

***Appendix F***  
***Detailed Information for Agricultural Resources***



## **Appendix F**

### **Detailed Information for Agricultural Resources**

#### ***Irrigation***

Surveys of the BGRWPA counties were completed in 1994 by the TWDB and in 1997 and 2002 by the US Department of Commerce (Census of Agriculture). The agricultural production statistics from the 2002 census data for the counties in the Brazos G Regional Water Planning Area (BGRWPA) are given in Tables F-1 through F-3. The compiled irrigated acreage from the 1994 to 2002 surveys is shown in Table F-4. The total irrigated acreage for the BGRWPA was 214,096 acres in the 1994 survey, 202,442 acres in the 1997 survey, and 207,102 acres in 2002. Figures F-1 and F-2 show the 2002 distribution of cropland and irrigated acreage in the BGRWPA. Irrigated water use in the region in year 2000 is shown in Figure F-3.

Irrigated acreage declined from 1994 to the current time in the Cross Timbers Region by 19,600 acres. This decline was a result of a change in the governmental peanut program in the 1995 Farm Bill. The peanut-poundage quota was allowed to transfer across county lines, with the result that a significant portion of the peanut quota from the peanut growing counties of the Cross Timbers was moved to West Texas where the profits were greater from higher yields and lower costs of production. The movement of the peanut quota is thought to be the primary reason for the decrease of 21,128 irrigated acres in Comanche County. This decrease should not be regarded as a trend; the peanut quota transfer is largely complete (only 40 percent of the quota is allowed to transfer out of a county). The irrigated acres may increase in the future as profitable field, tree and horticultural irrigated crops increase. None of the irrigated acreage decrease was the result of a transfer of irrigation water to municipal use. The town of Comanche is not expanding into farmland with peanut production. Most of the irrigation water was from the Trinity Aquifer from individual wells and pumps. Some peanuts are irrigated with surface water from the Leon River and Lake Proctor.

Irrigated acreage decreased in Rolling Plains by 13,047 acres since 1994. The region is exhibiting a trend toward dry land crops such as small grains, hay and silage. Haskell and Knox Counties are the largest irrigating counties in the BGRWPA totaling 53,927 acres which declined 11,975 acres since 1994.

The Blackland, and Southeast and Central Regions showed an increase of irrigation acreage. Most of these counties are located along the Brazos River. Corn acreage increased to more than 450,000 acres in the Blacklands, an increase of 181,439 acres over 1994. Corn is a large water user. A full season (120 days) commercial hybrid requires approximately 20 to 25 gallons from seedling to maturity. Multiplied by a final population of 22,000 to 26,000 plants per acre, classifies corn as a high maintenance crop.

### **Livestock**

The Cross Timbers region is a major dairy area of the state. Erath County is the leading county in milk production, Comanche County ranks third, Hamilton County is sixth and Johnson County ranks eighth. The 199 farms in these four counties produce over 38 percent of the milk in Texas in 2002. Dairy water requirements vary widely, depending on the types of waste removal and cow washing systems. Surveys of 11 dairies in Erath County in the early 1990s showed a daily water use of about 100 gallons per milking cow on dairies with sprinklers for washing cow udders prior to milking. The water use included about 30 gallons of drinking water, 40 gallons for manure removal and 30 gallons for washing cow udders prior to milking. If the dairy does not use a cow washing system, the daily water use averaged about 80 gallons per milking cow. For an average of 100 gallons of water per day per milking cow, the BGRWPA dairy water use for 118,106 milking cows is 1,087 acre feet per month. The source of this water is virtually all ground water from the Trinity Aquifer as each dairy has its own water supply. With farm numbers declining and size increasing more producers are adopting the latest technology to increase profitability. The evolution from pasture and dry lot to free stall barns will require greater water use. Misting and evaporative systems for summer months will be needed for animal cooling purposes. Manure removal, sanitation, and disinfection will elevate water use as well

Other significant livestock raised in the BGRWPA in 2002 were beef cattle, swine, and sheep. Total number of swine and sheep of all ages were 21,825 and 59,734, respectively. Beef cows numbered 784,668 head and all cattle and calves totaling 2,392,991. Figure F-4 represents livestock water use in 2000 for the BGRWPA.

**Table F-1.  
2002 Agricultural Production Statistics**

Agricultural District	Market Value (\$1,000)			Livestock	Area (acres)			
	Crops	Livestock	Total	% value	Farmland	Cropland	Harvested	Irrigated
<b>Rolling Plains (2N and 2S)</b>								
Fisher	9,862	9,053	18,915	48%	479,270	229,332	98,490	3,284
Haskell	26,513	14,283	40,796	35%	491,957	332,159	229,991	30,894
Jones	19,347	19,877	39,224	51%	517,244	352,336	198,863	3,701
Kent	680	4,601	5,281	87%	560,695	75,302	NA	1,300
Knox	14,691	31,489	46,180	68%	564,263	218,743	125,275	23,033
Nolan	7,105	6,288	13,393	47%	481,183	151,786	68,909	2,987
Stonewall	3,051	5,978	9,029	66%	524,308	120,936	40,323	1,454
Taylor	6,519	48,893	55,412	88%	533,937	227,440	94,860	2,434
<i>Subtotal, Rolling Plains</i>	<i>87,768</i>	<i>140,462</i>	<i>228,230</i>	<i>62%</i>	<i>4,152,857</i>	<i>1,708,034</i>	<i>856,711</i>	<i>69,087</i>
<b>Cross Timbers (3)</b>								
Callahan	2,024	14,859	16,883	88%	515,396	128,993	37,230	1,331
Comanche	14,637	87,876	102,513	86%	543,386	225,401	102,541	21,283
Eastland	9,101	21,257	30,358	70%	498,047	192,143	62,926	14,594
Erath	9,968	197,746	207,714	95%	580,627	212,494	86,406	14,505
Hood	4,123	17,606	21,729	81%	202,131	75,814	27,690	3,433
Palo Pinto	2,384	12,950	15,334	84%	484,964	110,578	29,024	1,902
Shackelford	1,267	13,783	15,050	92%	557,102	55,661	24,178	550
Somervell	519	1,507	2,026	74%	84,262	21,777	6,736	129
Stephens	497	8,260	8,757	94%	427,859	69,531	15,509	195
Throckmorton	2,435	13,984	16,419	85%	561,306	92,858	38,581	NA
Young	1,721	22,205	23,926	93%	509,721	143,433	36,372	114
<i>Subtotal, Cross Timbers</i>	<i>48,676</i>	<i>412,033</i>	<i>460,709</i>	<i>89%</i>	<i>4,964,801</i>	<i>1,328,683</i>	<i>467,193</i>	<i>58,036</i>
<b>Blacklands (4)</b>								
Bell	17,454	23,378	40,832	57%	450,923	233,430	144,185	2,690
Bosque	11,760	26,190	37,950	69%	562,851	136,770	46,538	1,592
Coryell	5,149	29,541	34,690	85%	493,087	164,982	68,258	1,050
Falls	17,479	50,515	67,994	74%	408,692	261,496	134,925	1,424
Hamilton	2,623	38,980	41,603	94%	449,671	125,290	47,635	1,064
Hill	29,808	24,210	54,018	45%	504,322	294,300	211,217	3,864
Johnson	6,754	36,847	43,601	85%	362,004	167,128	80,868	1,004
Lampasas (7)	1,353	12,022	13,375	90%	412,491	80,181	20,748	445
Limestone	4,142	28,637	32,779	87%	529,924	205,322	60,169	539
McLennan	21,722	39,330	61,052	64%	538,473	298,447	187,338	3,194
Milam	17,655	54,695	72,350	76%	576,809	246,893	127,795	2,631
Williamson	30,588	15,808	46,396	34%	583,009	304,568	217,331	3,810
<i>Subtotal, Blacklands</i>	<i>166,487</i>	<i>380,153</i>	<i>546,640</i>	<i>70%</i>	<i>5,872,256</i>	<i>2,518,807</i>	<i>1,347,007</i>	<i>23,307</i>
<b>Southeast and Central (5S and 8N)</b>								
Brazos	8,846	38,215	47,061	81%	308,814	116,660	48,579	14,001
Burleson	10,424	25,824	36,248	71%	388,982	131,265	66,466	17,415
Grimes	4,512	27,284	31,796	86%	414,887	131,142	40,017	2,659
Lee	4,270	809	5,079	16%	366,367	112,681	34,295	2,377
Robertson	11,513	63,218	74,731	85%	515,311	171,078	73,565	19,179
Washington	6,690	1,184	7,874	15%	354,813	151,429	54,740	1,041
<i>Subtotal, Southeast and Central</i>	<i>46,255</i>	<i>156,534</i>	<i>202,789</i>	<i>77%</i>	<i>2,349,174</i>	<i>814,255</i>	<i>317,662</i>	<i>56,672</i>
<b>Region Totals</b>	<b>349,186</b>	<b>1,089,182</b>	<b>1,438,368</b>	<b>76%</b>	<b>17,339,088</b>	<b>6,369,779</b>	<b>2,988,573</b>	<b>207,102</b>
Source: 2002 Census of Agriculture <a href="http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_002_002.pdf">http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_002_002.pdf</a> <a href="http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_008_008.pdf">http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_008_008.pdf</a> <a href="http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_010_010.pdf">http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_010_010.pdf</a>								

**Table F-2.**  
**Livestock Numbers—2002 Census of Agriculture**

<i>Agricultural District</i>	<i>Cattle and Calves</i>	<i>Beef Cows</i>	<i>Dairy Cows</i>	<i>Swine</i>	<i>Sheep</i>
<b>Rolling Plains (2N and 2S)</b>					
Fisher	29,352	NA	NA	361	468
Haskell	42,274	8,631	62	254	66
Jones	49,433	13,514	85	650	441
Kent	17,471	10,923	38	0	NA
Knox	68,576	9,086	19	0	0
Nolan	13,413	NA	NA	50	840
Stonewall	23,990	12,300	0	105	NA
Taylor	42,148	12,849	225	1,361	1,808
<i>Subtotal, Rolling Plains</i>	<i>286,657</i>	<i>67,303</i>	<i>429</i>	<i>2,781</i>	<i>3,623</i>
<b>Cross Timbers (3)</b>					
Callahan	49,922	NA	NA	160	898
Comanche	112,412	42,547	23,500	725	3,121
Eastland	63,653	35,644	810	186	849
Erath	163,698	35,452	66,680	464	3,363
Hood	30,059	NA	NA	123	606
Palo Pinto	39,615	21,450	558	257	830
Shackelford	33,814	14,456	89	111	NA
Somervell	6,876	3,954	12	17	489
Stephens	25,334	13,627	9	NA	361
Throckmorton	41,300	18,465	28	15	0
Young	57,530	20,796	150	304	227
<i>Subtotal, Cross Timbers</i>	<i>624,213</i>	<i>206,391</i>	<i>91,836</i>	<i>2,362</i>	<i>10,744</i>
<b>Blacklands (4)</b>					
Bell	51,149	NA	NA	1,957	3,465
Bosque	59,941	NA	NA	281	1,790
Coryell	73,347	30,728	0	913	4,779
Falls	115,092	NA	NA	101	707
Hamilton	63,734	25,812	8,241	92	11,768
Hill	63,681	34,604	2,906	578	1,830
Johnson	67,520	27,436	8,080	823	1,111
Lampasas (7)	37,090	19,597	347	155	8,434
Limestone	117,280	55,950	232	142	609
McLennan	98,194	39,858	3,505	944	2,649
Milam	113,853	65,822	74	489	1,122
Williamson	67,487	32,923	387	1,407	3,737
<i>Subtotal, Blacklands</i>	<i>928,368</i>	<i>332,730</i>	<i>23,772</i>	<i>7,882</i>	<i>42,001</i>
<b>Southeast and Central (5S and 8N)</b>					
Brazos	67,675	NA	NA	2,326	952
Burleson	86,731	NA	NA	577	508
Grimes	86,935	58,239	441	1,298	178
Lee	91,579	NA	NA	3,460	1,008
Robertson	112,588	67,016	610	565	161
Washington	108,245	52,989	1,018	574	559
<i>Subtotal, Southeast and Central</i>	<i>553,753</i>	<i>178,244</i>	<i>2,069</i>	<i>8,800</i>	<i>3,366</i>
<b>Region Total</b>	<b>2,392,991</b>	<b>784,668</b>	<b>118,106</b>	<b>21,825</b>	<b>59,734</b>
Source: 2002 Census of Agriculture <a href="http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_001_001.pdf">http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_001_001.pdf</a>					

**Table F-3.  
Selected Crop Acreages—2002 Census of Agriculture**

Agricultural District	Grains			Cotton	Soybeans	All Hay & Silage	Peanuts	Total in County
	Corn	Sorghum	Wheat					
<b>Rolling Plains (2N and 2S)</b>								
Fisher	0	5,160	10,252	72,194	0	12,534	0	100,140
Haskell	NA	9,845	107,486	95,227	0	12,779	6,078	231,415
Jones	0	13,945	83,859	84,671	0	21,453	178	204,106
Kent	0	455	4,723	2,171	0	5,141	NA	12,490
Knox	0	1,662	89,863	22,875	0	8,727	169	123,296
Nolan	0	4,963	5,247	49,668	0	9,704	0	69,582
Stonewall	0	NA	25,508	7,729	0	6,877	518	40,632
Taylor	NA	6,233	54,187	13,140	0	21,199	0	94,759
<i>Subtotal, Rolling Plains</i>	<i>0</i>	<i>42,263</i>	<i>381,125</i>	<i>347,675</i>	<i>0</i>	<i>98,414</i>	<i>6,943</i>	<i>876,420</i>
<b>Cross Timbers (3)</b>								
Callahan	NA	317	17,379	0	0	18,254	14	35,964
Comanche	364	1,966	3,772	0	0	63,564	4,530	74,196
Eastland	NA	369	3,434	NA	0	47,077	6,412	57,292
Erath	NA	724	1,818	0	NA	73,677	805	77,024
Hood	NA	100	380	0	0	23,327	NA	23,807
Palo Pinto	NA	108	1,446	0	NA	23,628	NA	25,182
Shackelford	0	397	14,602	1,741	0	7,222	0	23,962
Somervell	0	NA	0	0	0	6,045	3	6,048
Stephens	0	NA	7,590	0	0	6,896	0	14,486
Throckmorton	0	1,812	27,709	2,027	0	6,889	0	38,437
Young	14	649	12,446	1,010	0	21,073	0	35,192
<i>Subtotal, Cross Timbers</i>	<i>378</i>	<i>6,442</i>	<i>90,576</i>	<i>4,778</i>	<i>0</i>	<i>297,652</i>	<i>11,764</i>	<i>411,590</i>
<b>Blacklands (4)</b>								
Bell	67,421	18,363	17,372	747	613	36,015	NA	140,531
Bosque	1,003	1,215	3,475	0	NA	36,020	0	41,713
Coryell	6,180	7,371	13,315	NA	NA	29,008	0	55,874
Falls	74,311	10,723	8,454	NA	1,593	36,934	0	132,015
Hamilton	1,043	2,076	3,932	0	NA	27,574	0	34,625
Hill	44,251	43,529	48,118	15,387	312	48,822	0	200,419
Johnson	1,539	8,053	12,769	623	394	55,173	0	78,551
Lampasas (7)	NA	0	1,746	NA	0	15,633	NA	17,379
Limestone	11,786	870	1,037	1,467	0	43,801	0	58,961
McLennan	61,351	17,153	34,975	3,262	3,048	55,585	0	175,374
Milam	57,326	15,031	3,008	5,482	NA	46,106	NA	126,953
Williamson	124,507	30,333	11,194	9,506	0	40,530	30	216,100
<i>Subtotal, Blacklands</i>	<i>450,718</i>	<i>154,717</i>	<i>159,395</i>	<i>36,474</i>	<i>5,960</i>	<i>471,201</i>	<i>30</i>	<i>1,278,465</i>
<b>Southeast and Central (5S and 8N)</b>								
Brazos	4,928	2,288	NA	11,536	NA	26,588	0	45,340
Burleson	14,273	7,741	1,582	7,739	3,719	32,640	NA	67,694
Grimes	NA	NA	NA	NA	0	35,695	0	35,695
Lee	2,129	357	223	NA	NA	29,775	638	33,122
Robertson	7,018	2,385	166	14,979	NA	47,421	NA	71,969
Washington	1,602	670	NA	NA	0	49,724	NA	51,996
<i>Subtotal, Southeast and Central</i>	<i>29,950</i>	<i>13,441</i>	<i>1,971</i>	<i>34,254</i>	<i>3,719</i>	<i>221,843</i>	<i>638</i>	<i>305,816</i>
<b>Region Total</b>	<b>295,291</b>	<b>312,068</b>	<b>703,385</b>	<b>461,376</b>	<b>13,757</b>	<b>1,006,915</b>	<b>53,900</b>	<b>2,846,692</b>
Source: 2002 Census of Agriculture, <a href="http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_023_023.pdf">http://www.nass.usda.gov/census/census02/volume1/tx/st48_2_023_023.pdf</a>								

**Table F-4.  
Summary of Irrigation Surveys**

Agricultural District	Irrigated Acreage		
	1994 TWDB Survey	1997 US Agricultural Census	2002 US Agricultural Census
<b>Rolling Plains (2N and 2S)</b>			
Fisher	1,785	1,838	3,284
Haskell	30,402	34,313	30,894
Jones	8,975	5,431	3,701
Kent	1,133	905	1,300
Knox	35,500	28,347	23,033
Nolan	2,562	2,581	2,987
Stonewall	647	605	1,454
Taylor	1,130	317	2,434
<i>Subtotal, Rolling Plains</i>	<i>82,134</i>	<i>74,337</i>	<i>69,087</i>
<b>Cross Timbers (3)</b>			
Callahan	1,355	761	1,331
Comanche	42,411	44,972	21,283
Eastland	13,280	13,280	14,594
Erath	14,155	15,094	14,505
Hood	3,919	4,064	3,433
Palo Pinto	537	371	1,902
Shackelford	299	212	550
Somervell	810	474	129
Stephens	870	393	195
Throckmorton	0	0	* 0
Young	0	0	114
<i>Subtotal, Cross Timbers</i>	<i>77,636</i>	<i>79,621</i>	<i>58,036</i>
<b>Blacklands (4)</b>			
Bell	1,212	956	2,690
Bosque	2,136	1,999	1,592
Coryell	330	363	1,050
Falls	5,057	4,763	1,424
Hamilton	775	1,092	1,064
Hill	283	259	3,864
Johnson	0	0	1,004
Lampasas (7)	243	380	445
Limestone	0	0	539
McLennan	1,180	2,613	3,194
Milam	799	638	2,631
Williamson	0	0	3,810
<i>Subtotal, Blacklands</i>	<i>12,015</i>	<i>13,063</i>	<i>23,307</i>
<b>Southeast and Central (5S and 8N)</b>			
Brazos	10,250	8,542	14,001
Burleson	13,512	8,410	17,415
Grimes	277	431	2,659
Lee	703	565	2,377
Robertson	17,381	17,381	19,179
Washington	188	92	1,041
<i>Subtotal, Southeast and Central</i>	<i>42,311</i>	<i>35,421</i>	<i>56,672</i>
<b>Region Total</b>	<b>214,096</b>	<b>202,442</b>	<b>207,102</b>
Source of 2002 data: <a href="http://www.usda.gov/nass/census/census02/volume1/tx/st48_2_010_010.pdf">http://www.usda.gov/nass/census/census02/volume1/tx/st48_2_010_010.pdf</a>			
* Withheld to avoid disclosing data for individual farms			









