage by County for Both the General and Racing Populations	35
References	36
Appendix B: Survey Questionnaires	37

Secondary effects are the spin-off or ripple effects of the Equine Industry. For example, equine-related businesses purchase a variety of inputs and services; and the companies that produce these goods and services also need labor. Accordingly, the secondary effects also capture the impact of local spending by employees of both the equine-related businesses as well as supporting industries. Using IMPLAN, it is estimated that these effects result in more than \$481 million in additional output, of which more than \$284 million is value-added. This translates into 5,340 additional jobs in the state economy, and more than \$177 million in employee compensation. In terms of multipliers, the employment multiplier is 1.36, suggesting that for every job in an equine-related business, an additional 0.36 jobs are supported in the state economy. The labor income multiplier is 1.75, suggesting an additional dollar in employee compensation in the Equine Industry supports 75 cents of wages and benefits in other Pennsylvania industries. Similar interpretations can be given to the output multiplier (1.75) and value-added multiplier (1.86).²

Overall, the direct and secondary contributions of the state's Equine Industry are estimated at more than \$1.12 billion in output, of which nearly \$615 million is value-added. This translates into 20,300 jobs that compensate state workers with \$412.2 million.

The racehorse survey indicated that this portion of the industry generated \$197.4 million in output and \$100.6 million in value added. This activity directly supported 4,740 jobs. Accounting for multiplier effects, the racing industry supported an additional \$147.1 million in output, of which \$87 million was value added, and 1,690 additional jobs.

The general population results indicated that the industry directly generates \$445.5 million in output, of which \$229.9 million is value added. This activity provides 10,220 jobs. And the ripple effects generate still more economic activity, supporting \$334.5 million in output, of which \$197.6 million is value-added, and 3,650 additional jobs.

² Economic multipliers are used to translate the direct impact into the total impact; multiplying the direct impact by the multiplier gives an estimate of the additional economic activity generated by a change in output. To derive the multiplier, simply divide the total impact (direct plus secondary) by the direct impact.

Table 2: The Equine Industry's Estimated Contribution to the Pennsylvania Economy, 2001

	Direct Effect	Secondary Effect	Total Effect	Multiplier
<i>TOTAL</i>				
Industry Output (millions)	\$642.9	\$481.6	\$1,124.5	\$1.75
Value Added (millions)	\$330.5	\$284.6	\$615.1	\$1.86
Employment	14,960	5,340	20,300	1.36
Labor Income (millions)	\$235.1	\$177.2	\$412.3	\$1.75
Per Worker Compensation	\$15,715	\$33,157	\$20,305	
<i>RACING</i>				
Industry Output (millions)	\$197.4	\$147.1	\$344.5	\$1.75
Value Added (millions)	\$100.6	\$87.0	\$187.6	\$1.86
Employment	4,740	1,690	6,430	1.36
Labor Income (millions)	\$67.1	\$54.1	\$121.2	\$1.81
Per Worker Compensation	\$14,162	\$31,975	\$18,848	
<i>GENERAL</i>				
Industry Output (millions)	\$445.5	\$334.5	\$780.0	\$1.75
Value Added (millions)	\$229.9	\$197.6	\$427.5	\$1.86
Employment	10,220	3,650	13,870	1.36
Labor Income (millions)	\$168.0	\$123.1	\$291.1	\$1.73
Per Worker Compensation	\$16,435	\$33,705	\$20,981	

Some Characteristics of Pennsylvania's Equine owners:

- From the general equine survey, 70% of the equine owners are female and 30% are males. The racehorse owners were 70% male and 30% female.
- Over 60% of Pennsylvania horse owners reported trail riding their horse on public lands.
- Within the general population, more than half of the owners have owned equine for 20 or more years, and the average length of equine ownership is just over 22 years.
- Within the general population nearly 70% of the equine owners reported a level of education beyond high school and nearly half have received at least a college degree.
- In the General population females appear to be more active participants in equine activities, especially in the over 19 age group, and overall for all age groups.

Equine Population

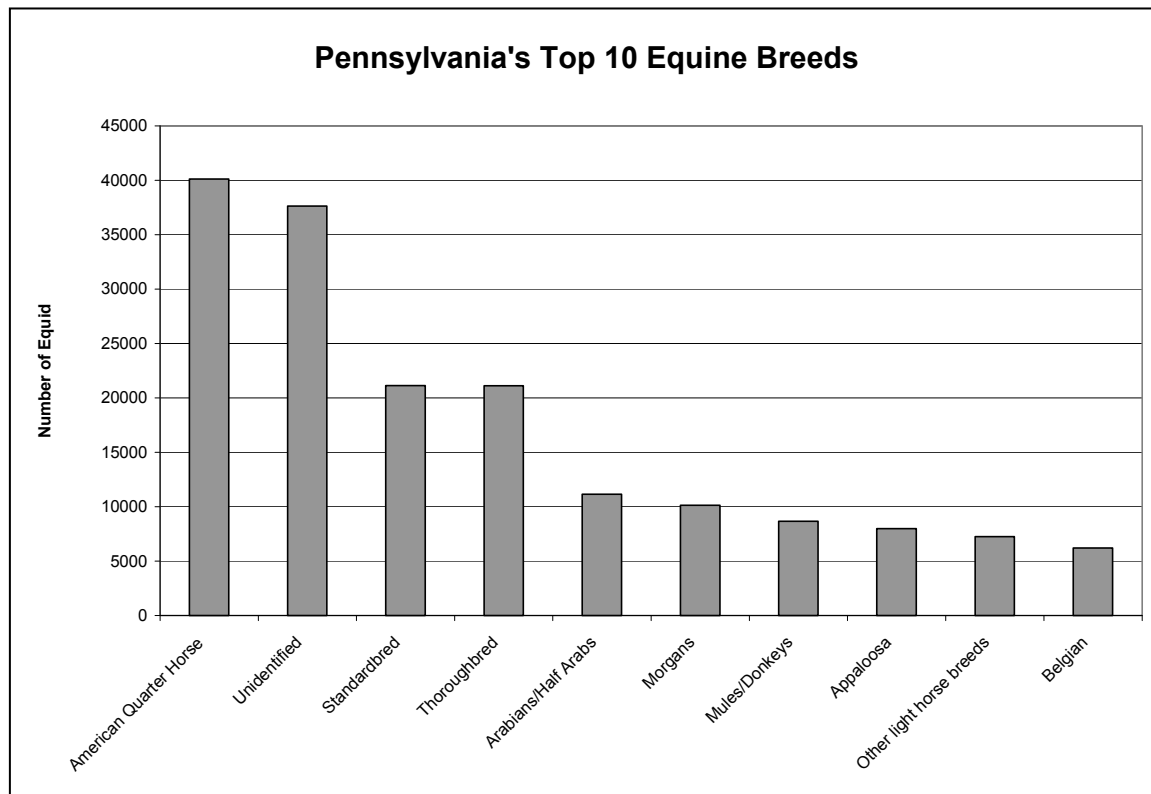
The nearly 216,000 equid living in Pennsylvania represent approximately 50 different breeds, encompassing horses developed in this country by pioneers and Native Americans as well as horses imported from around the world. Pennsylvania is home to some of the finest breeding farms in the country. Hanover Shoe Farms in Adams County is the world's largest breeder of Standardbred horses. Willow Brook Farms located in Catasauqua was instrumental in shaping the American Quarter Horse breed as we know it today, as a world-leading breeder of performance horses. Iron Spring Farm of Coatesville is one of the top producers of warmblood competitors in dressage and show jumping. Reigle Heir Farms in Grantville is a top breeder of Thoroughbred racehorses in Pennsylvania.

The American Quarter Horse at 40,110 head, represents the most popular light horse breed in the state, followed by Arabians and Half Arabians at 11,154; Morgans with 10,136; Thoroughbreds (non-racing) at 9,567; Mules/Donkeys with 8,665 head; and Appaloosas with 7985. The survey respondents, identified specific other breeds and/or grade horses totaling 7,248 head; a large portion of these are light horse breeds. Draft horse breeds totaled 11,185 head; Belgians with 6,202 head were the most popular followed by the Percherons with 3,000 head. Pony breeds accounted for 10,577 head (Welsh 3,582, Hackneys 1,635, Shetlands 1,538 and other breeds at 3,822). There were 3,450 Miniature Horses reported. Breed data, value and use by breed are presented in Tables A1 and A2 in the Appendix.

Pennsylvania's Racehorse Breeds

Pennsylvania's racehorse industry included 26,365 head of horses. There were 14,815 and 11,550 head of Standardbreds and Thoroughbreds, respectively. An additional 6,317 Standardbreds and 9,567 Thoroughbreds were reported in the general equine survey (horses not used for racing). The two breed totals, when including the non-racing population are 21,132 for Standardbred and 21,117 for Thoroughbreds. In addition, a limited number of owners of American Quarter Horses, Arabians and Appaloosas reported racing these breeds out of state.

Figure 1: The Top 10 Equine Breeds In Pennsylvania.



Numbers and Economic Value of Horses by County & District

From border to border, the horse industry represents a highly diverse industry that supports a wide variety of activities in all 67 counties. The industry combines the primarily rural activities of breeding, maintaining and training equid, farming, boarding, stabling, and other commercial purposes with the more urban activities of operating racetracks, off-track wagering facilities, horse shows and recreational riding.

Top Five Counties by Total Equine Population:

- 1. Lancaster - 20,396**
- 2. Chester - 15,504**
- 3. York - 12,089**
- 4. Washington - 8,572**
- 5. Berks - 6,241**

Together, the state's South Eastern and Capital Regions account for more than forty percent of Pennsylvania's equid population. Other county data regarding equid population and value are in Table A3, in the Appendix.

Equine Operations

There are an estimated 38,000 households that own equine in the state of Pennsylvania, with a total of 190,000 people who participate in an equine activity. An additional 20% (7,600) of households within the state participate in an equine activity, but do not own a horse. An estimated 31,000 operations housed Pennsylvania's 216,000 equine in 2002.

Twenty percent of the farms/stables from the general equine survey reported being commercial operations (for profit), while 80 % considered their equine operation for personal use.

Interestingly, racehorse operations reported 82 % are commercial and 18 % were for personal use.

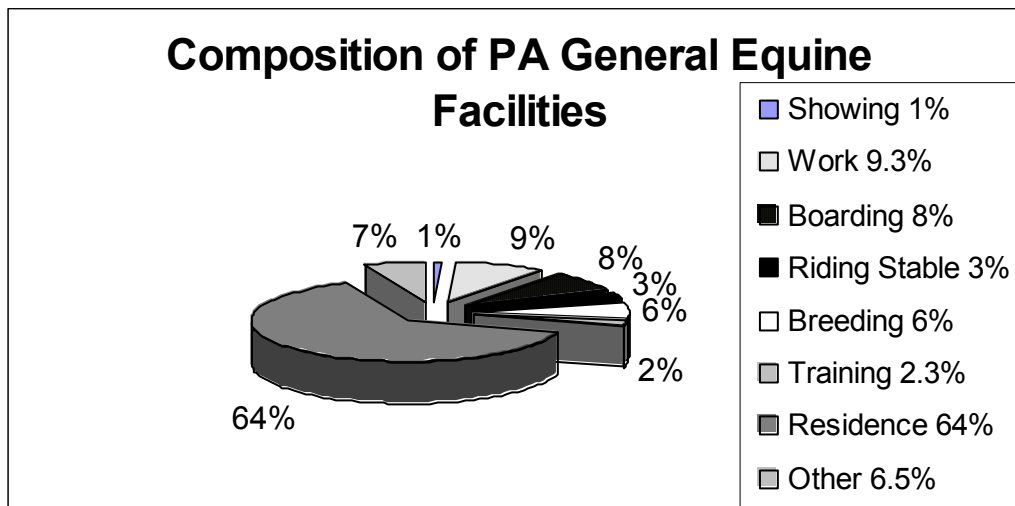
Table 3: Number of People Involved In the Equine Industry

Number of households that own equid	38,000
Members of households that participate in equine activities.	190,000
Households within the state, participate in an equine activity, but do not own a horse	7,600
Operations that house equid in PA	31,000
Number of Jobs	20,300

Composition of Pennsylvania’s General Equine Operations (Farms, Barns and Stables)

The majority of operations, over 63%, were reported to be involved with personal, recreational or pleasure riding and/or driving (trail riding, youth and showing). (*Owners were permitted to list more than one discipline to describe their operation.*) The second largest group was working horses at nearly 9.3%. These horses earn their living working on farms plowing fields and pulling carriages. Eight percent of facilities are involved in boarding and caring for other owners horses; 5.6% reported operating an equine breeding facility; 3% were riding/lesson stables (teaching riding lessons, rent equine, etc.); 2.3% were training facilities; 0.9% were show/events facilities; 0.35% were racing stables (not reported in the “Racehorse Survey”); 0.3% were lay-up or equine therapy facilities; 0.17% were reported as guest farms for Bed & Breakfast operations involved in tourism and 7% were listed as other. This group listed their facilities as retirement homes for horses, horse rescues, mounted police units, therapeutic riding facilities etc.

Figure 2: Types of facilities defined in the general population survey.



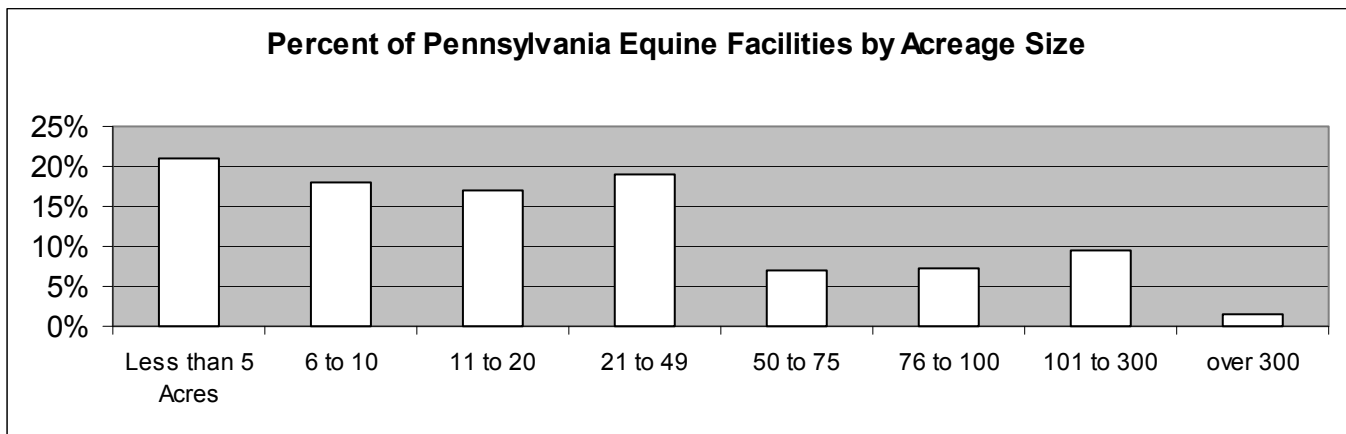
Composition of Pennsylvania's Racing Facilities

Almost half of the racehorse breed owners, 46%, consider their operations to be racing stables/ barns (on and off-track facilities). Second most common were breeding farms (21%), followed by training barns (10%); boarding facilities (7.5%); lay-up/equine therapy facilities (4.4%); sale preparations (1.8%) and other (10%).

Land: Equine Operation Acreage

The equine community is actively preserving open space and maintains the public's connection to agriculture. Over half (56%) of Pennsylvania's equine population is housed on properties under 20 acres in size (Figure 3). Twenty-one percent of the equine operations are located on acreages that are less than 5 acres. An additional 20% of horse farms are located on acreages of 21 to 50 acres in size, 14% are located on land tracts over 50 but fewer than 100 acres. The remaining 11% operate facilities on acreages over 100 acres. Pennsylvania's equine community provides an estimated 1.14 million acres of open space (General population 1,037,153 and Racing industry 105,458 acres); horse related tracts of land range from a few acre farmette to thousand acre estates. Equine related land values, for the entire state, were reported to be \$4.8 billion.

Figure 3: Facility Land Size for Operations In the General Survey.



Racing operations reported that over 10% of their equine related acreages were enrolled in Agricultural Preservation programs. Twenty – six percent of these racing operations listed pasture as their primary land use, 13% of the acreage was planted in crops, and 21% was utilized as hay fields. Whereas, the general equine owners reported that only 8% of their equine related acreages were enrolled in Agricultural Preservation programs. Fifteen percent of this general population listed pasture as their primary land use, 17% for crops, and 19% as hay fields.

Manure Handling Systems

There are two principal equine industry manure management systems. The first system permits horses to graze full-time on pastures and the manure is not collected or treated. Pasture manure usually is spread by harrow cultivation that promotes decomposition. The second system confines animal feeding, which relies on intensive management, and the horses are kept in stalls or runs. The horses may be housed in box stalls and provided a bedding source for urine absorption. Alternatively, horses are kept in corrals or runs and some runs are attached to stalls. Manure is managed in one or more of the following ways: 1) compost (manure is removed daily and composted); 2) stockpile (manure is removed daily and stored in piles) and, 3) daily land application (manure is removed daily and spread on cropland).

According to the survey, racehorse operations managed manure using the following systems: composted and used on the farm (21%), composted and hauled off farm (11%), spread fresh on crop and pasture fields (27%), hauled off the farm fresh (5%) and stock piled on the stable and left unmanaged in piles (20%). Manure management handling was not mutually exclusive, managers used more than one system and not all reported their management method. Larger horse operations (50 to 1100 head of horses) were more likely to have manure hauled off the farm soon after it was removed from the stalls (58%). None of the farms with over 50 head of horses stockpiled manure on the premises. In comparison, the smaller operations (less than 10 head) stockpiled manure and left it on the premises unused (24%). The general equine population owners also showed a similar trend in manure management and handling systems. Commercial operations appeared to be more likely to have manure management plans.

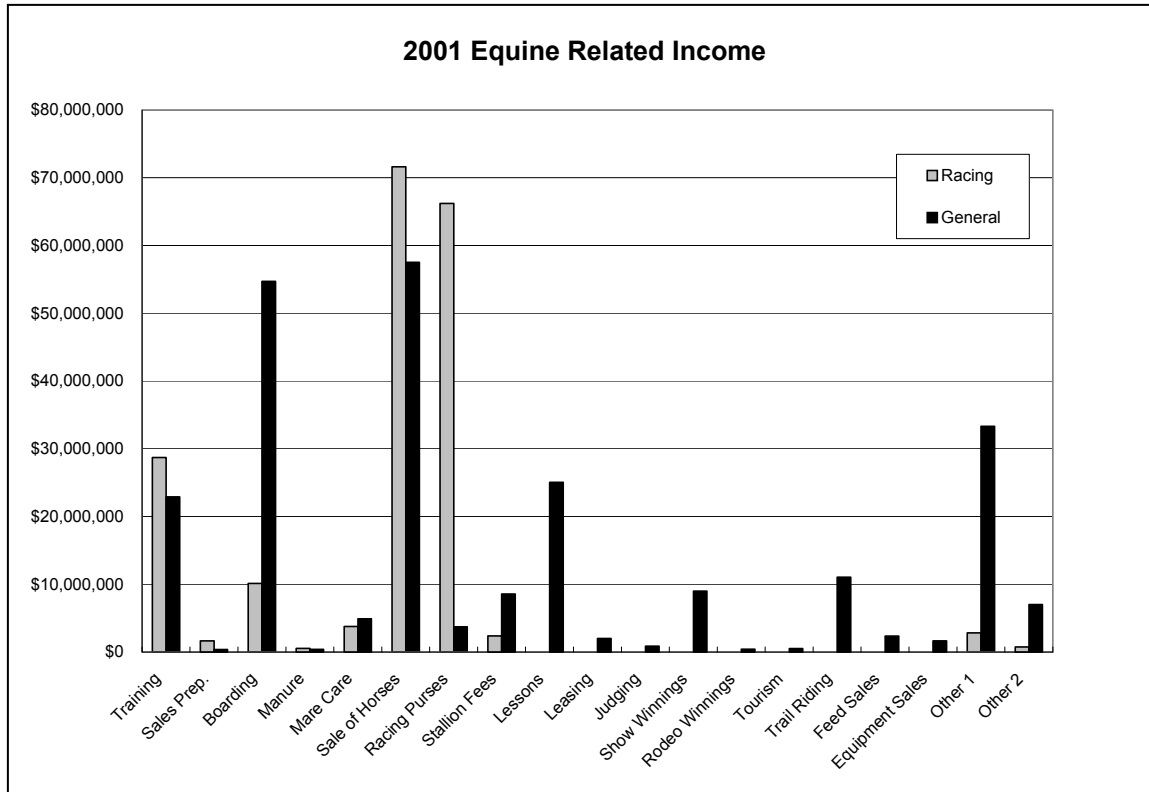
Equine-Related Income

Overall, the direct and secondary contributions of the state's equine industry are estimated at more than \$1.12 billion in output (the total revenue generated by the industry), of which nearly \$615 million is value-added. However, equine-related income (reported by survey participants) from sales and associated equine/agricultural activities during 2001 totaled \$435 million. The racehorse industry reported generating \$189 million in income and the general equine population reported income of \$246 million.

Table 4: Income by source for the racing, general and total population.

Equine Related Income	Racing Industry	General Population	Total
Training	\$28,713,642	\$22,896,923	\$51,610,565
Sales Preparation	\$1,643,474	\$368,792	\$2,012,266
Boarding / Lay-ups	\$10,110,577	\$54,713,607	\$64,824,184
Manure Sales	\$552,111	\$378,504	\$930,615
Mare Care	\$3,755,666	\$4,888,519	\$8,644,185
Sale of Horses	\$71,610,642	\$57,536,863	\$129,147,505
Racing Purses	\$66,194,871	\$3,742,045	\$69,936,916
Stallion Services Fees	\$2,391,752	\$8,564,507	\$10,956,259
Lessons/ Clinics		\$25,031,215	\$25,031,215
Leasing Animals		\$2,003,561	\$2,003,561
Judging		\$871,911	\$871,911
Show Winnings		\$8,977,772	\$8,977,772
Rodeo Winnings		\$417,430	\$417,430
Tourism, Guest Farm		\$514,650	\$514,650
Trail Riding		\$11,057,556	\$11,057,556
Feed Sales		\$2,370,384	\$2,370,384
Equipment Sales		\$1,641,699	\$1,641,699
Other Income	\$2,843,174	\$33,314,040	\$36,157,214
Other Income	\$749,155	\$7,017,472	\$7,766,627
Total Income:	\$188,565,065	\$246,307,447	\$434,872,512

Figure 4: Equine related income for the racing and general populations.



*Note that some race horse owners were reported in the general survey.

Equine-Related Expenditures

Equine-related expenditures during 2001 totaled an estimated \$746 million. Purchases of feed and bedding accounted for \$109 million in expenditures. Veterinarian and health-related care amounted to nearly \$50 million. Taxes accounted for \$53.2 million, while \$103 million was spent on the purchase of equid, \$42 million was spent on boarding horses and nearly \$74 million was spent on training costs. (Expenses of commercial racetracks, show facilities and public facilities were not included in these figures.)

Table 5: Expenditures by category for the racing, general and total populations.

Expenditure Category:	Racehorse Industry	General Horse Population	Totals for PA:
Purchase	\$48,708,105	\$54,669,380	\$103,377,485
Boarding	\$9,385,684	\$32,692,098	\$42,077,782
Training	\$56,644,783	\$16,829,914	\$73,474,697
Jockey/Driver/Rider	\$4,797,866	\$236,433	\$5,034,299
Health/ Veterinary	\$16,017,488	\$33,730,069	\$49,747,557
Lodging/ Hotels	\$5,368,699	\$16,422,102	\$21,790,801
Bedding	\$5,668,411	\$14,017,204	\$19,685,615
Hay	\$7,774,418	\$33,643,943	\$41,418,361
Grain/Supplements	\$9,849,711	\$38,030,346	\$47,880,057
Pasture Maintenance	\$1,790,025	\$9,551,662	\$11,341,687
Tack	\$2,013,885	\$20,245,766	\$22,259,651
Grooming Supplies	\$1,265,244	\$4,971,728	\$6,236,972
Membership Fees	\$1,097,701	\$3,240,686	\$4,338,387
Race/Entry Fees	\$3,503,131	\$1,365,318	\$4,868,449
Maintenance	\$9,336,341	\$18,750,947	\$28,087,288
Farrier	\$5,458,184	\$26,201,109	\$31,659,293
Advertising	\$1,200,114	\$7,466,728	\$8,666,842
Utilities	\$1,977,616	\$12,646,717	\$14,624,333
Insurance	\$4,815,652	\$16,750,396	\$21,566,048
Property Taxes	\$4,182,837	\$38,069,158	\$42,251,995
Payroll Taxes	\$2,682,662	\$8,231,214	\$10,913,876
Contract Services	\$2,439,454	\$8,948,123	\$11,387,577
Capital Improvements	\$8,919,012	\$55,450,319	\$64,369,331
Breeding Fees	\$19,098,502	\$7,591,324	\$26,689,826
Workmen's Compensation	\$1,659,784	\$1,866,090	\$3,525,874
Other	\$1,539,503	\$5,297,013	\$6,836,516
Other	\$855,374	\$6,580,731	\$7,436,105
Show Fees	\$0	\$14,687,102	\$14,687,102
Total Expenses:	\$238,050,186	\$508,183,620	\$746,233,806

Figure 5: Equine related expenses for the racing and general populations.

