

An Analysis of the Economic Impacts from the Tennessee Agricultural Enhancement Program (TAEP)

FY06-FY19



Report to the Tennessee Department of Agriculture

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Background

Established in 2005, the Tennessee Agricultural Enhance Program (TAEP) is designed to support agriculture in Tennessee by providing cost share funds to producers for long-term investment on Tennessee farms and rural communities. The purposes of these cost share programs are to help producers maximize farm profits, adapt to changing market situations, improve operation safety, and increase farm efficiency. In addition, TAEP enhances the economic impacts that producers can make in their local communities. The TAEP is funded through an appropriation for farm developments in the state’s budget as proposed by Governor Bill Lee and supported by the Tennessee General Assembly and administered by the Tennessee Department of Agriculture (TDA) (TDA, 2019).

Overview of Projected Impacts

- For fiscal years FY06 through FY19, state investment in the TAEP program totals \$185.3 million.
- The overall economic impacts from the TAEP on the state’s economy is \$1.1 billion from FY06 through FY19.
- For every \$1 of TAEP investment, an additional **\$6.09** is generated in the state’s rural economies (multiplier includes the estimated total economic impacts from both TAEP funds + producers’ matching funds). Note: the analysis assumes that the producer would not have used the funds that they provided for purchases of other inputs and/or living expenses within the community they live in.

Tennessee county level TAEP expenditures and projects for FY06 through FY18 are detailed in Figures 1 and 2.

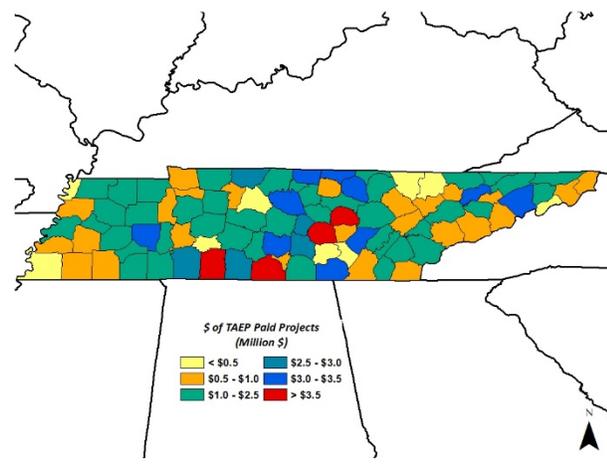


Figure 1. Expenditures of TAEP Paid Projects from FY06-FY18

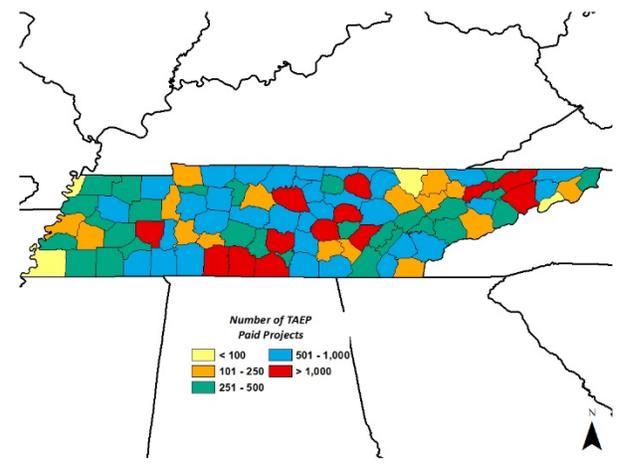


Figure 2. Number of TAEP Paid Projects from FY06-FY18

About this Analysis

This analysis provides projections of the economic impacts resulting from the TAEP for fiscal years 2006-2019 (FY06-FY19). Economic impacts from eight major program focus areas are projected: Livestock Equipment, Genetics, Producer Diversification, Hay Storage, Livestock Solutions, Grain Storage, Working Facility Cover, and

Poultry Grower. The Tennessee Department of Agriculture (TDA) provided budget information to AIM-AG for this analysis. TDA also provided estimates as to the share of producer funding within each grouping.

To project the economic impacts of TDA and producer expenditures on the TAEP, program expenditures were used along with IMPLAN, an economic input-output model. The change in economic activity is defined as the value of production by an industry per year added to the state's economy as a result of the impact analyzed.

Two types of effects are presented:

- **Direct effects** are the immediate effects associated with the change in the final demand for a particular industry. For example, an increase in the final demand for soybeans of \$10 million will cause the farm sector to produce \$10 million worth of soybeans.
- **Total effects** include Direct + Indirect + Induced. Results are presented as Direct + Multiplier effects where Multiplier = Indirect + Induced. **Indirect effects** are the secondary effects (input suppliers) or production changes in backward-linked industries caused when inputs needs change due to the impact of directly affected industries. **Induced effects** is the response by all local industries caused by increased expenditures of new household income generated from the direct and indirect effects of the change in final demand for a specific industry.

All dollar values in the document are in nominal dollars.

For each program focus area, a table indicating past and current TDA and participating producers' expenditures is presented, along with the proportioned cost-shared for that particular fiscal year. A table showing the economic impacts of these expenditures is then provided. After economic impacts for each program focus areas are shown, an overall summary of totals across the TAEP focus areas is presented. Based on the expenditure data from FY06 through FY19, Livestock Equipment had the largest percent of the total TAEP expenditures at 31.6 percent, followed by Hay Storage (30.8 percent), and Livestock Solutions (11.0 percent) (Figure 3).

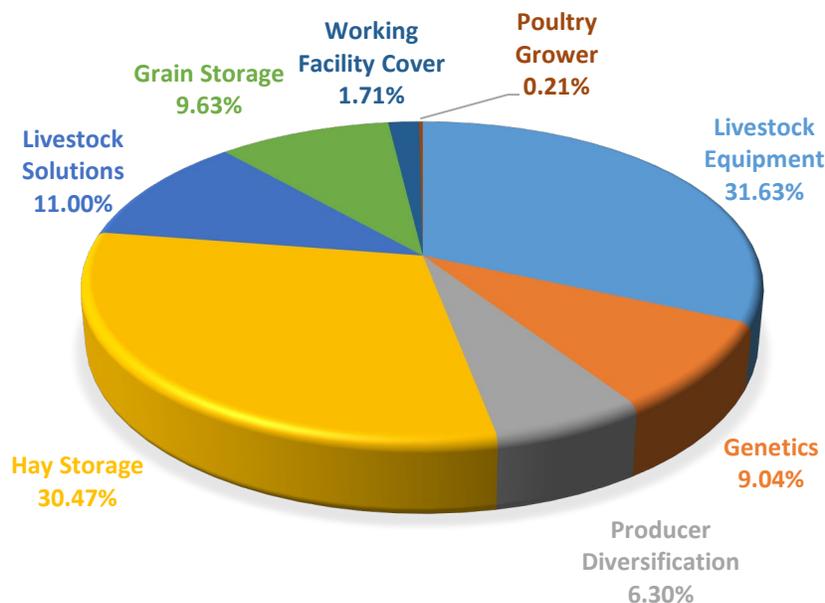


Figure 3. Proportion of Expenditures for the TAEP Program.

Genetics: assists producers in improving the genetics in their operations – increasing the quality, value, marketability, and reputation of Tennessee livestock.

Fiscal Year (FY)	TDA ^a	Producers	Total	TDA's ^a Share	Producers' Share
		(\$1,000)			
FY06	\$498.2	\$1,547.1	\$2,045.2	24.4%	75.6%
FY07	\$601.9	\$2,439.4	\$3,041.3	19.8%	80.2%
FY08	\$1,246.1	\$3,099.8	\$4,345.9	28.7%	71.3%
FY09	\$924.8	\$2,097.5	\$3,022.4	30.6%	69.4%
FY10	\$1,142.3	\$2,657.1	\$3,799.4	30.1%	69.9%
FY11	\$1,454.3	\$3,507.0	\$4,961.3	29.3%	70.7%
FY12	\$1,583.9	\$3,971.5	\$5,555.4	28.5%	71.5%
FY13	\$885.9	\$2,281.6	\$3,167.5	28.0%	72.0%
FY14	\$1,806.9	\$4,521.7	\$6,328.6	28.6%	71.4%
FY15	\$773.7	\$2,271.2	\$3,044.9	25.4%	74.6%
FY16	\$1,210.6	\$3,368.6	\$4,579.2	26.4%	73.6%
FY17	\$1,210.9	\$3,087.4	\$4,298.3	28.2%	71.8%
FY18	\$2,257.0	\$5,760.3	\$8,017.3	28.2%	71.8%
FY19	\$1,156.7	\$2,939.9	\$4,096.7	28.2%	71.8%
Total	\$16,753.3	\$43,550.1	\$60,303.4	27.8%	72.2%

^aTennessee Department of Agriculture

Genetics TAEP Estimated Economic Impacts

TDA ^a		Producers	
Direct	Total	Direct	Total
\$16,753,285	\$30,793,416	\$43,550,136	\$80,143,821

^aTennessee Department of Agriculture

Grain Storage: assists producers in managing, storing, and drying grains to provide higher returns and marketing flexibility.

Fiscal Year (FY)	TDA ^a	Producers	Total	TDA's ^a Share	Producers' Share
		(\$1,000)			
FY09	\$1,749.6	\$6,491.3	\$8,241.2	21.2%	78.8%
FY10	\$892.4	\$3,255.4	\$4,147.8	21.5%	78.5%
FY11	\$1,196.2	\$4,534.6	\$5,730.8	20.9%	79.1%
FY12	\$1,373.0	\$4,963.2	\$6,336.3	21.7%	78.3%
FY13	\$1,453.2	\$5,613.4	\$7,066.6	20.6%	79.4%
FY14	\$1,570.5	\$6,247.2	\$7,817.7	20.1%	79.9%
FY15	\$2,308.7	\$9,248.8	\$11,557.4	20.0%	80.0%
FY16	\$1,712.2	\$7,663.0	\$9,375.3	18.3%	81.7%
FY17	\$1,375.3	\$5,923.6	\$7,298.9	18.8%	81.2%
FY18	\$1,789.6	\$7,618.6	\$9,407.6	19.0%	81.0%
FY19	\$2,428.0	\$11,544.5	\$13,972.4	17.4%	82.6%
Total	\$17,848.5	\$73,103.5	\$90,952.0	19.6%	80.4%

^aTennessee Department of Agriculture

Grain Storage TAEP Estimated Economic Impacts

TDA ^a		Producers	
Direct	Total	Direct	Total
\$17,848,533	\$29,097,908	\$73,103,487	\$119,193,997

^aTennessee Department of Agriculture

Hay Storage: assists producers in building hay barns to improve storage and management of forages to improve herd nutrition.

Fiscal Year (FY)	TDA ^a	Producers	Total	TDA's ^a Share	Producers' Share
		(\$1,000)			
FY07	\$1,866.5	\$7,594.2	\$9,460.6	19.7%	80.3%
FY08	\$4,080.6	\$16,244.5	\$20,325.1	20.1%	79.9%
FY09	\$2,405.8	\$8,659.7	\$11,065.4	21.7%	78.3%
FY10	\$4,542.5	\$11,372.7	\$15,915.2	28.5%	71.5%
FY11	\$5,404.8	\$13,478.8	\$18,883.7	28.6%	71.4%
FY12	\$5,319.3	\$12,643.7	\$17,963.0	29.6%	70.4%
FY13	\$4,169.1	\$10,483.1	\$14,652.1	28.5%	71.5%
FY14	\$6,358.1	\$16,436.2	\$22,794.4	27.9%	72.1%
FY15	\$5,016.3	\$12,877.6	\$17,893.9	28.0%	72.0%
FY16	\$4,998.3	\$14,331.0	\$19,329.3	25.9%	74.1%
FY17	\$4,066.9	\$12,312.9	\$16,379.9	24.8%	75.2%
FY18	\$3,886.5	\$9,955.6	\$13,842.1	28.1%	71.9%
FY19	\$4,356.0	\$11,240.4	\$15,596.4	27.9%	72.1%
Total	\$56,470.7	\$157,630.4	\$214,101.0	26.4%	73.6%

^aTennessee Department of Agriculture

Hay Storage TAEP Estimated Economic Impacts

TDA ^a		Producers	
Direct	Total	Direct	Total
\$56,470,677	\$92,215,812	\$157,630,364	\$257,626,095

^aTennessee Department of Agriculture

Livestock Equipment: improves a producer’s ability to properly and safely manage live on the farm (for example, squeeze chutes, creep feeders, feed bins, and working systems).

Fiscal Year (FY)	TDA ^a	Producers	Total	TDA’s ^a Share	Producers’ Share
		(\$1,000)			
FY06	\$808.0	\$1,994.2	\$2,802.2	28.8%	71.2%
FY07	\$1,044.2	\$3,930.5	\$4,974.8	21.0%	79.0%
FY08	\$6,753.9	\$15,164.1	\$21,918.1	30.8%	69.2%
FY09	\$3,390.0	\$7,746.3	\$11,136.3	30.4%	69.6%
FY10	\$3,280.7	\$7,106.3	\$10,387.1	31.6%	68.4%
FY11	\$4,384.2	\$9,764.5	\$14,148.7	31.0%	69.0%
FY12	\$4,677.6	\$10,303.6	\$14,981.2	31.2%	68.8%
FY13	\$3,808.4	\$8,470.2	\$12,278.6	31.0%	69.0%
FY14	\$5,269.4	\$11,475.6	\$16,745.0	31.5%	68.5%
FY15	\$5,606.6	\$12,011.5	\$17,618.2	31.8%	68.2%
FY16	\$4,804.5	\$10,797.1	\$15,601.7	30.8%	69.2%
FY17	\$4,188.2	\$9,518.2	\$13,706.4	30.6%	69.4%
FY18	\$5,273.9	\$11,584.4	\$16,858.3	31.3%	68.7%
FY19	\$5,327.7	\$11,754.0	\$17,081.7	31.2%	68.8%
Total	\$58,617.5	\$131,620.7	\$190,238.2	30.8%	69.2%

^aTennessee Department of Agriculture

Livestock Equipment TAEP Estimated Economic Impacts

TDA ^a		Producers	
Direct	Total	Direct	Total
\$58,617,493	\$88,354,445	\$131,620,743	\$198,464,934

^aTennessee Department of Agriculture

Livestock Solutions: assists producers in building feed storage sheds, silos, and installing feed management equipment to improve feed quality and cost efficiency.

Fiscal Year (FY)	TDA ^a	Producers	Total	TDA's ^a Share	Producers' Share
		(\$1,000)			
FY08	\$5,827.1	\$8,877.7	\$14,704.8	39.6%	60.4%
FY09	\$2,922.2	\$6,670.1	\$9,592.3	30.5%	69.5%
FY10	\$890.9	\$2,515.2	\$3,406.1	26.2%	73.8%
FY11	\$1,072.5	\$2,881.5	\$3,954.0	27.1%	72.9%
FY12	\$1,022.1	\$2,755.0	\$3,777.1	27.1%	72.9%
FY13	\$845.5	\$2,445.8	\$3,291.3	25.7%	74.3%
FY14	\$1,345.4	\$3,897.9	\$5,243.3	25.7%	74.3%
FY15	\$1,341.6	\$3,808.1	\$5,149.7	26.1%	73.9%
FY16	\$969.3	\$3,220.9	\$4,190.3	23.1%	76.9%
FY17	\$1,021.6	\$3,523.4	\$4,545.0	22.5%	77.5%
FY18	\$1,156.3	\$3,242.9	\$4,399.3	26.3%	73.7%
FY19	\$1,978.4	\$5,142.7	\$7,121.0	27.8%	72.2%
Total	\$20,392.8	\$48,981.3	\$69,374.1	29.4%	70.6%

^aTennessee Department of Agriculture

Livestock Solutions TAEP Estimated Economic Impacts

TDA ^a		Producers	
Direct	Total	Direct	Total
\$20,392,818	\$33,537,405	\$48,981,331	\$80,176,483

^aTennessee Department of Agriculture

Poultry Grower: assists poultry producers in operational improvements.

Fiscal Year (FY)	TDA^a	Producers	Total	TDA's^a Share	Producers' Share
		(\$1,000)			
FY16	\$156.0	\$811.0	\$967.0	16.1%	83.9%
FY17	\$46.8	\$246.6	\$293.4	15.9%	84.1%
FY18	\$107.6	\$467.4	\$575.0	18.7%	81.3%
FY19	\$73.3	\$280.4	\$353.7	20.7%	79.3%
Total	\$383.7	\$1,805.4	\$2,189.1	17.5%	82.5%

^aTennessee Department of Agriculture

Poultry Grower TAEP Estimated Economic Impacts

TDA^a		Producers	
Direct	Total	Direct	Total
\$383,704	\$574,844	\$1,805,358	\$2,704,477

^aTennessee Department of Agriculture

Producer Diversification: assists producers in diversifying their farming operations (for example, agritourism, fruit and vegetables, honeybees, horticulture, organics, and value-added products).

Fiscal Year (FY)	TDA ^a	Producers	Total	TDA's ^a Share	Producers' Share
		(\$1,000)			
FY06	\$559.8	\$2,829.0	\$3,388.8	16.5%	83.5%
FY07	\$621.2	\$2,965.2	\$3,586.5	17.3%	82.7%
FY08	\$1,146.5	\$4,111.2	\$5,257.7	21.8%	78.2%
FY09	\$872.9	\$3,482.3	\$4,355.2	20.0%	80.0%
FY10	\$691.2	\$2,631.4	\$3,322.6	20.8%	79.2%
FY11	\$627.8	\$2,503.0	\$3,130.8	20.1%	79.9%
FY12	\$732.4	\$2,851.6	\$3,584.0	20.4%	79.6%
FY13	\$733.7	\$2,301.7	\$3,035.4	24.2%	75.8%
FY14	\$672.7	\$2,277.7	\$2,950.4	22.8%	77.2%
FY15	\$681.6	\$1,779.4	\$2,461.0	27.7%	72.3%
FY16	\$725.2	\$2,229.5	\$2,954.7	24.5%	75.5%
FY17	\$1,067.7	\$3,267.4	\$4,335.1	24.6%	75.4%
FY18	\$1,282.4	\$3,162.5	\$4,444.9	28.9%	71.1%
FY19	\$1,266.0	\$2,954.0	\$4,220.0	30.0%	70.0%
Total	\$11,681.2	\$39,346.0	\$51,027.2	22.9%	77.1%

^aTennessee Department of Agriculture

Producer Diversification TAEP Estimated Economic Impacts

TDA ^a		Producers	
Direct	Total	Direct	Total
\$11,681,182	\$21,069,044	\$39,345,993	\$71,054,509

^aTennessee Department of Agriculture

Facility Cover: assists producers in improving farm safety, functionally, and longevity of livestock working equipment by providing a protective cover.

Fiscal Year (FY)	TDA^a	Producers	Total	TDA's^a Share	Producers' Share
		(\$1,000)			
FY15	\$1,106.3	\$3,070.8	\$4,177.1	26.5%	73.5%
FY16	\$544.9	\$1,783.4	\$2,328.3	23.4%	76.6%
FY17	\$698.8	\$2,351.3	\$3,050.1	22.9%	77.1%
FY18	\$349.1	\$1,062.1	\$1,411.2	24.7%	75.3%
FY19	\$474.7	\$1,453.2	\$1,927.8	24.6%	75.4%
Total	\$3,173.8	\$9,720.7	\$12,894.5	24.6%	75.4%

^aTennessee Department of Agriculture

Facility Cover TAEP Estimated Economic Impacts

TDA^a		Producers	
Direct	Total	Direct	Total
\$3,173,780	\$5,600,513	\$9,720,700	\$17,150,241

^aTennessee Department of Agriculture

Rollup of Estimated Economic Impacts of Tennessee Department of Agriculture's TAEPs

Program	TDA ^a		Producers		Total	
	Direct	Total	Direct	Total	Direct	Total
	(\$1,000)		(\$1,000)		(\$1,000)	
Genetics	\$16,753.3	\$30,793.4	\$43,550.1	\$80,143.8	\$60,303.4	\$110,937.2
Grain Storage	\$17,848.5	\$29,097.9	\$73,103.5	\$119,194.0	\$90,952.0	\$148,291.9
Hay Storage	\$56,470.7	\$92,215.8	\$157,630.4	\$257,626.1	\$214,101.0	\$349,841.9
Livestock						
Equipment	\$58,617.5	\$88,354.4	\$131,620.7	\$198,464.9	\$190,238.2	\$286,819.4
Livestock Solutions	\$20,392.8	\$33,537.4	\$48,981.3	\$80,176.5	\$69,374.1	\$113,713.9
Poultry Grower	\$383.7	\$574.8	\$1,805.4	\$2,704.5	\$2,189.1	\$3,279.3
Producer						
Diversification	\$11,681.2	\$21,069.0	\$39,346.0	\$71,054.5	\$51,027.2	\$92,123.6
Facility Cover	\$3,173.8	\$5,600.5	\$9,720.7	\$17,150.2	\$12,894.5	\$22,750.8
Total	\$185,321.5	\$301,243.4	\$505,758.1	\$826,514.6	\$691,079.6	\$1,127,757.9

^aTennessee Department of Agriculture

Each TAEP dollar generates \$6.09 in local economies