

## A Decade of Change in Texas Agriculture Land and Natural Resource Use

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Almost 78 percent of Texas land is used for farming and ranching, according to the U.S. Department of Agriculture (USDA) Census of Agriculture. An analysis of the latest two USDA reports, from 2002 and 2007, shows that the uses of Texas farmland have changed over the past few years:

- The state has more land in small farms (with gross sales of less than \$1,000) and more in farms with gross sales of \$500,000 or more. It has less land in medium-sized farms with gross sales of \$5,000 to \$499,000.
- The total estimated market value of land and buildings increased from \$100 billion in 2002 to \$165 billion in 2007.
- Only 8 percent of Texas farmland is irrigated, and the largest user of irrigated land—almost 35 percent—is cotton.

The total land area of Texas is 167.55 million acres. Of that total, 130.40 million acres, 78 percent, were farms and ranches in 2007.

Across the state, 247,437 farms and ranches controlled these 130.4 million acres with an average of 527 acres per operation in 2007 (Table 1). That is a decrease from an average of 567 acres in 2002 and 587 in 1997. The total acreage in farms and ranches has changed relatively little; the primary reason for the decrease in average farm size is the increase in number of farms.

The average Texas farm is bigger than the U.S. average of 418 acres. The average farm size across the nation has decreased over the past 10 years.

Since 2002, the total amount of land being farmed has increased, albeit modestly. Harvested cropland increased by 8 percent (Table 2). Some of this increase

**Table 1. Land in farms and average farm size in Texas and the United States, 1997, 2002, and 2007.**

	Texas			United States		
	2007	2002	1997	2007	2002	1997
Total land in farms (million acres)	130.40	129.88	133.96	922.10	938.28	954.75
Total number of farms	247,437	228,926	228,173	2,204,792	2,128,982	2,215,876
Average farm size (acres)	527	567	587	418	441	431

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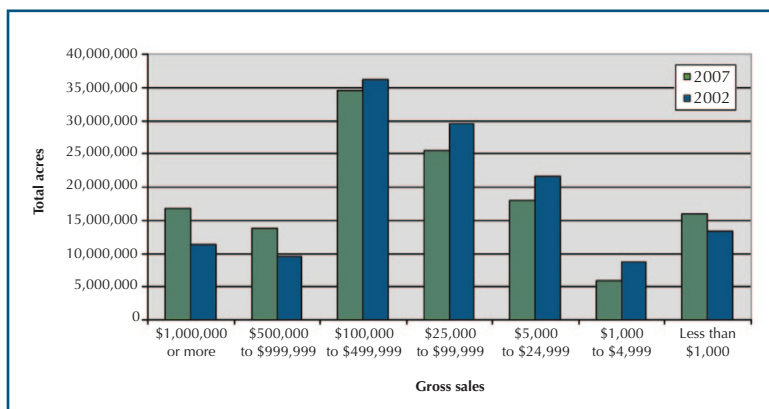
**Table 2. Total land in farms and by various uses, Texas, 2002 and 2007.**

Land type	2007 Acres	2002	Percent change
Harvested cropland	19,174,301	17,750,938	8.0%
Pastured cropland	7,832,896	12,937,991	-39.5%
Cropland with failed crops, idled, or fallow	6,659,980	7,968,781	-16.4%
Woodland	7,099,790	5,651,181	25.6%
Permanent pasture	87,217,416	83,402,865	4.6%
House lots, ponds, roads, wasteland	2,414,370	2,165,910	11.5%
<b>Total land in farms</b>	<b>130,398,753</b>	<b>129,877,666</b>	<b>0.4%</b>

was a result of fewer acres of failed crops; in other instances, pastures were converted to cropland. Overall, however, total cropland acres declined, with increases in woodlands and permanent pasture.

The smallest farms—those with less than \$1,000 of gross sales—controlled 16.0 million acres in 2007 (Fig. 1). This was an increase of 2.7 million acres compared to 2002.

At the other extreme, farms with \$1 million or more gross sales controlled 16.8 million acres, an increase of 5.5 million acres over 2002. The largest acreages were farms in the \$5,000 to \$499,999 gross sales categories; however, these acreages decreased between 2002 and 2007.



**Figure 1. Total land in farms by gross sales size category, Texas, 2002 and 2007.**

The average number of acres per farm in Texas tends to increase with gross sales (Fig. 2). Except for the farms with the lowest gross sales, the average land area per farm increases with the increase in gross sales per farm.

Comparing 2002 and 2007, the average land area per farm declined for all size categories. For the largest farms, with \$250,000 sales and over, this was due to the increase in the number of farms. Another contributing factor was that prices received were higher in 2007 than in 2002. Higher prices led to higher gross sales, which shifted some farms into the next highest gross sales category.

### Land productivity by size class

Gross income—the market value of agricultural products sold, plus government payments—per acre varies greatly across the size categories (Fig. 3). In 2007, the smallest farms generated an average of only \$8 per acre compared to \$844 per acre for the largest farms. This difference may reflect less intensive land use by the smallest farms, as well as less productive land controlled by these operations.

### Irrigation

In 2007, 19,713 farms—8 percent of the total number of farms in Texas—irrigated 5 million acres (Table 3). Of this total, 92 percent is irrigated cropland.

Less farmland is being irrigated in Texas. In 2007, the number of irrigated acres had declined by 64,222 acres, or 1.3 percent compared to 2002. Compared to 1997, the total land irrigated in Texas decreased by 753,879 acres. Between 2002 and 2007, the amount of irrigated harvested cropland increased by 1.1 percent, while irrigated pastureland and other land decreased by 22.7 percent.

Although the total acreage of harvested cropland increased in Texas, the percentage that was irrigated decreased to 24.1 percent in 2007, compared to 25.8 percent in 2002. For 2007, comparing across the gross sales categories in Figure 4 shows that the percentage of harvested cropland that was irrigated was highest for farms with gross sales of \$1 million or more (40 percent irrigated), and lowest for farms with \$1,000 to \$24,999 gross sales (less than 4 percent irrigated).

For all farms, except the very smallest with less than \$1,000 gross sales, the percentage of harvest-

ed cropland that is irrigated declined. The largest decline was for the farms with the highest gross sales.

The crops grown by Texas farmers vary in their dependency on irrigation (Table 4). Cotton has the most

**Table 3. Total irrigated land, irrigated harvested cropland, and irrigated pastureland and other land, acres, and percentage change, Texas, 2002 and 2007.**

Use	2007 Acres	2002 Acres	Percent change
Irrigated harvested cropland	4,621,445	4,571,339	1.1%
Irrigated pastureland and other land	388,971	503,299	-22.7%
<b>Total irrigated land</b>	<b>5,010,416</b>	<b>5,074,638</b>	<b>-1.3%</b>

**Table 4. Total harvested acres and irrigated acres by crop, Texas, 2007.**

	Total area (acres)	Irrigated (acres)	Irrigated as % of total
Barley for grain	2,090	936	44.8%
Corn for grain	1,963,640	846,750	43.1%
Corn for silage or greenchop	151,091	102,392	67.8%
Cotton, all	4,674,229	1,626,181	34.8%
Dry edible beans, excluding limas	6,675	2,946	44.1%
Oats for grain	92,653	5,461	5.9%
Peanuts for nuts	192,291	156,066	81.2%
Rice	145,006	145,006	100.0%
Sorghum for grain	2,427,580	480,510	19.8%
Soybeans for beans	93,453	16,269	17.4%
Sunflower seed, all	35,309	12,806	36.3%
Wheat for grain, all	3,844,241	595,275	15.5%
Hay, haylage, grass silage, and greenchop	5,264,287	424,623	8.1%
Field and grass seed crops, all	13,397	3,009	22.5%
Land in vegetables	122,205	74,538	61.0%
Land in orchards	215,794	69,461	32.2%

harvested acres under irrigation. These irrigated acres account for almost 35 percent of the total harvested acres of cotton.

The crop with the second largest total of irrigated harvested acres is corn, followed by wheat and sorghum. For corn for grain, 43 percent of the total acres are irrigated. For wheat and sorghum, it is 16 percent and 20 percent, respectively.

## Land ownership

Farm and ranch operators in Texas own close to 60 percent of the land they operate. The rest is rented in and out. The percentage of land owned is highest for the operators in the two smallest gross sales size categories, ranging from 70 to 80 percent of their land resources (Fig. 5).

The percentage of land owned declines with increasing farm size (gross sales), except for the two largest size categories over \$500,000 in gross sales. For these two largest categories of farms in 2007, over 50 percent of the land was owned.

For the largest group, over \$1 million of gross sales, the percentage of land owned declined from 67 percent to 55 percent, contrary to the trend for all the other size categories. However, this was likely influenced by the shifting of some farms from the \$500,000 to \$999,999 gross sales range to the \$1 million or more gross sales range due to higher commodity prices in 2007.

## Market value of land and buildings

The total estimated market value of agricultural land and buildings in Texas was \$165.6 billion (Table 5). This extensive economic resource has been increasing in value. The 2007 average value per acre increased by 65.4 percent compared to 2002 and by 106.2 percent compared to 1997.

**Table 5. Total estimated market value of land and buildings, average per acre, average per farm, Texas, 1997, 2002, and 2007.**

Market value	2007	2002	1997
Total for state (billion)	\$165.8	\$100.5	\$82.6
Average per acre	\$1,270	\$768	\$616
Average per farm	\$669,154	\$439,066	\$361,821

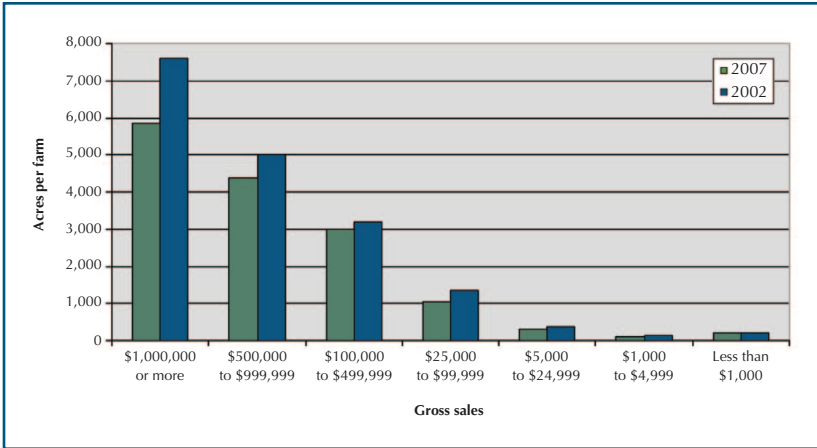


Figure 2. Average acres per farm by gross sales size category, Texas, 2002 and 2007.

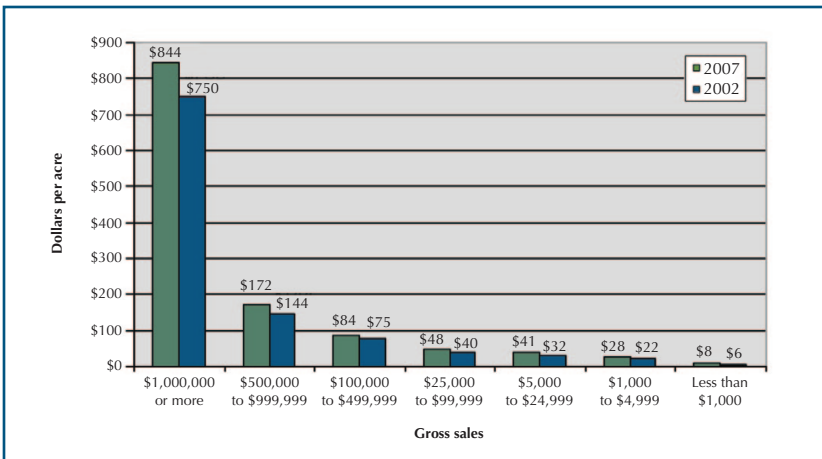


Figure 3. Gross income per acre by gross sales size category, Texas, 2002 and 2007.

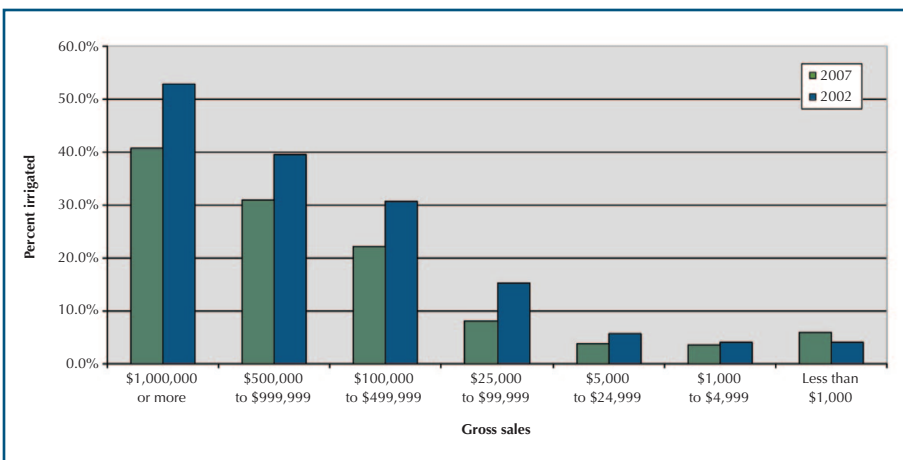


Figure 4. Irrigated harvested cropland as percentage of total harvested cropland in Texas, 2002 and 2007.

The relationship of the value of land and buildings per acre to the size of the operation as measured in terms of gross sales is illustrated in Figure 6. The value per acre was highest for farms with \$1,000 to \$4,999 gross sales. That value declines across the subsequently larger categories until the largest size category of farms with \$1 million of gross sales or more, which shows an increase in the per-acre value compared to the next smaller size category. Between 2002 and 2007, the value per acre increased for all size categories.

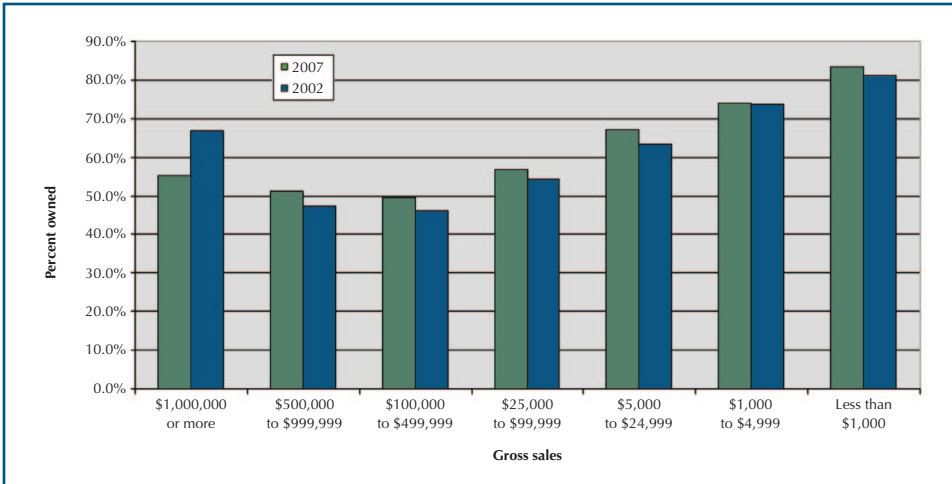


Figure 5. Owned land as a percentage of total land in farms by gross sales size category, Texas, 2002 and 2007.

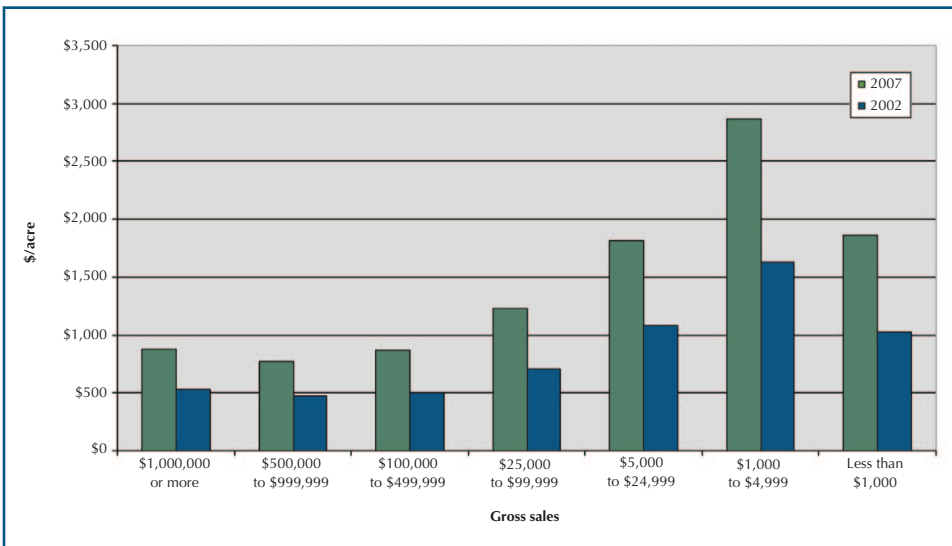


Figure 6. Estimated market value of land and buildings per acre, by gross sales size category, Texas, 2002 and 2007.

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