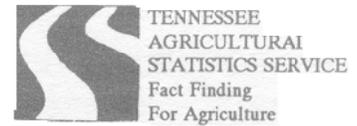


# JULY 1, 1990 TENNESSEE EQUINE SURVEY



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## *SURVEY SHOWS.*

- \* 145,000 EQUINE ON 41,000 PLACES
- \* VALUE OF EQUINE TOTALS \$291 MILLION
- \* TENNESSEE WALKERS RANK FIRST IN TOTAL VALUE AT \$121.6 MILLION WITH QUARTER HORSES SECOND AT \$63.2 MILLION
- \* QUARTER HORSES RANK FIRST IN NUMBERS AT 39,500 WITH TENNESSEE WALKERS SECOND AT 30,400
- \* EQUINE EQUIPMENT AND SUPPLIES VALUED AT \$125 MILLION
- \* EQUINE RELATED LAND AND FACILITIES VALUED AT \$952 MILLION
- \* 1989 EXPENSES RELATED TO EQUINE AMOUNT TO \$116 MILLION
- \* FEED, EQUIPMENT, EQUINE PURCHASES, AND CAPITAL IMPROVEMENTS TOP FOUR EXPENSE ITEMS
- \* TOP FOUR EXPENSE CATEGORIES MAKE UP 51 PERCENT OF TOTAL
- \* ONLY 1.75 PERCENT OF TENNESSEE EQUINE OWNED BY NON-TENNESSEE RESIDENTS
- \* REPORTED GROSS INCOME FROM EQUINE SALES OF \$21.2 MILLION
- \* ONLY 12 PERCENT OF RESPONDENTS WITH ANY INCOME FROM EQUINE

## 1990 EQUINE SURVEY PROCEDURES

The second annual July 1 Tennessee Equine Survey was smaller, but more refined than the 1989 effort. The results obtained in 1989 and subsequent list building efforts facilitated the design of a more efficient sample in terms of cost and sampling error.

The list of 26,042 names surveyed in 1989 was reduced to 13,262 for the 1990 survey. The primary reason for dropping individuals and firms from the list was that they no longer had equine, but there were numerous and various other reasons including refusals to cooperate. The availability of a duplication-free list opened the way to the improved 1990 sampling scheme.

The list was stratified into 5 homogenous groups prior to sampling. Individuals and firms with 1-2 equine were in stratum 1; those with 3 to 4 equine, stratum 2; 5 to 9 equine, stratum 3; 10 to 49 equine, stratum 4; and, 50 or more equine, stratum 5. Sampling rates varied from 3 percent for stratum 1 to 100 percent for stratum 5. The goal of the sampling scheme used was state estimates with a sampling precision of  $\pm 5$  percent. There were 862 individuals and firms selected from the list.

In addition to the list sample, a sample of 382 land areas was selected and surveyed for equine as a part of the June Agricultural Survey. Individuals and firms with equine found in the area samples were then matched with the list and duplicates eliminated. The remaining non-matches were interviewed in July and expanded to account for list incompleteness. The combination of list and area sampling frames is known as multiple frame sampling. The multiple frame approach was also employed for the 1989 equine survey.

A four-page questionnaire asking inventory and economic questions was mailed to the list sample on June 26, 1990. Telephoning of non-respondents began on July 16, 1990. The same questionnaire was used for the area frame sample. Telephone and personal interviews began on June 30, 1990. The survey was completed on July 25, 1990 with a usable response rate of 91 percent.

All questionnaires were manually reviewed prior to being computer edited and summarized. Data from the list sample of 862 were expanded by size groups and summed to a list total. Data from the area frame for the non-matched names were expanded and summed to an area frame total. Combining the list and area indications provided the basis for the state equine estimates. Data for individuals and firms that were inaccessible during the survey period, or who refused to provide data, were imputed based on averages for their sampling group.

## RESULTS

Individuals and firms surveyed who chose not to report and those in the survey unavailable for interviews during the survey period were more numerous than expected. The variation in reported data was also greater than a year earlier. These factors contributed to a relative sampling error of  $\pm 7.0$  percent, 2 points above the presurvey goal of  $\pm 5.0$  percent. Even though the desired sampling precision was not obtained, survey results were more precise than one year ago,  $\pm 7.0$  percent for 1990 Tennessee equine numbers versus  $\pm 10.2$  percent for 1989.

## PLEASE NOTE:

Each respondent to the Tennessee Equine Survey represents a number of places of similar size and type. The probability sampling techniques used allow for expansions of items surveyed to state totals. Data presented for sub-categories, such as breed, are based on fewer reports and should be viewed as less reliable than state totals.

A more complete list of equine operations, better cooperation by survey respondents, further refinements in the survey design, and additional historic data for comparison with sample results will lead to more reliable state equine estimates in the future.

## EQUINE PLACES

Tennessee had 41,000 places with equine on hand July 1, 1990 compared with 50,000 places a year earlier. All of the list frame size groups and the area frame showed declines in the number of places with equine.

About one-fourth (25.6%) of the places represented in the survey and 38 percent of equine were on the list of equine places maintained by the Tennessee Agricultural Statistics Service. Equine places not found on the list were represented by the area sample and were mostly places with one, two, or three horses each. Only about four percent of the area frame equine places reported 10 or more horses.

The number of equine places with one or more horses on July 1, 1990 was 10,500 for the list frame and 30,500 for the area frame portion of the survey. A similar breakdown for a year earlier was 12,000 for the list and 38,000 for the area. The decline was not as sharp for the list frame places as the area frame places because of list building activities that occurred between July 1, 1989 and February 1990. i.e. A place added to the list frame was eliminated from the area frame.

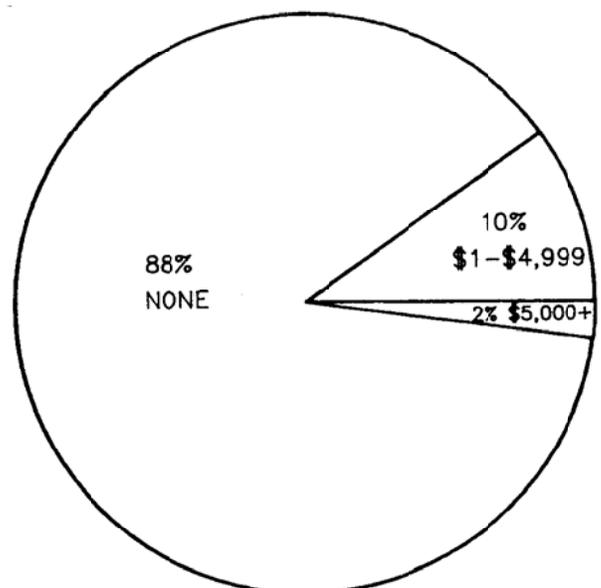
### NUMBERS AND VALUE OF TENNESSEE EQUINE ON HAND JULY 1, 1990

Ten Most Numerous Equine Categories	Inventory		Value Per Head		Total Value	
	1989	1990	1989	1990	1989	1990
	Head		Dollars		1,000 Dollars	
QUARTER	49,200	39,500	1,650	1,600	81,180	63,200
TENNESSEE WALKER	31,500	30,400	3,200	4,000	100,800	121,600
PONIES	11,700	8,300	325	300	3,803	2,640
CROSSBRED OR UNKNOWN	16,600	8,000	400	400	6,640	3,200
AMERICAN SADDLEBRED	14,600	7,500	4,000	1,800	58,400	13,500
APPALOOSA	6,700	6,300	2,250	2,300	15,075	14,490
MULES	6,400	6,000	725	550	4,640	3,300
THOROUGHBRED	2,700	4,600	7,600	5,500	20,520	25,300
SPOTTED SADDLE	5,600	4,400	1,300	950	7,280	4,180
ARABIAN	4,600	4,200	4,000	2,100	18,400	8,820
ALL OTHER BREEDS	28,400	25,300	1,328	1,224	37,718	30,958
<b>TOTAL</b>	<b>178,000</b>	<b>145,000</b>	<b>\$1,991</b>	<b>\$2,008</b>	<b>\$354,456</b>	<b>\$291,188</b>

### 1988 AND 1989 EQUINE RELATED EXPENDITURES

	THOUSAND DOLLARS	
	1988	1989
FEED AND BEDDING	30,222	26,682
EQUIPMENT PURCHASES	18,940	14,531
PURCHASES OF EQUINE	16,931	9,650
CAPITAL IMPROVEMENTS	16,465	8,814
HEALTH	8,239	7,962
TRAINING FEES	5,056	6,824
BOARDING	4,412	5,859
FARRIER	5,744	5,149
BREEDING FEES	2,368	4,266
TACK	6,218	4,117
TAXES	3,562	3,974
TRAVEL	5,512	3,725
MAINTENANCE	4,875	3,077
UTILITIES	2,229	2,092
MISCELLANEOUS	3,045	1,931
INSURANCE	1,292	1,886
GROOMING	2,320	1,838
ADVERTISEMENT	1,135	867
RENT/LEASE	1,775	746
CONTRACTED LABOR	628	711
PROFESSIONAL FEES	501	610
OTHER EXPENDITURES	1,306	602
<b>TOTAL</b>	<b>\$142,775</b>	<b>\$115,913</b>

### PERCENTAGE DISTRIBUTION OF GROSS INCOME DERIVED FROM EQUINE



## PRIMARY USE OF EQUINE INVENTORY

The 1990 Equine Survey questionnaire listed seven categories for respondents to report usage of their equine on July 1, 1990. When an individual animal was used for more than one purpose, respondents were asked to report only one--the category providing the most important service. Since the usage of 1989 and 1990 foals is largely speculative, these foals were summarized without regard to present or future use.

Results of the 1990 Equine Survey showed no significant changes in the primary usage categories from a year earlier. Pleasure or sport usage was the most predominant use with 47 percent reported in 1990 versus 48 percent in 1989. Breeding stock made up 23 percent of the total in 1990 versus 21 percent in 1989; foals - 9 percent versus 9 percent; competition - 8 percent versus 9 percent; and, other uses - 13 percent versus 13 percent.

The following table presents data on equine usage for the top ten equine categories, which account for 83% of the state total. Individual estimates for the remaining categories could be misleading since there were too few reports in the sample selected to warrant publication.

Ten Most Numerous Equine Categories	Total Number	PRIMARY USE						
		Breeding		Foals of		Competition	Pleasure or	
		Broodmares	Stallions	1989	1990		Sport	Other
Quarter Horse	39,500	8,600	1,600	1,900	1,800	3,200	20,400	2,000
Tennessee Walker	30,400	9,200	1,300	2,200	1,800	4,300	10,200	1,400
Ponies	8,800	600	20	20	200	200	7,000	760
Crossbred or Unknown	8,000	700	200	300	300	100	4,700	1,700
American Saddlebred	7,500	700	100	300	300	400	5,300	400
Appaloosa	6,300	1,200	400	200	200	300	3,700	300
Mules	6,000	---	---	---	---	---	---	6,000
Thoroughbred	4,600	1,400	300	400	500	1,500	500	---
Spotted Saddle	4,400	1,100	200	300	500	200	1,900	200
Arabian	4,200	650	200	150	150	100	2,700	250
All Other Breeds	25,300	4,250	680	730	1,050	1,100	11,100	6,390
<b>Total</b>	<b>145,000</b>	<b>28,400</b>	<b>5,000</b>	<b>6,500</b>	<b>6,800</b>	<b>11,400</b>	<b>67,500</b>	<b>19,400</b>

The July 1, 1990 Tennessee Equine Survey showed a 19 percent decline for equine numbers, an 18 percent drop in value and 19 percent drop in expenses from July 1, 1989. Reported equine-related assets such as equipment, supplies, land, fences, buildings and the equine amounted to \$1.3 billion compared with \$1.5 billion a year ago.

The results of both the 1989 and 1990 equine surveys provide insight about the scope and diversity of the Tennessee equine industry. It is readily apparent that the equine industry significantly contributes to the state's economic health and to the quality of life enjoyed by Tennessee equine owners.

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ADDRESS CORRECTION REQUESTED