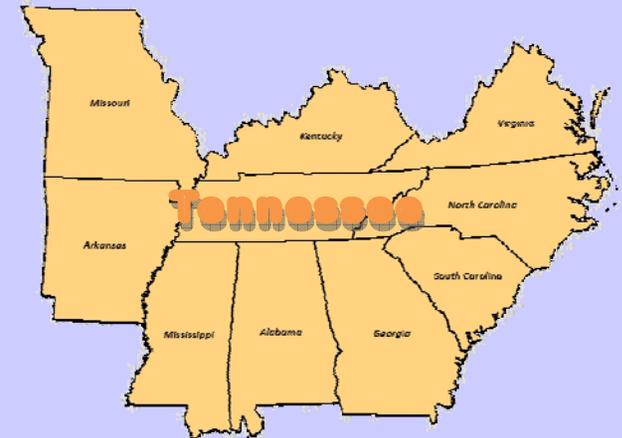




Tennessee Crops and Livestock

***Information Flyer Set 4
for
Strategic Planning for Tennessee Agriculture***



Prepared by University of Tennessee Agricultural Modeling & Analysis Group, Drs. Kim Jensen (kjensen@utk.edu) and Burton English (benglish@utk.edu), and Mr. Jamey Menard (rmenard@utk.edu). Department of Agricultural & Resource Economics



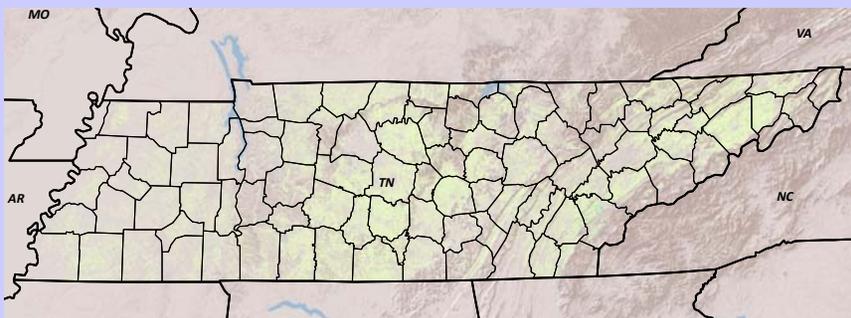
Crop Production In Tennessee: Hay

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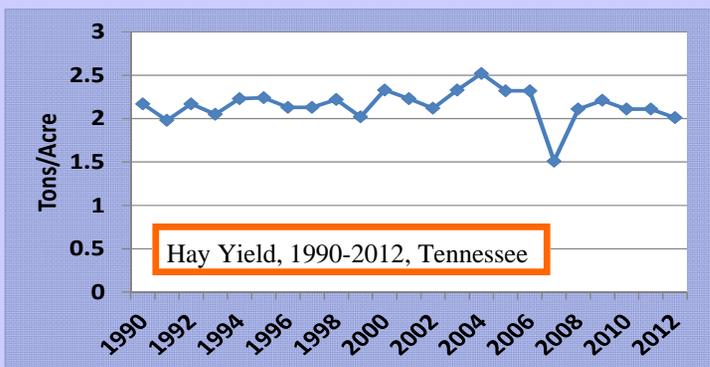
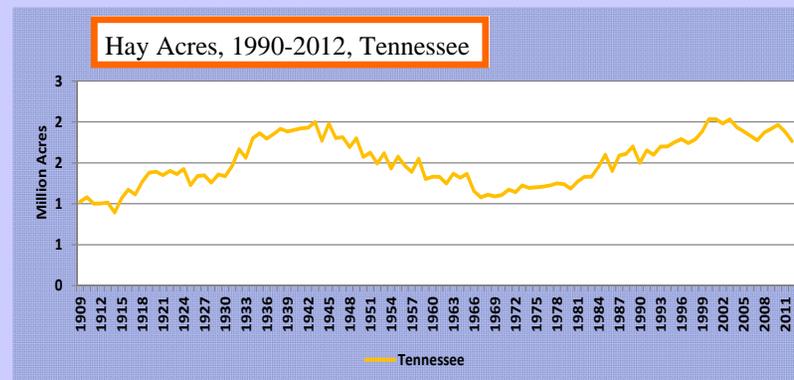
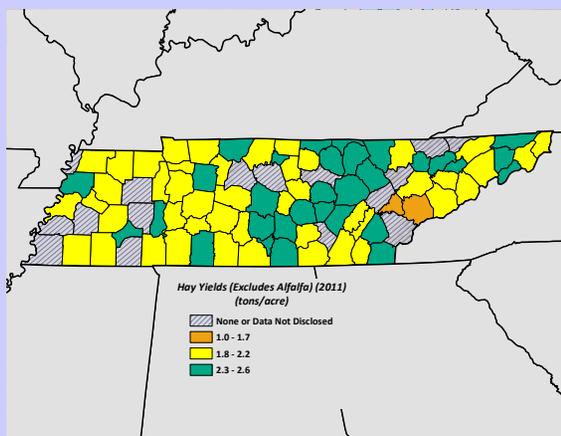
Strategic Planning for Agriculture

Grass is Produced Across the State



State	Proportion of Cropland in hay
Alabama	42%
Arkansas	18%
Georgia	18%
Kentucky	45%
Mississippi	15%
Missouri	29%
North Carolina	16%
South Carolina	22%
Tennessee	40%
Virginia	49%

- For 2011, 990,000 head of beef cows plus 50,000 head of dairy eat the hay produced on 1.8 million acres.
- Hay production in Tennessee equaled 3.5 million tons. With an average yield of slightly above 2 tons per acre.
- Average annual Tennessee hay prices as reported by NASS were less than \$60/ton between 1990 and 2005. However, since 2005, the hay price has been greater than \$70/ton and more variable.
- At 2.5 tons per acre, the breakeven cost of hay production according to Tennessee Extension budgets is \$120/ton for cool season grasses. If instead of nitrogen application, you add clover to the stand, the breakeven price is \$102/ton assuming a 2.5 ton/acre yield.
- Over 40% of Tennessee's cropland is in hay. Only Alabama, Kentucky, and Virginia have a higher percentage in hay than Tennessee.





Crop Production In Tennessee: Oilseeds

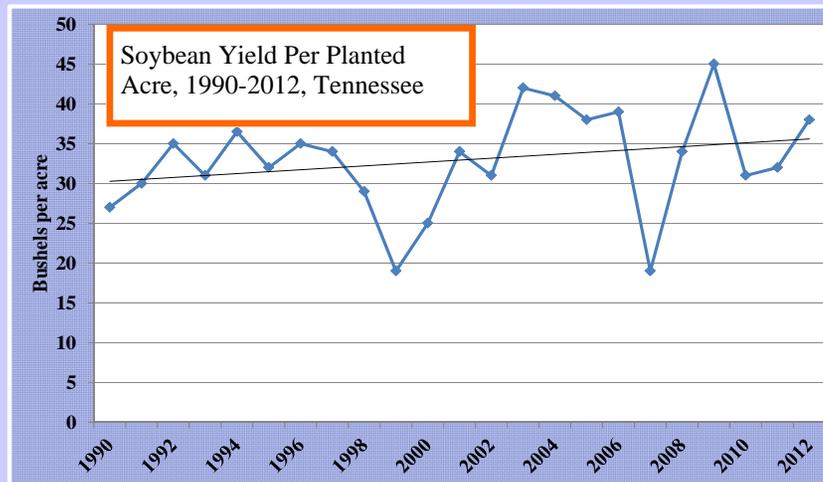
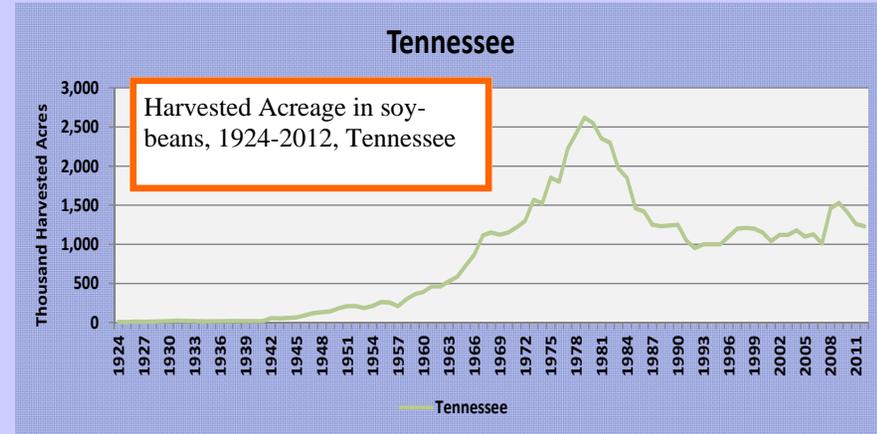
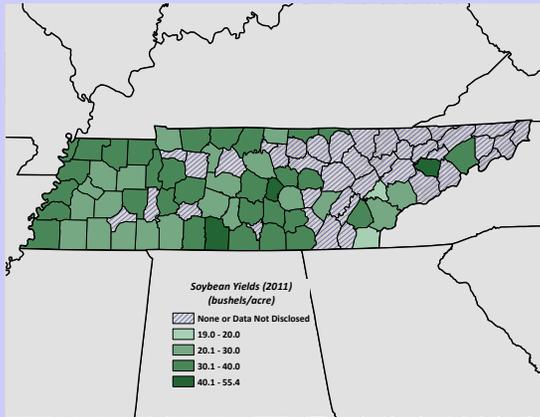
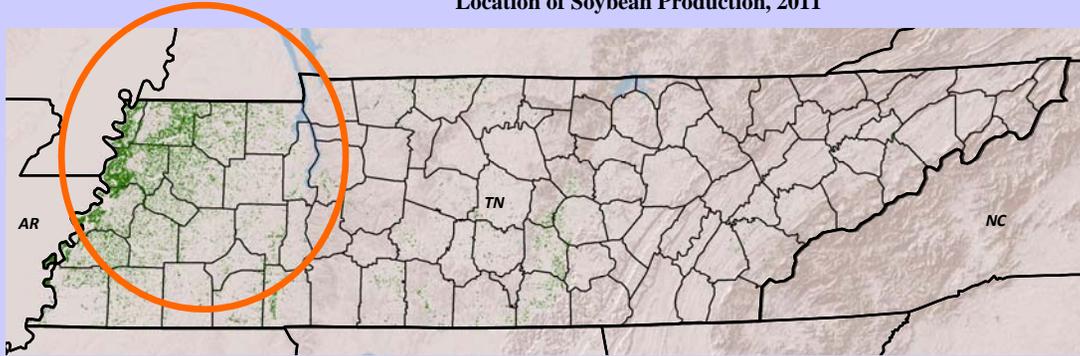
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- For 2011, cash receipts from Soybean production in Tennessee is \$461.3 million. Over 90% of the Soybeans required for production processes in the state are imported.
- In Tennessee, soybeans can be grown as a single crop or in a double crop rotation with wheat.
- Soybean production in Tennessee was 46.7 million bushels in 2012 and primarily occurs in the northwest part of the state.
- In the late 1970's and early 80's, soybean production was around 70 million bushels with over 2.6 million acres planted. In 2012, 1.2 million acres were harvested in soybeans.
- Of the states that border Tennessee Arkansas, Kentucky, Mississippi, Missouri, and North Carolina planted more soybean acreage than Tennessee.
- On the 1.23 million acres, 46.7 million bushels were produced with sales of nearly \$682.4 million.
- Average 2012 soybean yield in Tennessee per planted acre was 38 bushels. Average yield in 2011 was 32 bushels per acre. Highest recorded state average yield occurred in 2009 at 45 bushels per acre.

Location of Soybean Production, 2011





Crop Production In Tennessee: Grains

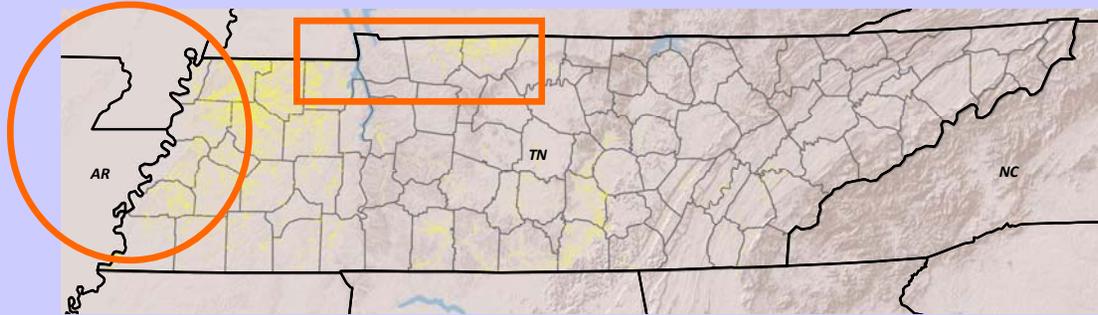
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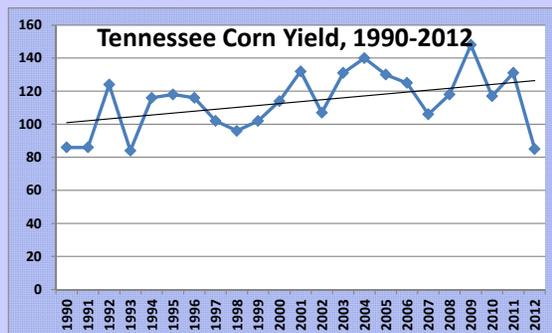
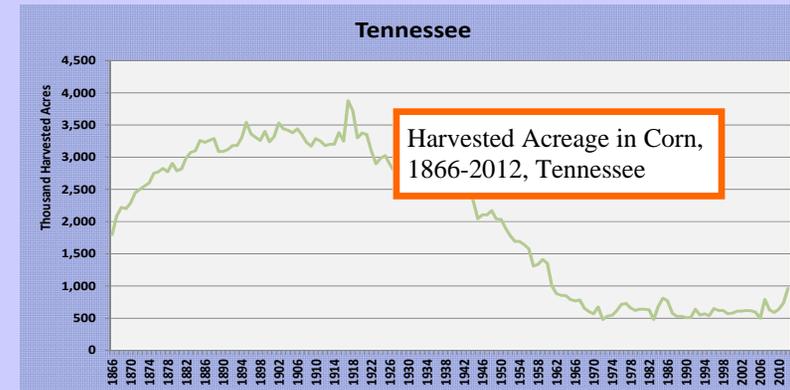
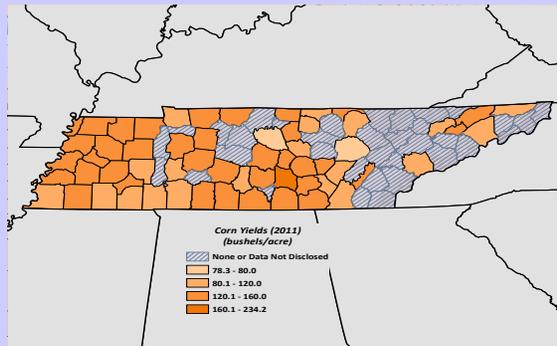
Strategic Planning for Agriculture

- For 2011, gross returns from grain production in Tennessee is \$456.1 million. Over 90% of the grains required for production processes in the state are imported.
- Grains grown in Tennessee in order of acreage include Corn, wheat, sorghum, oats, and barley.
- Corn production primarily occurs in the northwest and northern parts of the state.
- In the early part of the 20th century, corn production peaked with nearly 4 million acres planted to corn. In 2012, 960,000 acres was harvested in corn.
- Of the states that border Tennessee only Missouri and Kentucky plant more corn than Tennessee.
- On the 960,000 acres, 81.6 million bushels were produced with sales of nearly \$600 million.
- Average corn yield in Tennessee per planted acre was 85 bushels, the lowest level in since 1993 due to drought conditions. Average yield in 2011 was 131 bushels per acre. Highest recorded state average yield occurred in 2009 at 143 bushels per acre.

Location of Corn Production, 2011



Source: NASS Crop Layer





Crop Production In Tennessee: Cotton

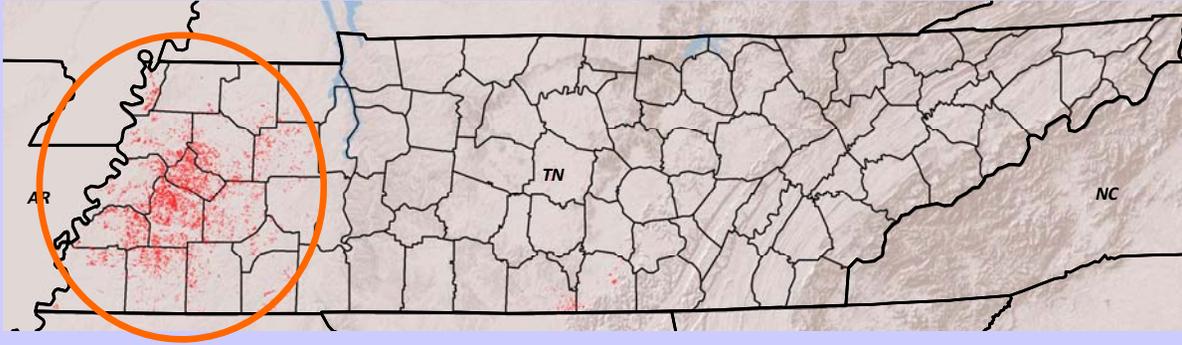
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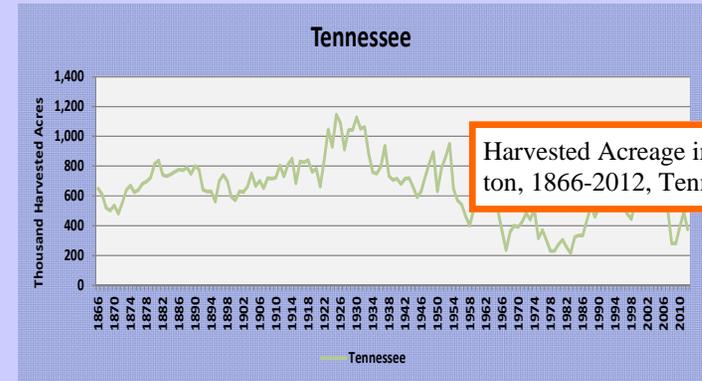
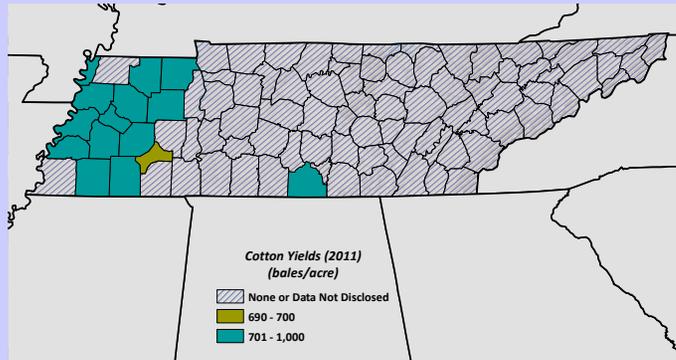
Strategic Planning for Agriculture

- For 2011, cash receipts from cotton production in Tennessee is \$401.1 million. Over 46% of the cotton required for production processes in the state are imported.
- Cotton production primarily occurs in the west with some in the south central parts of the state.
- Cotton acreage peaked in the 1930's with close to 1.2 million acres harvested in Tennessee. In 2006, cotton acreage had climbed from 300,000 acres in the 90's to 695,000. During the 2010-2012 time period, cotton acreage averaged 417,000 acres. In 2012, harvested cotton acres were estimated at 375,000.
- Of the states that border Tennessee Georgia, Arkansas, Mississippi, North Carolina, and Alabama plant more cotton than Tennessee.
- Average cotton yield in Tennessee per planted acre was 934 pounds per acre in 2012. During the 2000-2012 time period, cotton production ranged from a low of 565 pounds/acre in 2007 to a high of 945 in 2006. Tennessee has had average yields greater than 900 pounds/acre in 4 of the last 13 years and yields between 750 and 900 pounds in 7 of the past 13 years..

Location of Cotton Production, 2011

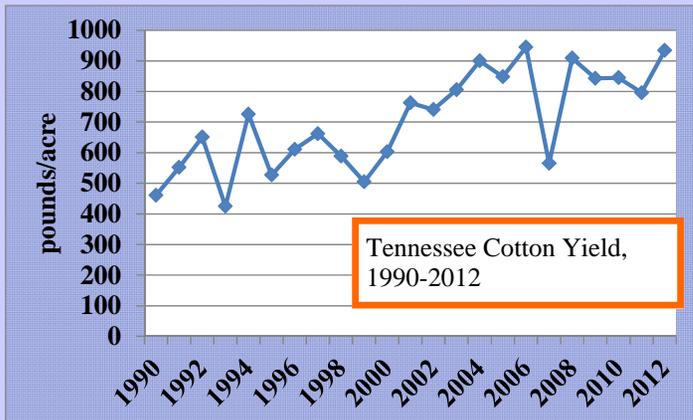


Source: NASS Crop Layer

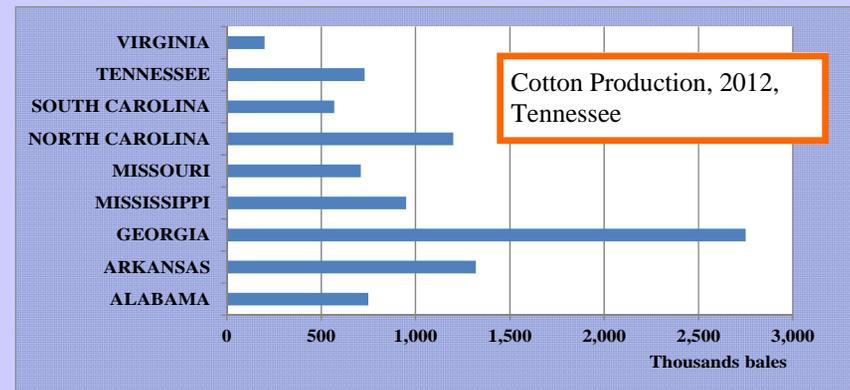


Harvested Acreage in Cotton, 1866-2012, Tennessee

Source: NASS



Tennessee Cotton Yield, 1990-2012



Cotton Production, 2012, Tennessee





Crop Production In Tennessee: Nursery & Greenhouse

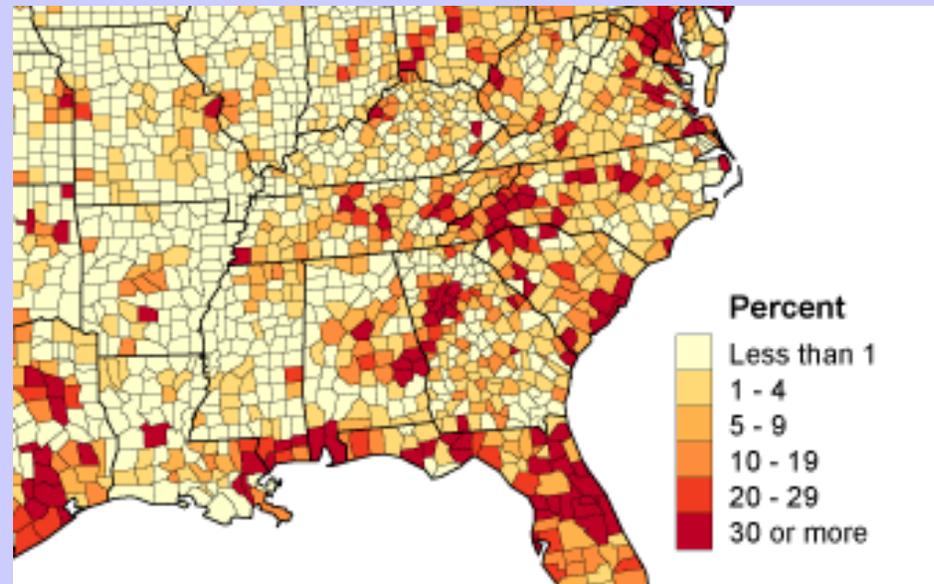
- Tennessee has several counties where the share of specialty crops such as nursery, greenhouse, vegetables, and tree nuts exceed 20%.
- In 2007, the Census reports that Tennessee had 177 million dollars in Nursery sales. This ranks 2nd in the study area with North Carolina highest at almost \$252 million.
- Tennessee's greenhouse area was estimated at 4.6 million sq. feet in 2007, an increase of 35% over a ten year period. During that same time frame, Alabama, Arkansas, Georgia, North Carolina, and South Carolina showed decreases.
- In 2007, Tennessee had the most open nursery acreage of all the states (33,485 acres). This was a 5% increase above the 1997 level but the lowest increase in acreage among the comparison states.
- According to ERS, specialty crop farm businesses (fruits, vegetables, and nursery/greenhouse) are forecast to experience a decline in average net farm income of more than 15 percent in 2013. While crop receipts are forecasted to remain the same, expenses are projected to increase. Labor expenses, 1/3 of all cash expenses, are forecast to increase 11% due to increasing wages and output. <http://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/farm-business-income.aspx>

Area in Nurseries, Open and Protected, 1997, 2002, and 2007, by State

State	Open Area (Acres)			Under Protection (Sq Feet)		
	1997	2002	2007	1997	2002	2007
Alabama	5,748	7,360	6,758	6,460,217	8,931,841	6,151,997
Arkansas	385	886	1,152	681,479	428,922	316,424
Georgia	4,972	8,438	7,991	4,210,217	4,928,904	3,633,707
Kentucky	4,564	5,422	3,951	443,326	759,618	1,096,239
Mississippi	657	1,067	1,525	431,599	406,933	760,614
Missouri	3,419	4,625	4,237	253,326	466,791	361,882
North Carolina	16,459	18,423	23,333	5,691,004	5,220,882	4,824,577
South Carolina	6,612	(D)	7,341	3,688,569	3,546,914	1,490,449
Tennessee	31,900	38,953	33,485	3,390,961	4,390,778	4,599,100
Virginia	10,445	11,062	11,955	2,093,861	2,986,186	5,711,566

Nursery Sales, 2007

State	Value
Alabama	99,704,294
Arkansas	(D)
Georgia	125,233,223
Kentucky	23,635,510
Mississippi	16,972,224
Missouri	25,335,095
North Carolina	251,810,276
South Carolina	91,395,683
Tennessee	177,221,588
Virginia	96,564,870



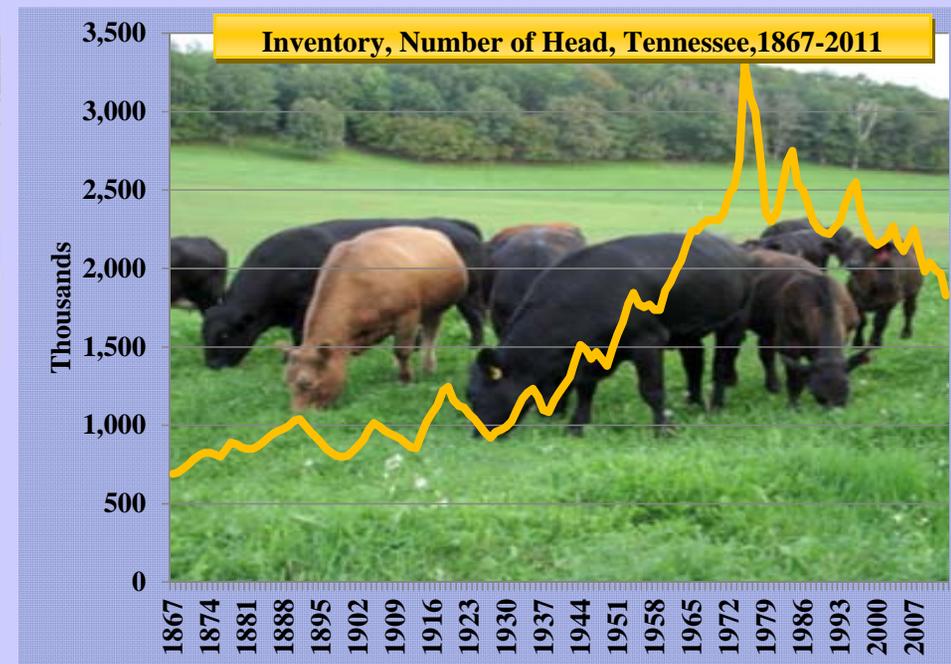
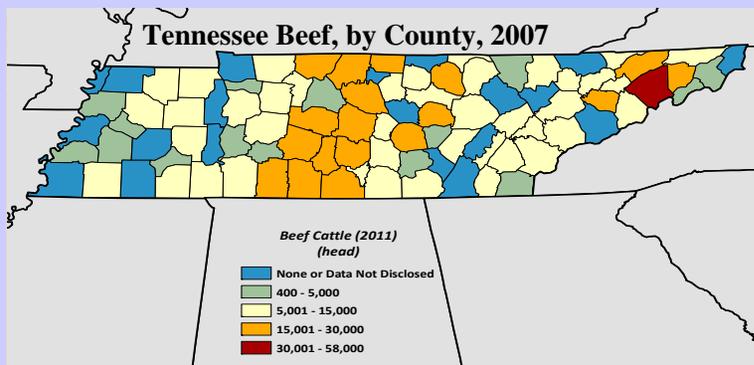
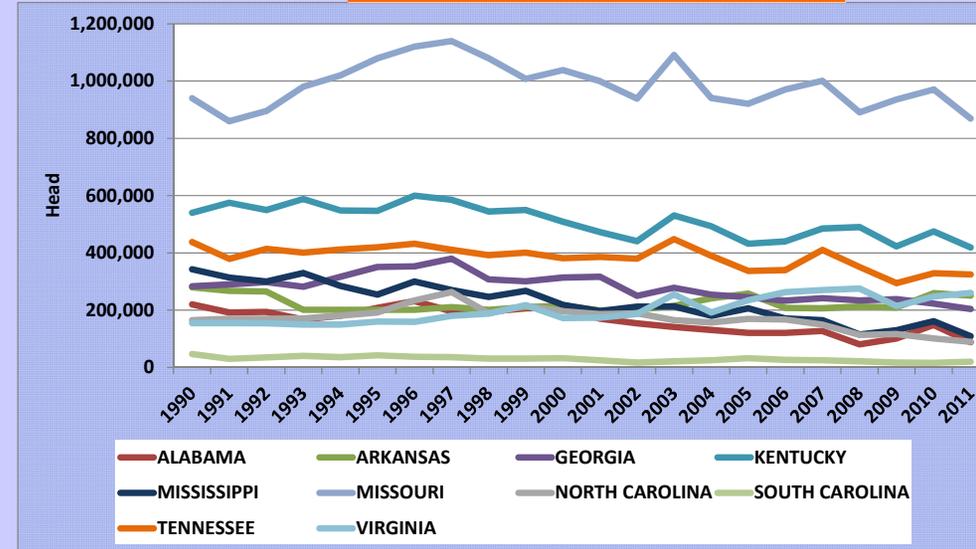


Tennessee Livestock: Beef

- In 2011, Cattle ranching and farming value of direct output was \$586 million.
- In 2011 according to NASS, Tennessee farmers sold 325,000 head weighing an average of
- The 2011 price received by producers (receipts/production) was \$0.96/pound. Over the past 5 years, the average price received was \$0.83/pound and over the last 22 years, the average price was \$0.71/pound (nominal dollars). Other states had higher prices received as they finished a larger percentage of their cattle.
- Cattle production is fairly concentrated in the central part of TN with a pocket of production in Northeast TN.
- If you purchase steer at \$516 (450 pounds) and feed on fescue, the breakeven price is \$1.10/pound assuming no return for land or management. (2007 \$)

Cattle prices by State for Various Years			
State	2011	Average (22 years)	Average (5 Years)
		\$/lb	
Alabama	0.91	0.71	0.79
Arkansas	0.91	0.71	0.84
Georgia	0.98	0.66	0.79
Kentucky	1.09	0.77	0.93
Mississippi	0.98	0.69	0.79
Missouri	1.24	0.85	1.00
North Carolina	0.95	0.69	0.76
South Carolina	0.90	0.68	0.80
Tennessee	0.97	0.71	0.83
Virginia	0.96	0.71	0.84

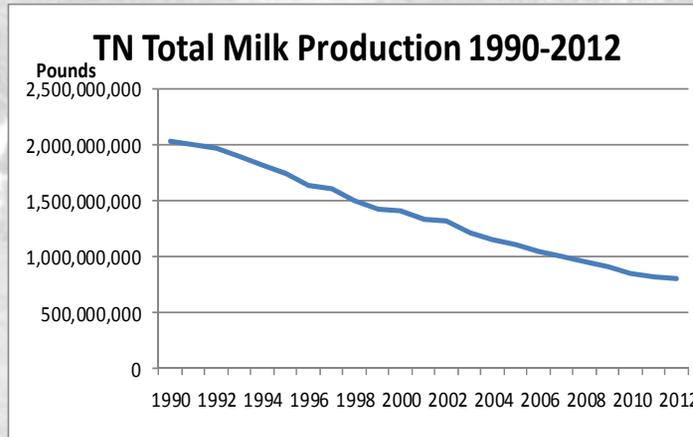
Beef Sales 1990-2012, Selected States



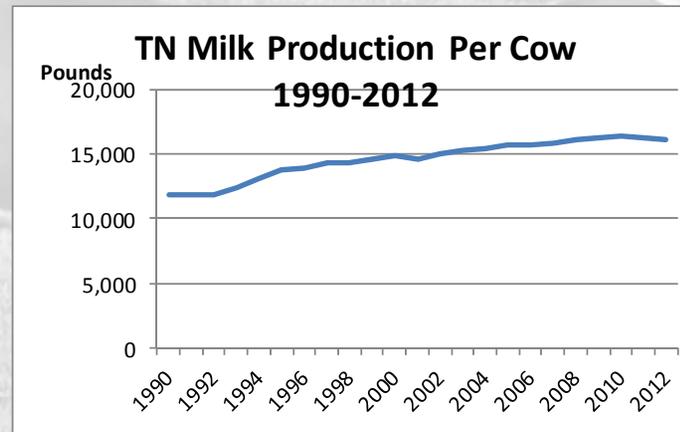


Tennessee Livestock: Dairy

- As can be seen in the charts, Tennessee milk production has fallen over time.
- While production per cow has increased, the number of operations with milk cows has decreased.
- Note that if the number of licensed dairy operations are considered, the current number of dairy farms is between 400 and 450.



Year	Licensed Dairy Herds
2006	650
2007	590
2008	550
2009	530
2010	490
2011	450





Tennessee Livestock: Pork

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- In 1990, Tennessee producers sold nearly 1.5 million head of hogs, barrows, and gilts. By 2011 this decreased to 390,000 head located primarily in northwest Tennessee.

- The hog December inventory has declined from a high of 670,000 head in 1991 to the current level of 150,000 head.

- The 2011 price received by producers (receipts/production) was \$54.00/cwt. Over the past 5 years, the average price received was \$45.80/cwt (nominal dollars). Other states had similar price levels. Georgia leads the region with a 5 year average of nearly \$50/cwt and Missouri has the lowest price in the study region.

- According to the Tennessee Department of Agriculture, cash receipts for hog and pig production was \$510 million in 2011.

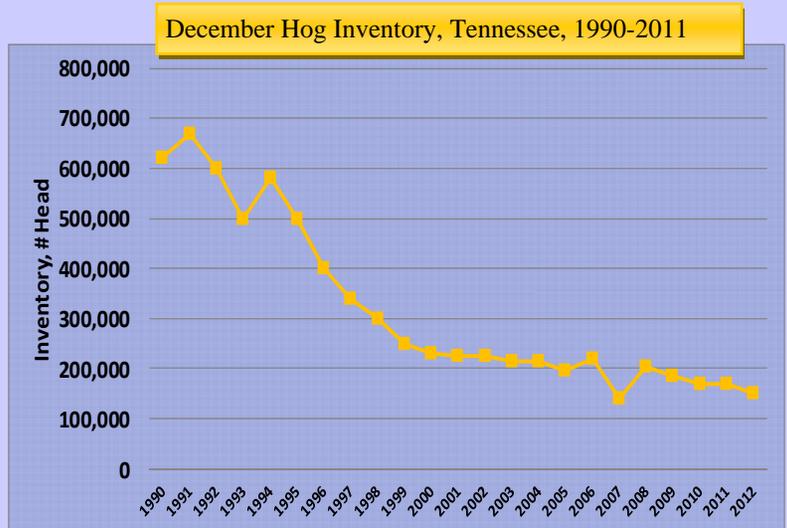
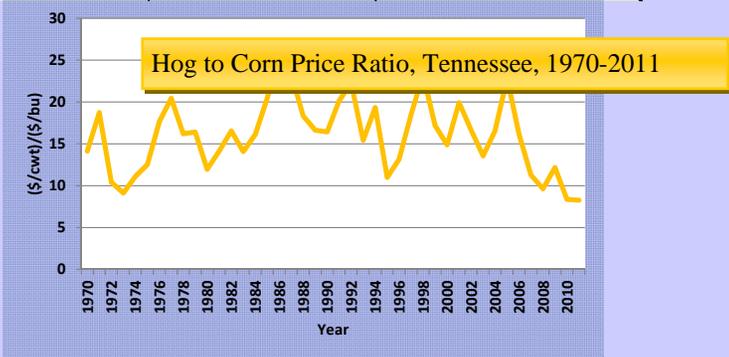
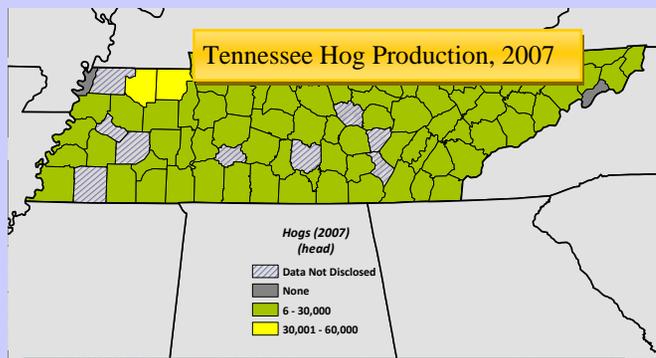
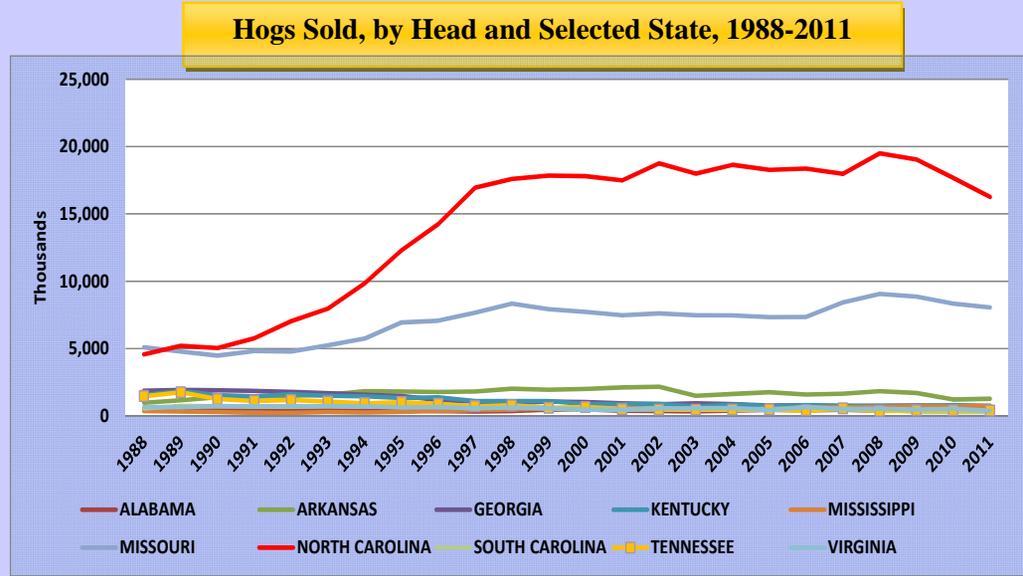
- Iowa Extension is forecasting a \$20 loss per hog this year as a result of feed costs. Tennessee hog to corn price ratio is

- In 2007, there were 140,000 head in the state with 36,000 in Weakly County and over 30,000 in Henry County. Lawrence, Franklin, Macon, and Gibson Counties had between 3 and 8 thousand head.

- The number of Tennessee farms with hogs has declined. In 1980 there were 33,000 farms that sold hogs. In 2007 there were 1,500. Over the past decade the number of farms fluctuated between 1,700 and 1,100.

Hog, Barrow, and Gilt Prices \$/cwt, 2010, Average 2006-2010, by State

State	2010	5 year average
Alabama	\$53.10	\$45.08
Arkansas	\$50.30	\$44.66
Georgia	\$55.60	\$49.52
Kentucky	\$54.80	\$46.12
Mississippi	\$51.00	\$44.26
Missouri	\$49.10	\$42.18
North Carolina	\$54.80	\$48.06
South Carolina	\$55.20	\$48.34
Tennessee	\$54.00	\$45.80
Virginia	\$53.00	\$46.60





Tennessee Livestock: Poultry

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Strategic Planning for Agriculture

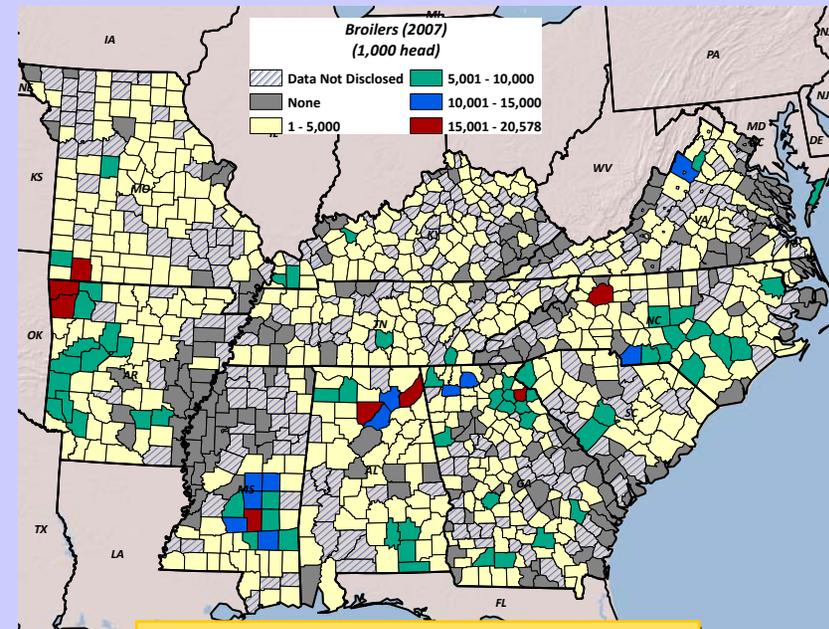
From the 2007 Ag Census data, Georgia was the leading state in numbers of layers and broilers and was second to Arkansas for pullets. Tennessee was last for the numbers of layers, pullets, and broilers.

For 2011, the states having the largest turkey production were N. Carolina, Arkansas, Missouri, Virginia and S. Carolina. For the five year period 2007 to 2011, the states with the largest average turkey production were N. Carolina, Missouri, Arkansas, Virginia, and S. Carolina.

The average federally inspected slaughtering of young chickens for Tennessee between 2001 and 2012 was 262.7 million head. Georgia was the largest at 1,250.6 head followed by Arkansas (1,085.9) and Alabama (1,047.5). Tennessee was ranked last for the surrounding states evaluated.

According to the Tennessee Department of Agriculture's 2011 annual summary, cash receipts for broilers, eggs, and farm chickens were \$461.1 million, \$9.7 million, and \$2.1 million, respectively.

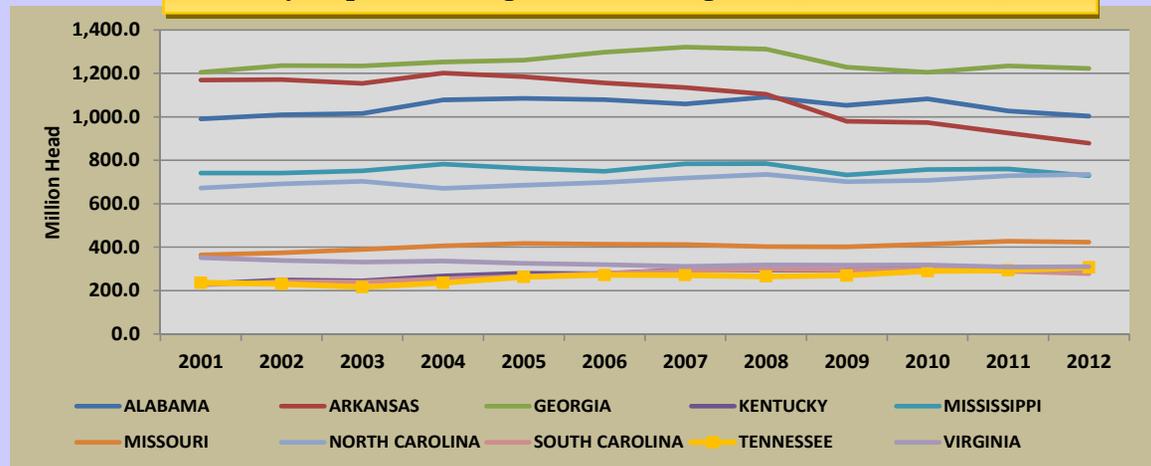
Selected Poultry Products by State, 2002 & 2007						
State	Layers		Pullets		Broilers	
	2002	2007	2002	2007	2002	2007
Number (1,000)						
Alabama	9,656	9,624	4,950	5,436	158,297	178,339
Arkansas	13,190	13,978	6,045	8,075	181,555	202,398
Georgia	20,022	19,273	7,385	7,675	204,678	235,400
Kentucky	4,343	4,585	1,583	1,797	44,714	49,777
Mississippi	5,386	6,237	2,479	3,591	134,738	150,597
Missouri	6,978	7,249	2,350	2,695	33,511	46,654
North Carolina	10,150	12,748	5,705	7,130	149,440	149,922
South Carolina	5,584	4,714	1,333	1,710	32,372	45,792
Tennessee	1,161	1,713	778	974	25,608	40,040
Virginia	3,222	3,208	1,277	1,188	45,430	43,745



Tennessee and Surrounding States Broiler Production, 2007

Turkey Production, Measured in Pounds, 2011, Average 2007-2011, by State		
State	2011	5 year average
1,000 lbs		
Arkansas	603,900	581,380
Missouri	568,750	611,840
North Carolina	1,132,800	1,109,390
South Carolina	448,500	433,848
Virginia	460,250	464,980

Federally Inspected Young Chickens Slaughtered, Selected States, 2001-





Tennessee Livestock: Sheep

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- From 1980 to 2007, the number of farms with sheep in the state has increased 188.9 percent.

- For 2010, Tennessee's sheep and lamb production was ranked 30th in the U.S. and ranked second in the nation in percentage growth.

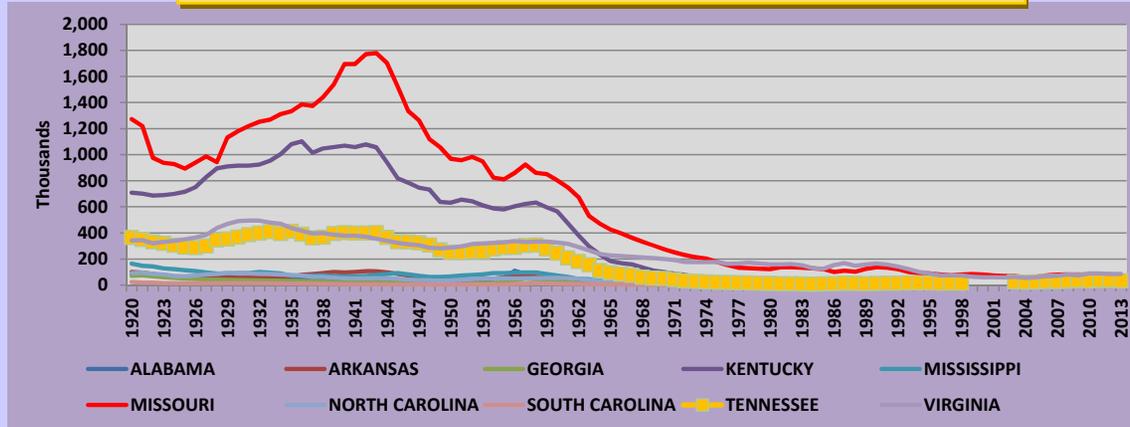
- Since 1984, Tennessee sheep prices (excludes lambs) have increased an average of 5.4 percent per year.

- For 2007, sheep and lamb numbers were estimated at 29,751 in Tennessee with Sullivan County having the largest number at 1,904 followed by Greene (1,523), Washington (1,431), Wilson (1,137), and Giles (983) Counties.

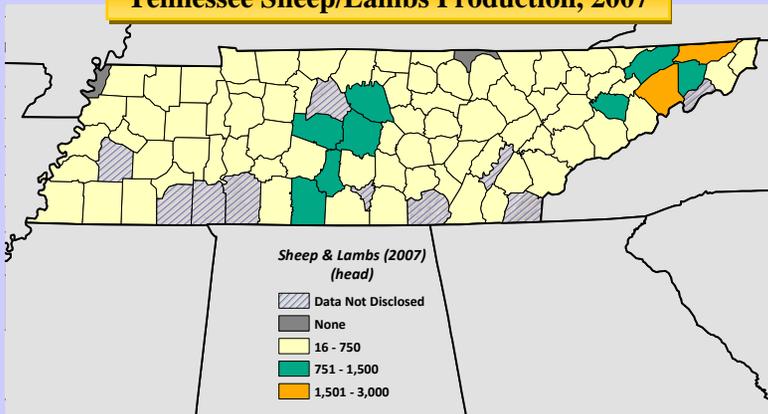
- The total pounds of wool produced in Tennessee for 2007 was 100,029 pounds. The largest wool produced counties were Sullivan at 10,454 pounds followed by Greene (7,194 pounds), Jefferson (4,604 pounds), Lincoln (3,951 pounds), and Wilson (3,734 pounds)

- According to the Tennessee Department of Agriculture's 2011 annual summary cash report, cash receipts for sheep and lamb production for 2010 totaled close to \$2.5 million.

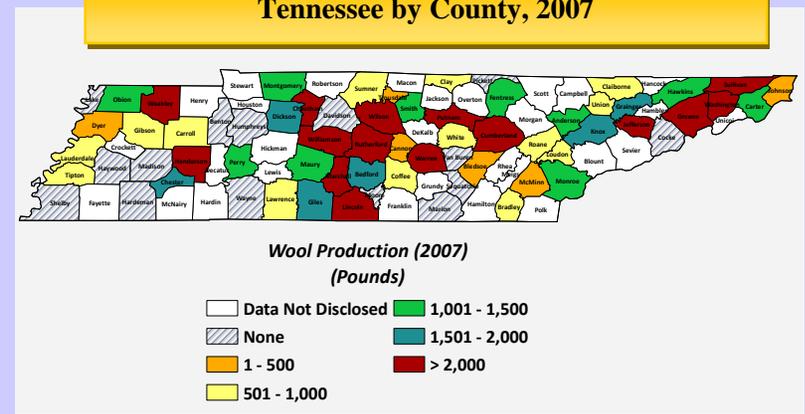
Sheep & Lamb Inventory, Head and Selected States, 1920-2011



Tennessee Sheep/Lambs Production, 2007



Pounds of Wool Produced on Sheep/Lamb Farms in Tennessee by County, 2007



Sheep (Excl Lambs) Prices Received, Measured in \$/cwt, 2010, Average 2006-2010, by State

State	2010	5 year average
Kentucky	\$55.30	\$41.44
Missouri	\$52.40	\$37.66
North Carolina	\$50.00	\$40.60
Tennessee	\$50.00	\$38.60
Virginia	\$51.30	\$39.56

Wool Productions, Measured in Pounds, 2012, Average 2008-2012, by State

State	2012	5 year average
Kentucky	95,000	83,000
Missouri	270,000	335,000
North Carolina	35,000	37,400
Tennessee	100,000	102,000
Virginia	200,000	188,000

