Texas A&M AgriLife Research
Summary of Recommendations - Senate

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Dr. Craig Nessler, Director

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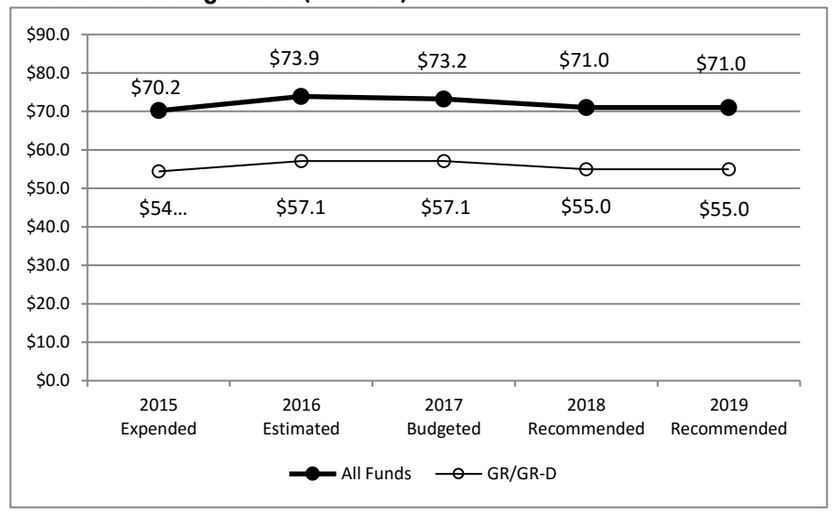
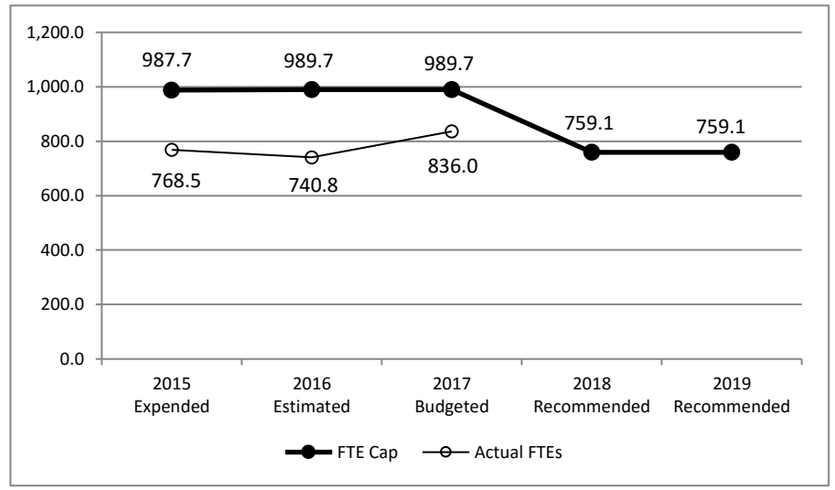
Method of Financing	2016-17 Base	2018-19 Recommended	Biennial Change ($)	Biennial Change (%)
General Revenue Funds	$113,345,358	$109,073,445	($4,271,913)	(3.8%)
GR Dedicated Funds	$949,400	$911,424	($37,976)	(4.0%)
Total GR-Related Funds	*$114,294,758*	*$109,984,869*	*($4,309,889)*	*(3.8%)*
Federal Funds	$18,313,040	$18,313,040	$0	0.0%
Other	$14,472,506	$13,752,506	($720,000)	(5.0%)
All Funds	**$147,080,304**	**$142,050,415**	**($5,029,889)**	**(3.4%)**

	FY 2017 Budgeted	FY 2019 Recommended	Biennial Change	Percent Change
FTEs	836.0	759.1	(76.9)	(9.2%)

Historical Funding Levels (Millions)



Historical Full-Time-Equivalent Employees (FTEs)



Agency Budget and Policy Issues and/or Highlights

- Texas A&M AgriLife Research (TAR) is under Strategic Fiscal Review for the Eighty-fifth Legislative Session.
- TAR conducts research in agricultural, environmental, and life sciences. The agency's research is on livestock, plants, crops, and processing techniques to ensure Texas' agriculture system is competitive. TAR focuses on conserving natural resources and research that addresses air, soil, and water quality. The agency also administers the honey bee regulation program and feed and fertilizer control service program.

The bill pattern for this agency (2018-19 Recommended) represents an estimated 38.5% of the agency's estimated total available funds for the 2018-19 biennium.

Texas A&M AgriLife Research
Summary of Funding Changes and Recommendations - Senate

	Funding Changes and Recommendations for the 2018-19 Biennium compared to the 2016-17 Base Spending Level (in millions)	General Revenue	GR-Dedicated	Federal Funds	Other Funds	All Funds	Strategy in Appendix A
	SIGNIFICANT Funding Changes and Recommendations (each issue is explained in Section 3 and additional details are provided in Appendix A):						
A)	Funding decreases and related FTE reductions, as a result of the agency's four percent General Revenue and General Revenue - Dedicated base reduction requirement, are: 1) $3.4 million in agricultural and life sciences research and 33.0 FTEs; 2) $29,070 in feedyard beef cattle production research and 0.5 FTE; 3) $21,502 in honey bee regulation and 0.2 FTE; and 4) $0.4 million in TAR's indirect administration and 3.1 FTEs.	($3.9)	$0.0	$0.0	$0.0	($3.9)	A.1.1, A.1.2, B.1.1, D.1.1.
B)	General Revenue funding decrease of $0.7 million and FTE reduction (3.0 FTEs) due to elimination of the agency's Strategy A.1.2, Feedyard Beef Cattle Production and the related research funding.	($0.7)	$0.0	$0.0	$0.0	($0.7)	A.1.2.
	OTHER Funding Changes and Recommendations (these issues are not addressed in Section 3 but details are provided in Appendix A):						
C)	Interagency contracts and infrastructure support funding.	$0.3	$0.0	$0.0	($0.7)	($0.4)	A.1.1, D.1.2, D.1.3.
	TOTAL SIGNIFICANT Funding Changes and Recommendations (in millions)	**($4.3)**	**$0.0**	**$0.0**	**($0.7)**	**($5.0)**	As Listed
	SIGNIFICANT Funding Increases	$0.3	$0.0	$0.0	$0.0	$0.3	As Listed
	SIGNIFICANT Funding Decreases	($4.6)	$0.0	$0.0	($0.7)	($5.3)	As Listed

NOTE: Totals may not sum due to rounding.

Texas A&M AgriLife Research
Selected Fiscal and Policy Issues - Senate

1. **Strategic Fiscal Review Overview.** Texas A&M AgriLife Research (TAR) is under Strategic Fiscal Review (SFR) for the Eighty-fifth Legislative Session. Significant observations and considerations include:
   a) Recommended 2018-19 General Revenue Funds ($109.1 million) constitute 76.8 percent of the recommended 2018-19 All Funds ($142.1 million) budget for TAR that is included within the General Appropriations Act (GAA).
   b) Recommended 2018-19 General Revenue Funds ($109.1 million) constitute 29.5 percent of TAR's estimated total available funds for 2018-19 ($369.5 million) which includes funds inside and outside of the GAA. The agency's anticipated 2018-19 funds outside of the GAA total $227.5 million and are primarily from sponsored research contracts, gifts, royalties, investment income, and testing fees. See SFR Appendix 5 for additional details on TAR's various funding sources inside and outside of the GAA.
   c) Regarding the 11 agency programs reviewed under SFR, all are within statutory requirements and/or authorizations (see SFR Appendices 1, 2, and 4) for additional details.

2. **Four Percent General Revenue Funds and General Revenue – Dedicated Funds Base Reduction.** Recommendations include reductions of $3.9 million in General Revenue Funds and $37,976 in GR-Dedicated Clean Air Account 151 Funds (includes 36.8 FTEs) due to the four percent base reduction requirement (note: Infrastructure Support funding was exempted from the reduction calculation because it is formula funded). The funding reduction is in the following areas:
   a) $3.4 million in agricultural and life sciences research and 33.0 FTEs (scientists and agency staff). TAR reports the impact is:
      - reduced research in genomics, biotechnology, conservation, environmental protection, air quality, and emerging problems like invasive insects and insect transmitted pathogens (e.g., Zika, West Nile);
      - possible closures in research locations; and
      - loss of an estimated $4.0 million per fiscal year in externally funded research.
   b) $29,070 in feedyard beef cattle production research and 0.5 FTE. TAR reports the impact is loss of specific research expertise, and slowed progress in the study of the use of distillers grains in cattle diets which could affect beef production efficiency and animal health.
   c) $21,502 in honey bee regulation and 0.2 FTE. TAR reports the impact is reduced inspectors' travel to conduct inspections of colonies and apiaries, which could affect the bee industry.
   d) $0.4 million in TAR's indirect administration and 3.1 FTEs. TAR reports the impact is delays in timely payments and reporting, and reduction of needed separation of staff duties.

   The agency has submitted an Exceptional Item request to restore the General Revenue and General Revenue – Dedicated Funds.

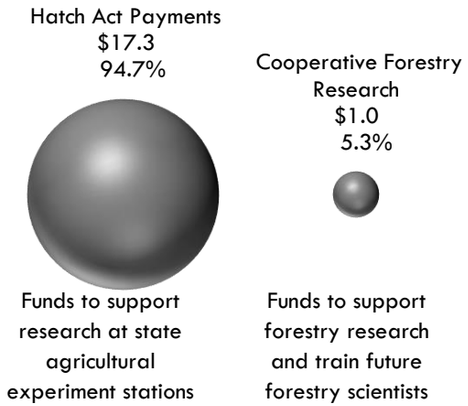
3. **Feedyard Beef Cattle Production Research.** Recommendations include a General Revenue Funds decrease of $0.7 million and FTE reduction (3.0 FTEs) due to elimination of the agency's Strategy A.1.2, Feedyard Beef Cattle Production and the related research funding.

4. **Infrastructure Support.** Funding to Texas A&M System agencies for infrastructure support within Brazos County is maintained at 2016-17 total appropriations, but is adjusted for 2018-19 for each respective agency based on updated data. Texas A&M System agricultural agencies also receive funding for infrastructure support outside Brazos County which is proportionally allocated to those agencies by their percentage of total actual square footage, and the 2018-19 funding recommendations are maintained at 2016-17 total appropriations.

Texas A&M AgriLife Research

Summary of Federal Funds (2018 - 19) - Senate

Total $18.3M



Selected Federal Fiscal and Policy Issues
Federal Funds estimates for the 2018-19 biennium maintain level funding equal to fiscal years 2016-17.

There Are No Programs with Significant Federal Funding Changes from 2016 - 17

Texas A&M AgriLife Research
FTE Highlights - Senate

Full-Time-Equivalent Positions	Expended 2015	Estimated 2016	Budgeted 2017	Recommended 2018	Recommended 2019
Cap	987.7	989.7	989.7	759.1	759.1
Actual/Budgeted	768.5	740.8	836.0	N/A	N/A

Schedule of Exempt Positions (Cap)

None.

Notes:
a) The Actual/Budgeted FTEs for FY2015-17 are lower than the respective FY2015-17 FTE Caps and the agency reports the vacancies are due to attrition.

b) The recommended FY2018-19 FTE Cap of 759.1 represents a decrease of 230.6 FTEs compared to the FY2016-17 FTE Cap of 989.7. This 230.6 FTE decrease primarily represents a change in FTE Cap authority only, to accurately realign the agency's FTE Cap to its available funds. According to the State Auditor's Office, TAR's FY2014 average FTE count was 766.4, FY2015 was 768.5, and FY2016 was 740.8. Based on LBB staff analysis of the FTE number TAR can sustain considering current and recommended funding levels, a 2018-19 FTE Cap of 759.1 is recommended.

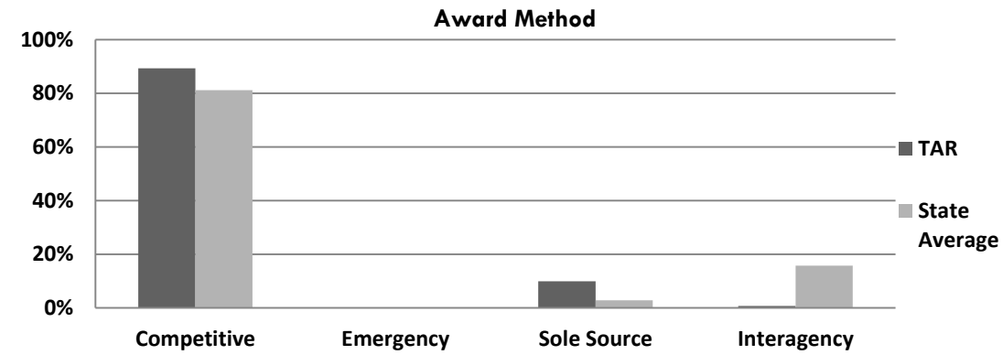
Texas A&M AgriLife Research
Contracting Highlights - Senate

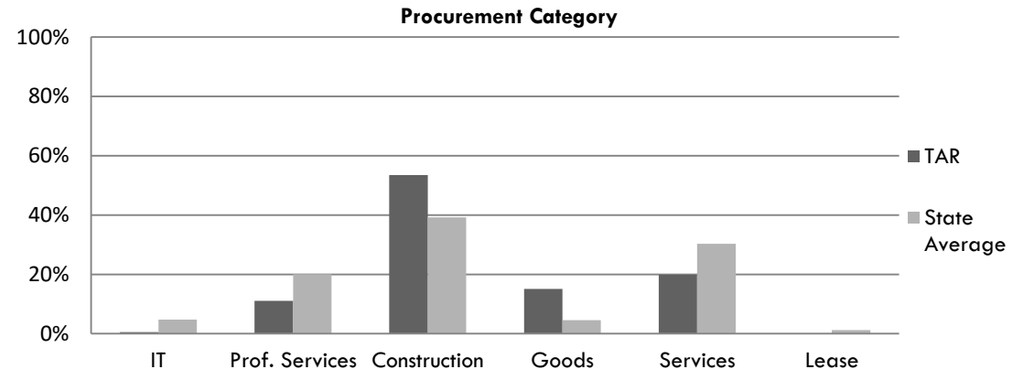
Summary of Contracts Awarded 09/01/2014 to 01/17/2017 and Reported to LBB Contracts Database*

(Dollar values rounded to the nearest tenth of a million)

	Number	Total Value	Average Value	% of total
Procurement Contracts	74	$ 14.5	$ 0.2	100%
Award Method				
Total Competitive Contracts	67	$ 13.0	$ 0.2	89.3%
Total Non-Competitive	7	$ 1.6	$ 0.2	10.7%
Emergency	*0*	$ -	$ -	*0.0%*
Sole Source	*6*	$ *1.4*	$ *0.2*	*10.0%*
Interagency Agreement	*1*	$ *0.1*	$ *0.1*	*0.7%*
Procurement Category				
Information Technology	1	$ 0.1	$ -	0.6%
Professional Services	6	$ 1.6	$ 0.3	11.1%
Construction	33	$ 7.8	$ 0.2	53.5%
Goods	25	$ 2.2	$ 0.1	15.0%
Other Services	9	$ 2.9	$ 0.3	19.9%
Lease/Rental	0	$ -	$ -	0.0%

Comparisons with State Averages





*Note: These figures reflect the total value of reported contracts awarded 09/01/2014 to 01/17/2017 and reported to the LBB contracts database. Values can include planned expenditures for subsequent years and represent the amounts contracted which may include funds from sources other than appropriated or General Revenue Funds.

Texas A&M AgriLife Research
Contracting Highlights - Senate

(Dollar values rounded to the nearest tenth of a million)

	Largest Competitive Contracts Awarded 09/01/14 - 01/17/17	Award Method	Total Value	% Change*	Award Date	Length	Renewals	Vendor
1	Scott's Miracle Grow Facility	Competitive	$ 3.9	-	12/17/15	N/A	-	SSC Service Solutions[1]
2	Southern Crop Growth Chamber Room	Competitive	$ 1.6	-	01/04/16	N/A	-	SSC Service Solutions[1]
3	Growth Chambers for Southern Crop Improvement Bldg.	Competitive	$ 1.5	-	01/08/16	N/A	-	Controlled Environments Inc.
4	Vector Lab Construction HEEP Suite 290	Competitive	$ 1.2	-	03/02/16	N/A	-	SSC Service Solutions[1]
	Largest Non-Competitive Contracts Awarded 09/01/14 - 01/17/17							
1	HiSeq 4000 Sequencing System (Dual Flow Cell)	Sole Source	$ 0.7	-	05/27/16	3 months	-	Illumina Inc.
2	Sequel Sequencing System	Sole Source	$ 0.4	-	03/31/16	5 months	-	Pacific Biosciences of California
3	Seahorse XFe96 Analyzer	Sole Source	$ 0.2	-	10/06/16	N/A	-	Agilent Technologies
	Largest Active Contracts from Previous Fiscal Years							
1	Illumina Consumable Reagents	Sole Source	$ 1.3	-	04/01/13	4 years	-	Illumina Inc.

*Note: The percent change in contract value between initial award amount and the current contract value. Includes contract amendments and renewals.

[1] Texas A&M University System (TAMUS) competitively awarded a master contract for food services, grounds, janitorial services and building maintenance that included an option for "special projects" that includes construction valued <$10 million. Each TAMUS component subsequently executed a similar contract with SSC Service Solutions without competition, and the contracts shown above are purchase orders against the Texas A&M AgriLife Research contract with SSC for construction/renovation "special projects" that were not individually competed.

Texas A&M AgriLife Research
Items Not Included in Recommendations - Senate

		2018-19 Biennial Total					
		GR & GR-D	All Funds	FTEs	Information Technology Involved?	Contracting Involved?	Estimated Continued Cost 2020-21
Agency Exceptional Items - In Agency Priority Order							
1)	Restore the Four Percent General Revenue and General Revenue - Dedicated Base Reduction Funding and 36.8 FTEs for: a) agricultural and life sciences research (includes 33.0 FTEs) in genomics, biotechnology, conservation, environmental protection, air quality, and invasive insects and insect transmitted pathogens (e.g., Zika, West Nile); b) feedyard beef cattle production research (includes 0.5 FTE); c) honey bee regulation travel costs (includes 0.2 FTE) for inspectors' to conduct inspections of colonies and apiaries; and d) agency's indirect administration (includes 3.1 FTEs) to reduce delays in timely payments and reporting, and to allow for needed separation of staff duties.	$3,866,005	$3,866,005	36.8	No	No	$3,866,006
2)	Safeguarding Human Health and Animal Agriculture by Combating Antibiotic Resistance Funding and 5.0 FTEs to: a) create grants to stimulate specific research; b) identify and recruit experts in the antibiotic resistance field; c) hire new faculty and staff; d) provide for graduate and post-doctoral students in research; and e) support research and development that leads to intellectual property and commercialization opportunities.	$6,000,000	$6,000,000	5.0	No	No	$6,000,000
TOTAL Items Not Included in Recommendations		**$9,866,005**	**$9,866,005**	**41.8**			**$9,866,006**

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SFR Appendix	**Appendix Title**	**Page**
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4	SFR Mission Centrality/Authority	13
5	SFR Constitutional, General Revenue-Dedicated and Funds Outside the Treasury	14
6	SFR Program Summaries	19

** Information is included in the presentation section of the packet

Texas A&M AgriLife Research
Strategic Fiscal Review: Appendix 1-- Program Funding - Senate

Texas A&M AgriLife Research

Texas A&M AgriLife Research reports its mission as being scientific discovery that benefits consumers and expands agricultural sustainability, profitability, and environmental stewardship.

Mission Centrality/Authority

Total Budget	Strategy	Budget, Ordered by Mission Centrality and Authority	Agency Ranking	2018-19 Recommendations		2018-19 Agency Total Request
100%				$142,050,415		$153,334,098
	Noted below.	*Indirect Administration*	11	$28,012,836	Recommendation amount includes four percent base reduction.	$28,425,788
	Noted below.	Honey Bee Research/Texas Apiary Inspection Service	10	$754,884	Recommendation amount includes four percent base reduction.	$776,386
	1.1.1 Agricultural/Life Sciences Research 3.1.2 Workers' Comp Insurance 3.1.3 Unemployment Insurance	Bioenergy Research	9	$6,666,790	Recommendation amount includes four percent base reduction.	$6,895,346
75%	1.1.2 Feedyard Beef Cattle Production 3.1.2 Workers' Comp Insurance 3.1.3 Unemployment Insurance	Feedyard Beef Cattle Production Research	8	$0	Recommendation amount includes elimination of funding for feedyard beef cattle production research.	$728,322
	Noted below.	Cotton, Wool, and Mohair Research	7	$5,746,258	Recommendation amount includes four percent base reduction.	$5,957,724
	Noted below.	Regulatory Testing of Feed & Fertilizer - Office of State Chemist	6	$11,470,000		$11,470,000
42%	Noted below.	Plant Production and Protection	5	$29,824,520	Recommendation amount includes four percent base reduction.	$31,592,550
	Noted below.	Animal Production and Protection	4	$13,077,200	Agency request amount includes Exceptional Item request.	$19,551,904
	Noted below.	Advancements in Water Resource Management	3	$11,850,042	Recommendation amount includes four percent base reduction.	$12,209,842
	1.1.1 Agricultural/life Sciences Research 3.1.2 Workers' Comp Insurance 3.1.3 Unemployment Insurance	Controlling Exotic and Invasive Insect Transmitted Diseases and Pests	2	$8,234,018	Recommendation amount includes four percent base reduction.	$8,458,244
0%	Noted below.	Agricultural and Life Sciences Research	1	$26,413,867	Recommendation amount includes four percent base reduction.	$27,267,992

Indirect Administration
3.1.1 Staff Group Insurance
3.1.2 Workers' Comp Insurance
3.1.3 Unemployment Insurance
3.1.4 OASI
4.1.1 Indirect Administration
4.1.2 Infrastructure Support In Brazos County
4.1.3 Infrastructure Support Outside Brazos County

Honey Bee Research/Texas Apiary Inspection Service
1.1.1 Agricultural/Life Sciences Research
2.1.1 Honey Bee Regulation
3.1.2 Workers' Comp Insurance
3.1.3 Unemployment Insurance

Cotton, Wool, and Mohair Research
1.1.1 Agricultural/Life Sciences Research
3.1.1 Staff Group Insurance
3.1.2 Workers' Comp Insurance
3.1.3 Unemployment Insurance
3.1.4 OASI

Reg. Testing of Feed & Fertilizer - Office of State Chemist
2.2.1 Feed And Fertilizer Program
3.1.1 Staff Group Insurance
3.1.2 Workers' Comp Insurance
3.1.3 Unemployment Insurance
3.1.4 OASI
4.1.1 Indirect Administration

Plant Production and Protection
1.1.1 Agricultural/Life Sciences Research
3.1.1 Staff Group Insurance
3.1.2 Workers' Comp Insurance
3.1.3 Unemployment Insurance
3.1.4 OASI

Animal Production and Protection
1.1.1 Agricultural/Life Sciences Research
3.1.1 Staff Group Insurance
3.1.2 Workers' Comp Insurance
3.1.3 Unemployment Insurance
3.1.4 OASI

Advancements in Water Resource Management
1.1.1 Agricultural/Life Sciences Research
3.1.1 Staff Group Insurance
3.1.2 Workers' Comp Insurance
3.1.3 Unemployment Insurance
3.1.4 OASI

Agricultural and Life Sciences Research
1.1.1 Agricultural/Life Sciences Research
3.1.1 Staff Group Insurance
3.1.2 Workers' Comp Insurance
3.1.3 Unemployment Insurance
3.1.4 OASI

Note: Indirect administration program names are italicized.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 2 Program Listing -- Services and Administration - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Agency Submission		LBB Staff Review and Analysis								
Agency Ranking	Program Name	Year Implemented	State Authority	Federal Authority	Authority	Mission Centrality	State Service	Service Area	Significant Audit and/or Report Findings	Contracts for Outsourced Services
1	Agricultural and Life Sciences Research	1888	Statute	Public Law	Strong	Strong	Natural Resources Management & Regulation	Statewide	No	Partial
2	Controlling Exotic and Invasive Insect Transmitted Diseases and Pests	1997	Statute, Agency Rider	Public Law	Strong	Strong	Natural Resources Management & Regulation	Statewide	No	Partial
3	Advancements in Water Resource Management	1888	Statute, Agency Rider	Public Law	Strong	Strong	Natural Resources Management & Regulation	Statewide	No	No
4	Animal Production and Protection	1888	Statute	Public Law	Strong	Strong	Natural Resources Management & Regulation	Statewide	No	No
5	Plant Production and Protection	1888	Statute	Public Law	Strong	Strong	Natural Resources Management & Regulation	Statewide	No	Partial
6	Regulatory Testing of Feed & Fertilizer - Office of State Chemist	1899	Statute	No Federal Requirement	Strong	Strong	Business & Workforce Development & Regulation	Statewide	No	No
7	Cotton, Wool, and Mohair Research	1888	Statute, Agency Rider	Public Law	Strong	Strong	Natural Resources Management & Regulation	Statewide	No	No
8	Feedyard Beef Cattle Production Research	2008	Statute	Public Law	Strong	Strong	Natural Resources Management & Regulation	Statewide	No	No
9	Bioenergy Research	2008	Statute	Public Law	Strong	Strong	Natural Resources Management & Regulation	Statewide	No	No
10	Honey Bee Research/Texas Apiary Inspection Service	1920	Statute, Agency Rider	Public Law	Strong	Strong	Business & Workforce Development & Regulation	Statewide	No	Partial
11	Indirect Administration	1888	Statute	N/A	N/A	N/A	State Government Administration & Support	Statewide	No	Partial

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 3: Program Listing -- Fiscal - Senate
(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Agency Submission				LBB Staff Review and Analysis							
Agency Ranking	Program Name	2012-13 Expended	2014-15 Expended	2016-17 Est / Budg	2017 FTEs Budg	2018-19 Recommended	2019 FTEs Rec.	Percent Change from Base	FTEs Change from Base	Revenue Supported?	Appropriate Use of Constitutional and GR-Dedicated Funds?
1	Agricultural and Life Sciences Research *	$ 98,318,949	$ 112,455,353	$ 108,542,753	379.2	$ 106,801,115	362.4	-1.6%	-16.8	Yes	Compliant
2	Controlling Exotic and Invasive Insect Transmitted Diseases and Pests *	$ 8,011,907	$ 9,509,357	$ 18,935,355	39.8	$ 18,651,960	35.6	-1.5%	-4.2	Yes	Compliant
3	Advancements in Water Resource Management *	$ 22,763,825	$ 26,115,907	$ 27,551,423	156.4	$ 27,175,034	148.3	-1.4%	-8.1	Yes	Compliant
4	Animal Production and Protection *	$ 60,383,282	$ 64,696,226	$ 68,533,604	274.3	$ 68,706,416	264.7	0.3%	-9.6	Yes	Compliant
5	Plant Production and Protection *	$ 74,606,489	$ 65,553,584	$ 65,459,084	403.2	$ 63,921,252	381.5	-2.3%	-21.7	Yes	Compliant
6	Regulatory Testing of Feed & Fertilizer - Office of State Chemist *	$ 12,832,467	$ 12,411,408	$ 12,912,060	60.8	$ 12,912,060	60.8	0.0%	0.0	Yes	Compliant
7	Cotton, Wool, and Mohair Research *	$ 16,429,278	$ 18,491,723	$ 18,609,749	66.4	$ 18,308,478	62.3	-1.6%	-4.1	Yes	Compliant
8	Feedyard Beef Cattle Production Research	$ 728,182	$ 728,193	$ 728,296	3.5	$ -	0.0	-100.0%	-3.5	No	Compliant
9	Bioenergy Research *	$ 26,706,343	$ 21,702,600	$ 22,019,566	139.6	$ 21,859,422	134.1	-0.7%	-5.5	Yes	Compliant
10	Honey Bee Research/Texas Apiary Inspection Service *	$ 870,491	$ 1,495,421	$ 1,534,978	7.1	$ 1,516,346	6.8	-1.2%	-0.3	Yes	Compliant
11	Indirect Administration *	$ 27,503,114	$ 27,714,781	$ 29,711,596	96.5	$ 29,656,492	93.4	-0.2%	-3.1	Yes	Compliant
Total		**$ 349,154,327**	**$ 360,874,553**	**$ 374,538,464**	1,626.8	**$ 369,508,575**	1,549.9	-1.3%	-76.9		

	2016-17 Est/Budg	2018-19 Recommended
Inside the Treasury	$ 147,080,304	$ 142,050,415
Outside the Treasury	$ 227,458,160	$ 227,458,160
Total	**$ 374,538,464**	**$ 369,508,575**

* **Program has funds Outside the Treasury**

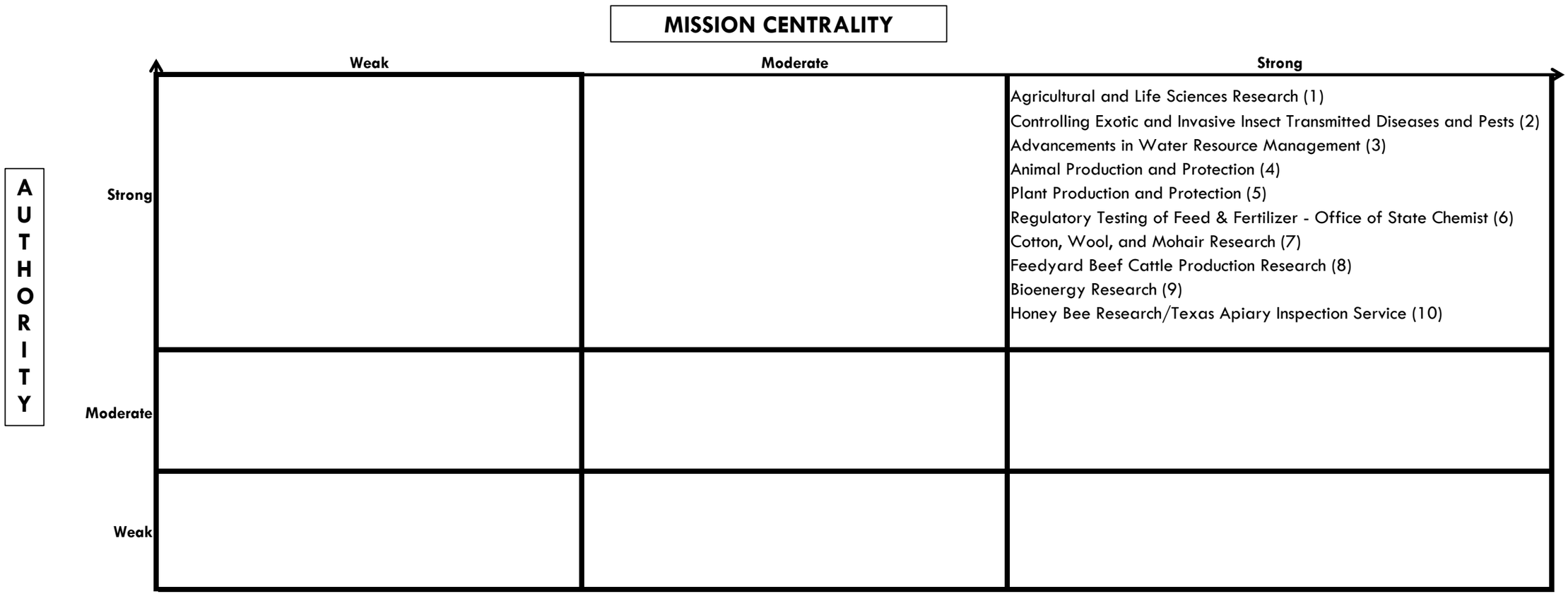
Notes: **Revenue Supported** includes sponsored research contracts, gifts, royalties, investment income, and charged fees.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 4: Assessments of Mission Centrality and Authority - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Mission centrality is a judgment of how directly connected a program is to the core mission and goals of the agency, as identified in statute, agency strategic plans, or other documents.
Authority is an assessment of how strong and explicit the legal basis is for the existence of the program and the way in which the agency is administering it.



Notes: Agency program rankings included after the program name. The matrix does not include Indirect Administration programs.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 5: Constitutional, General Revenue Dedicated Accounts, and Funds Outside the Treasury - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

1

Account No:	151	**Account Type:**	GR DEDICATED
Account Name:	Clean Air Account		
Legal Cite(s):	Texas Health and Safety Code, Chapter 382; General Appropriations Act		
Authorized Use:	Air quality research related to livestock production		
Revenue Source:	Collected Clean Air Act fees		

Ranking:	Program Name	2016-17 Est/Budg	2018-19 Recommended	In Compliance with Authorized Use?
1	Agricultural and Life Sciences Research	$ 949,400	$ 911,424	Yes
Total		**$ 949,400**	**$ 911,424**	

Notes/Comments:	The Clean Air Account includes various types of collected fees such as: a) motor vehicle inspection fees; and b) air inspection, pollution control, and permit fees. Per statute, Clean Air Account funds are used to protect the air resources of the state; and Texas Health and Safety Code, Section 382.036 specifically authorizes studies, investigations, and research concerning air quality control.

2

Account No:	58	**Account Type:**	OTHER FUNDS
Account Name:	Feed Control Fund - Locally Held		
Legal Cite(s):	Texas Agriculture Code, Chapter 141; General Appropriations Act		
Authorized Use:	To assess feed hazards related to animal and human health and the environment through collection of product samples; performing inspections; conducting investigations related to crop loss and animal illness or death.		
Revenue Source:	Fees collected from analyzing samples of feed products		

Ranking:	Program Name	2016-17 Est/Budg	2018-19 Recommended	In Compliance with Authorized Use?
6	Regulatory Testing of Feed & Fertilizer - Office of State Chemist	$ 9,020,000	$ 9,020,000	Yes
Total		**$ 9,020,000**	**$ 9,020,000**	

Notes/Comments:	The Feed Control Fund includes inspection fees paid by feed facilities that manufacture or distribute commercial feed as defined in statute. Texas Agriculture Code, Section 141.075 specifically authorizes the following uses of Feed Control Funds: a) equipment/facilities for TAR's Texas Feed and Fertilizer Control Service (TFFCS); b) inspection, sampling, and analysis; c) licensing; d) salaries for TFFCS; and e) publication of bulletins and reports.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 5: Constitutional, General Revenue Dedicated Accounts, and Funds Outside the Treasury - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

3	**Account No:**	760	**Account Type:**	OTHER FUNDS
	Account Name:	Sales Funds - Agricultural Experiment Station, Locally Held		
	Legal Cite(s):	Texas Education Code, Chapter 88; General Appropriations Act		
	Authorized Use:	Proceeds from sales are used to defray the expenses of operating the agency's research centers across the state.		
	Revenue Source:	Sales from crops and livestock at the agency's research centers		

Ranking:	Program Name	2016-17 Est/Budg	2018-19 Recommended	In Compliance with Authorized Use?
1	Agricultural and Life Sciences Research	$ 1,559,174	$ 1,559,174	Yes
3	Advancements in Water Resource Management	$ 8,886	$ 8,886	Yes
4	Animal Production and Protection	$ 92,334	$ 92,334	Yes
5	Plant Production and Protection	$ 44,358	$ 44,358	Yes
7	Cotton, Wool, and Mohair Research	$ 254	$ 254	Yes
Total		**$ 1,705,006**	**$ 1,705,006**	

Notes/Comments:	The Sales Fund includes the sale, barter, or exchange of crops raised on any TAR research center and shall be applied to defray expenses of operating the research center as specified in Texas Education Code, Section 88.205.

4	**Account No:**	762	**Account Type:**	OTHER FUNDS
	Account Name:	Fertilizer Control Fund, Locally Held		
	Legal Cite(s):	Texas Agriculture Code, Chapter 63; General Appropriations Act		
	Authorized Use:	To assess fertilizer hazards related to animal and human health and the environment through collection of product samples; performing inspections; conducting investigations related to crop loss and animal illness or death.		
	Revenue Source:	Fees collected from analyzing samples of fertilizer		

Ranking:	Program Name	2016-17 Est/Budg	2018-19 Recommended	In Compliance with Authorized Use?
6	Regulatory Testing of Feed & Fertilizer - Office of State Chemist	$ 2,450,000	$ 2,450,000	Yes
Total		**$ 2,450,000**	**$ 2,450,000**	

Notes/Comments:	The Fertilizer Control Fund includes inspection fees paid by distributors of commercial fertilizer as defined in statute. Texas Agriculture Code, Section 63.075 specifically authorizes the following uses of Fertilizer Control Funds: a) equipment/facilities for TAR's Texas Feed and Fertilizer Control Service (TFFCS); b) inspection, sampling, and analysis; c) registration; d) salaries for TFFCS; and e) publication of bulletins and reports.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 5: Constitutional, General Revenue Dedicated Accounts, and Funds Outside the Treasury - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

5				
	Account No:	8089	**Account Type:**	OTHER FUNDS
	Account Name:	Indirect Cost Recovery, Locally Held		
	Legal Cite(s):	General Appropriation Act; U.S. Office of Management and Budget (2 CFR 200 Uniform Guidance)		
	Authorized Use:	Used for costs of administering non-appropriated sponsored research		
	Revenue Source:	Indirect cost earned on non-appropriated sponsored research		

Ranking:	Program Name	2016-17 Est/Budg	2018-19 Recommended	In Compliance with Authorized Use?
1	Agricultural and Life Sciences Research	$ 577,500	$ 577,500	Yes
Total		**$ 577,500**	**$ 577,500**	

Notes/Comments:	The agency earns funding on its sponsored research contracts and grants to be applied to its indirect administration costs for providing the contracted services. The sponsored research contracts/grants are with corporations, local/state/federal governmental entities, and private foundations.

6				
	Account No:	Locally Held	**Account Type:**	Outside the Treasury
	Account Name:	Restricted Funds		
	Legal Cite(s):	Texas Education Code, Chapter 88		
	Authorized Use:	To conduct research in the agricultural and life sciences		
	Revenue Source:	External sponsor support through grants and contracts		

Ranking:	Program Name	2016-17 Est/Budg	2018-19 Recommended	In Compliance with Authorized Use?
1	Agricultural and Life Sciences Research	$ 69,502,202	$ 68,502,202	Yes
2	Controlling Exotic and Invasive Insect Transmitted Diseases and Pests	$ 6,158,030	$ 6,658,030	Yes
3	Advancements in Water Resource Management	$ 12,118,624	$ 12,118,624	Yes
4	Animal Production and Protection	$ 39,899,328	$ 40,399,328	Yes
5	Plant Production and Protection	$ 23,487,268	$ 23,487,268	Yes
6	Regulatory Testing of Feed & Fertilizer - Office of State Chemist	$ 1,023,594	$ 1,023,594	Yes

7	Cotton, Wool, and Mohair Research	$ 10,533,806	$ 10,533,806	Yes
9	Bioenergy Research	$ 14,096,594	$ 14,096,594	Yes
10	Honey Bee Research/Texas Apiary Inspection Service	$ 329,774	$ 329,774	Yes
11	Indirect Administration	$ 1,087,760	$ 1,087,760	Yes
Total		**$ 178,236,980**	**$ 178,236,980**	

Notes/Comments:	Locally held Restricted Funds include sponsored research contracts and restricted gifts.

7

Account No:	Locally Held	**Account Type:**	Outside the Treasury
Account Name:	Designated Funds		
Legal Cite(s):	Texas Education Code, Chapter 88		
Authorized Use:	To conduct research in the agricultural and life sciences.		
Revenue Source:	Sales and services activities in the agency's departments and research centers through fees for various activities, including testing services, genotyping, and analysis.		

Ranking:	**Program Name**	**2016-17 Est/Budg**	**2018-19 Recommended**	**In Compliance with Authorized Use?**
1	Agricultural and Life Sciences Research	$ 11,885,046	$ 11,885,046	Yes
2	Controlling Exotic and Invasive Insect Transmitted Diseases and Pests	$ 3,759,912	$ 3,759,912	Yes
3	Advancements in Water Resource Management	$ 3,206,368	$ 3,206,368	Yes
4	Animal Production and Protection	$ 15,229,888	$ 15,229,888	Yes
5	Plant Production and Protection	$ 10,609,464	$ 10,609,464	Yes
6	Regulatory Testing of Feed & Fertilizer - Office of State Chemist	$ 418,466	$ 418,466	Yes
7	Cotton, Wool, and Mohair Research	$ 2,028,414	$ 2,028,414	Yes
9	Bioenergy Research	$ 1,096,038	$ 1,096,038	Yes
10	Honey Bee Research/Texas Apiary Inspection Service	$ 431,688	$ 431,688	Yes

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 5: Constitutional, General Revenue Dedicated Accounts, and Funds Outside the Treasury - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

11	Indirect Administration	$ 555,896	$ 555,896	Yes
Total		**$ 49,221,180**	**$ 49,221,180**	

Notes/Comments:	Locally held Designated Funds includes unrestricted gifts, investment income, royalties, and some testing fees.

	2016-17 Est/Budg	**2018-19 Recommended**
Inside the Treasury	$ 147,080,304	$ 142,050,415
Outside the Treasury	$ 227,458,160	$ 227,458,160
Total	**$ 374,538,464**	**$ 369,508,575**

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6a: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Agricultural and Life Sciences Research

Agency Ranking **1 out of 11**

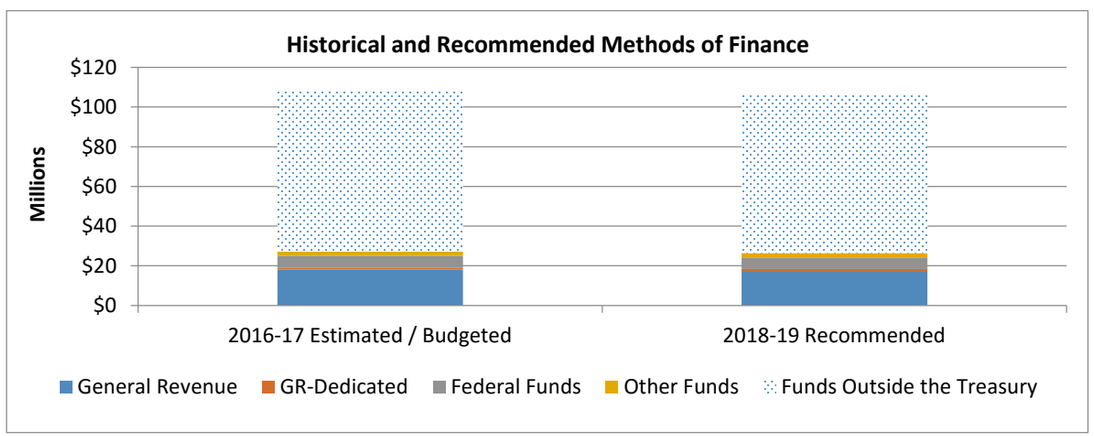
Conduct a broad range of basic and applied research in food, fiber, and ecological systems; detect, monitor, and mitigate insect vector–borne diseases and invasive species; enhance agricultural information systems and expand their use; and integrate basic and applied research.

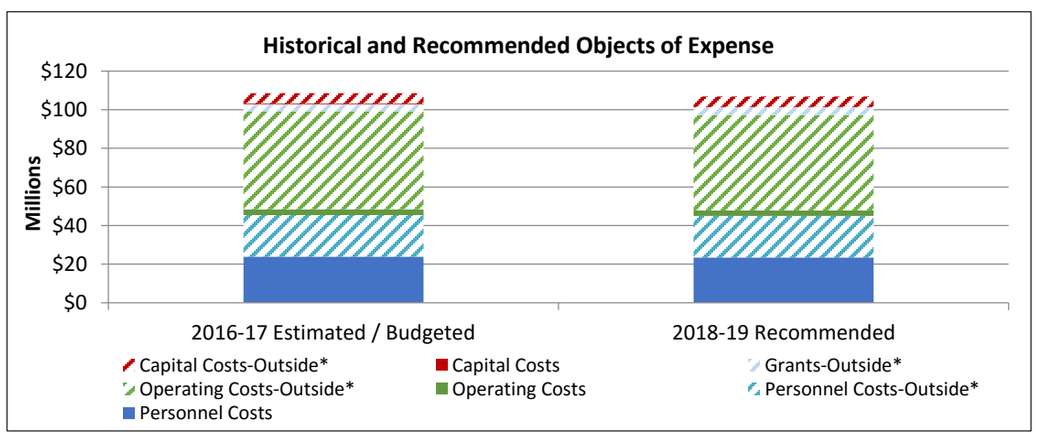
Legal Authority: Education Code, Chapter 88; Federal Funds - Hatch Act of 1887, McIntire-Stennis Act of 1962.

Year Implemented	1888	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	Partial	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Natural Resources Management & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Food Safety	$ 13,850,421	41.5	$ 14,043,622	39.4	13.1%
Air Quality	$ 2,361,569	11.0	$ 2,244,072	10.0	2.1%
Natural Resources and Environment	$ 62,431,724	217.6	$ 61,697,911	209.4	57.8%
Economics, Markets and Policy	$ 17,800,649	56.9	$ 16,723,682	54.6	15.7%
All Other Activities	$ 12,098,390	52.2	$ 12,091,828	49.0	11.3%
Total	$ 108,542,753	379.2	$ 106,801,115	362.4	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 26,413,867	24.7%
Funds Outside the State Treasury	$ 80,387,248	75.3%
Total	**$ 106,801,115**	100.0%

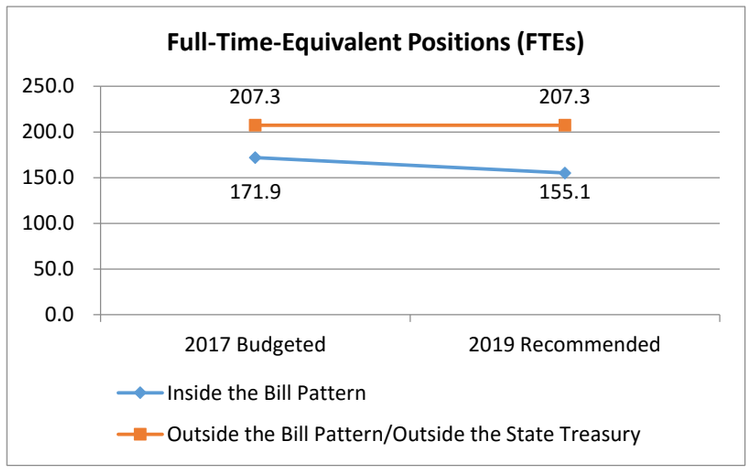


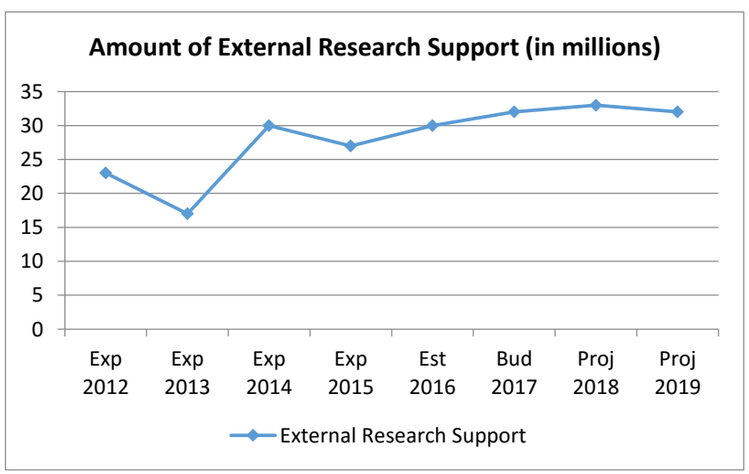


*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Agricultural and Life Sciences Research

Agency Ranking **1 out of 11**





Summary of Recommendations and Fiscal and Policy Issues

1 The agency collaborates with several federal agencies (U.S. Department of Agriculture, Department of Homeland Security, Environmental Protection Agency), state agencies (Texas Department of Agriculture, Cancer Prevention and Research Institute of Texas), community groups, corporations, and non-profit organizations.

2 Funds inside the state treasury make up approximately one-fourth of the total funding for this program. General Revenue-funded research results have led to additional sponsored research funding and federal grants to follow up on previous findings and expand the research. The amount of actual external sponsored support in fiscal years 2012-16 has ranged from $17.0 million to $30.0 million and the agency anticipates that will increase in fiscal years 2017-19.

3 More than half of the total funding for this program is associated with research on natural resources and the environment.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 Agency reports additional resources in this area would be used for research on food, fiber, and health issues in rural and urban settings, drought and insect tolerant crops, cures for disease in livestock, and new and exotic pests and diseases. Research on aquifers and irrigation and the effect on crop production is a priority for the agency.

Challenges to Operation of Program

1 Agency reports that the goal of the program, to ensure safe, affordable, and abundant food and fiber supply in Texas is a challenge. The agency addresses new disease strains as they evolve, new insects from other countries, and pesticide resistant insects.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6b: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Controlling Exotic and Invasive Insect Transmitted Diseases and Pests

Agency Ranking **2 out of 11**

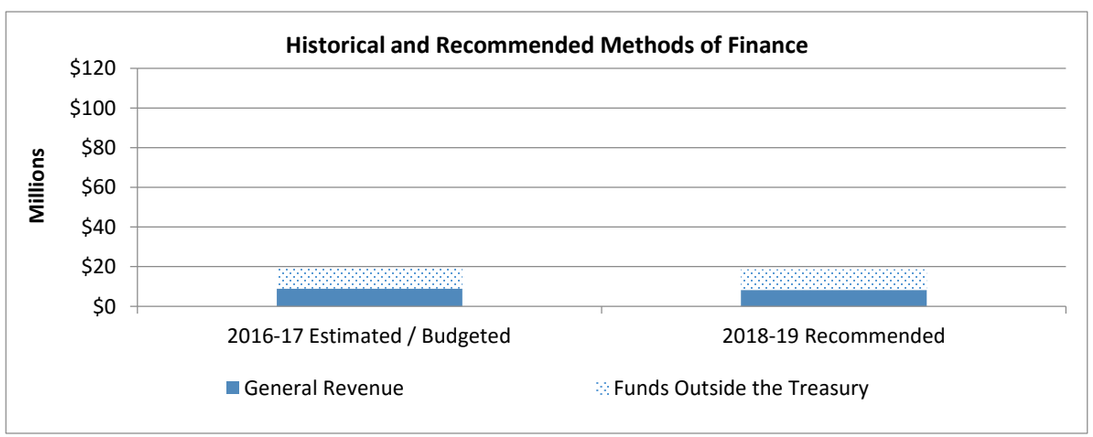
Salaries and equipment for scientists researching insect-transmitted pathogens.

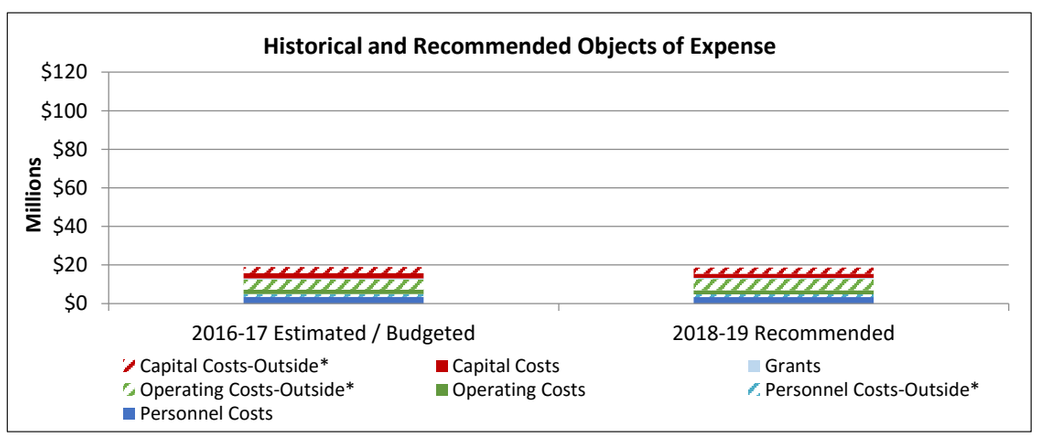
Legal Authority: Education Code, Chapter 88; Federal Funds - Hatch Act of 1887

Year Implemented	1997	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	Partial	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Natural Resources Management & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Diseases in Crops, Livestock, and Humans	$ 15,611,937	21.8	$ 15,483,544	19.7	83.0%
Fire Ant and Other Invasive Pests	$ 3,323,418	18.0	$ 3,168,416	15.9	17.0%
Total	$ 18,935,355	39.8	$ 18,651,960	35.6	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 8,234,018	44.1%
Funds Outside the State Treasury	$ 10,417,942	55.9%
Total	**$ 18,651,960**	100.0%

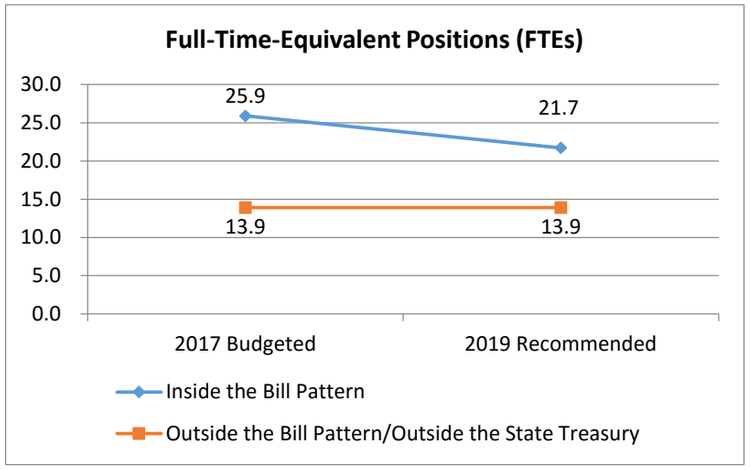




*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Controlling Exotic and Invasive Insect Transmitted Diseases and Pests

Agency Ranking **2 out of 11**



Summary of Recommendations and Fiscal and Policy Issues

1 The agency provides services to disrupt the spread of insect-transmitted pathogens by retaining and recruiting scientists; providing equipment to combat diseases, developing methods of control for insects and pathogens; and assisting in the commercialization of these discoveries.

2 Examples of agency activities (as reported by TAES):

* Entomologists study how West Nile virus reemerges in urban settings through mosquito-bird transmission and includes field studies.
* In collaboration with researchers of Texas A&M College of Veterinary Medicine and Biomedical Sciences, the agency is developing approaches to study North American tick-host interactions in targeting various disease control strategies.
* Agency researchers have developed the ability to differentiate plant pathogenic bacteria in certain insects. This technique can determine which insects are important to a disease epidemic, and help track the source of alternative wild host plants that may harbor the bacterium.
* Scientists are studying common pathogens and viruses that have evolved with fire ants to possibly assist in biologically controlling the growth of the red ant population.
* The agency's Pest Management and Plant Stress group is researching tactics that improve the resilience of plants to abiotic and biotic stress and enhance sustainability and profitability for crop and vegetable production in Texas.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 Federal and corporate programs to control zoonotic diseases.

Challenges to Operation of Program

1 Control of new invasive species.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6c: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Advancements in Water Resource Management

Agency Ranking **3 out of 11**

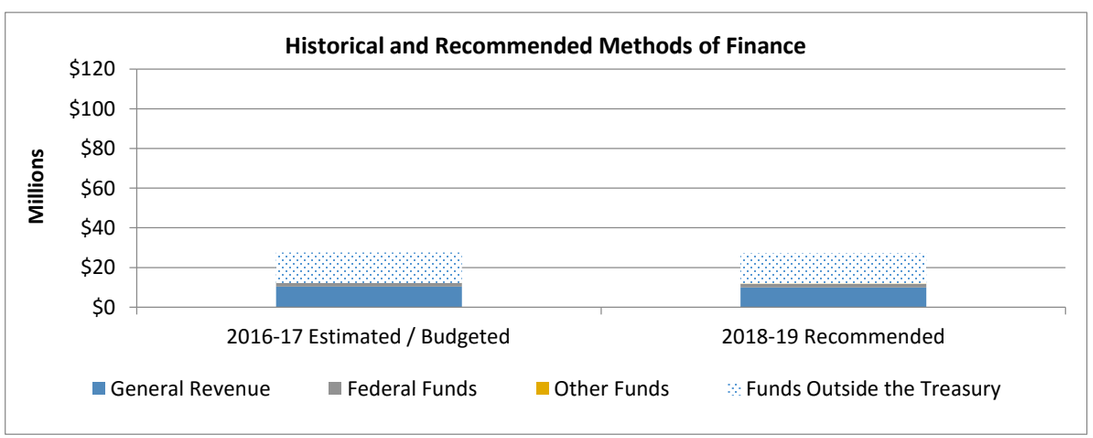
Evaluate policy and effectiveness of water conservation strategies in urban/rural areas; use plant breeding techniques to develop water-efficient, drought/salt-tolerant turf/ornamental landscape plants; and develop irrigation methods.

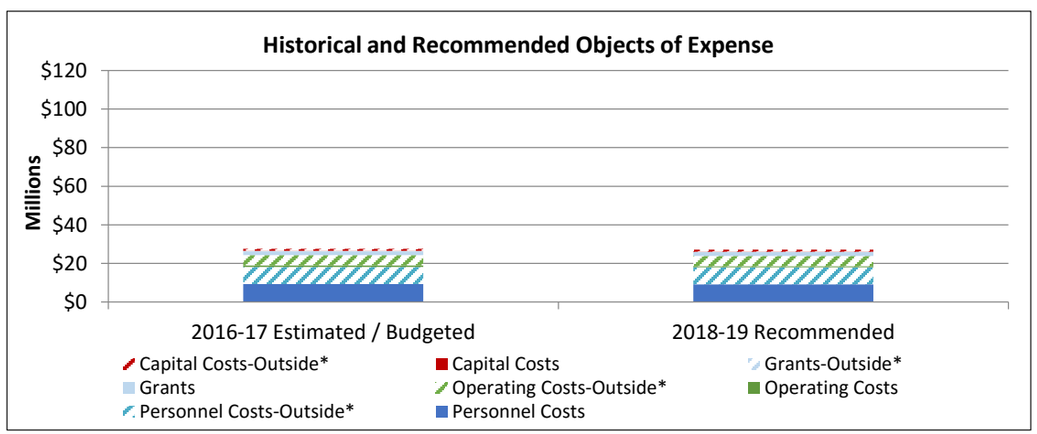
Legal Authority: Education Code, Chapter 88; Federal Funds - Hatch Act of 1887

Year Implemented	1888	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	No	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Natural Resources Management & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Conservation and Efficient Use of Water	$ 18,021,522	98.0	$ 17,750,498	92.6	65.3%
Watershed Protection and Management	$ 7,860,235	47.3	$ 7,773,882	45.2	28.6%
Irrigation Efficiency	$ 1,669,666	11.1	$ 1,650,654	10.5	6.1%
Total	$ 27,551,423	156.4	$ 27,175,034	148.3	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 11,850,042	43.6%
Funds Outside the State Treasury	$ 15,324,992	56.4%
Total	**$ 27,175,034**	100.0%

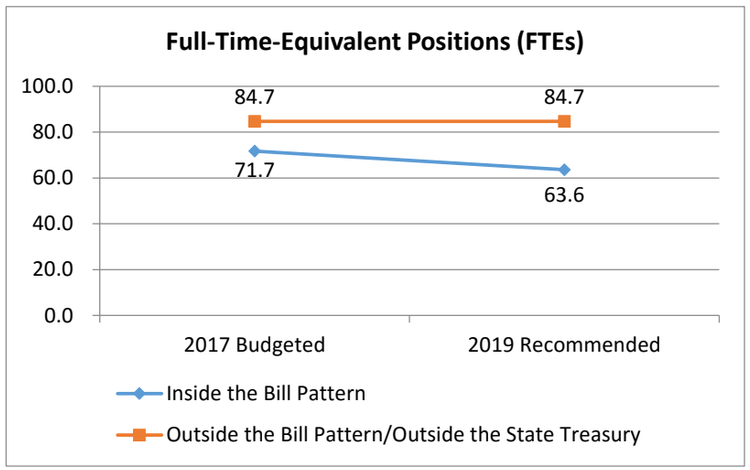




*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Advancements in Water Resource Management

Agency Ranking 3 out of 11



Summary of Recommendations and Fiscal and Policy Issues

1 This program addresses water needs for irrigation, recreation, drinking water, and sanitation needs for the state. The agency evaluates policy and effectiveness of water conservation strategies in urban/rural areas; uses plant breeding techniques to develop water-efficient, drought and salt-tolerant landscape plants; and develops irrigation methods.

2 Examples of agency activities (as reported by TAES):

* To assist with precision irrigation, the agency's agronomy team is collaborating with researchers to develop phenotyping tools to identify crop and root traits for improved water use efficiency under different management approaches. In addition, the agency is developing new, multi-use turfgrass varieties that need less water and are more tolerant of drought, cold, and poor soil conditions.
* The agency has developed hydroponic cropping systems that increased lettuce yields by more than 40 percent while achieving water savings of more than 90 percent when compared to lettuce grown under conventional irrigation systems.
* Because rapid land development can put a city at risk for floods and damage to fish habitats, the agency's Hydrolic Modeling Team is working to improve city water management by updating and expanding its Soil and Water Assessment Tool model which impacts watersheds. Also, tools are being developed for rainfall-runoff modeling and stormwater management practices to improve water quantity and quality.
* Agency researchers are developing new methods of screening water and soil samples for coliform bacteria that will improve efforts to mitigate bacterial contamination of watersheds.
* The agency seeks to increase crop water use efficiency without sacrificing yield by monitoring soil moisture depletion patterns and water variables. Potential outcomes include on-farm water conservation, reduced water production costs, and more water available for non-agricultural use.
* Agency researchers are developing bioenergy crops that can use marginal quality water resources such as electric cooling water, treated urban wastewater, and saline groundwater.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 Additional funding resources could be used that target research to develop, deploy, and demonstrate innovative and new technology platforms that increase the efficacy and economic return of water use across rural and municipal areas of Texas.

Challenges to Operation of Program

1 Availability of funding from external sources, ability to form teams of key faculty to focus efforts on the program, and the public's understanding of water scarcity.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6d: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Animal Production and Protection

Agency Ranking **4 out of 11**

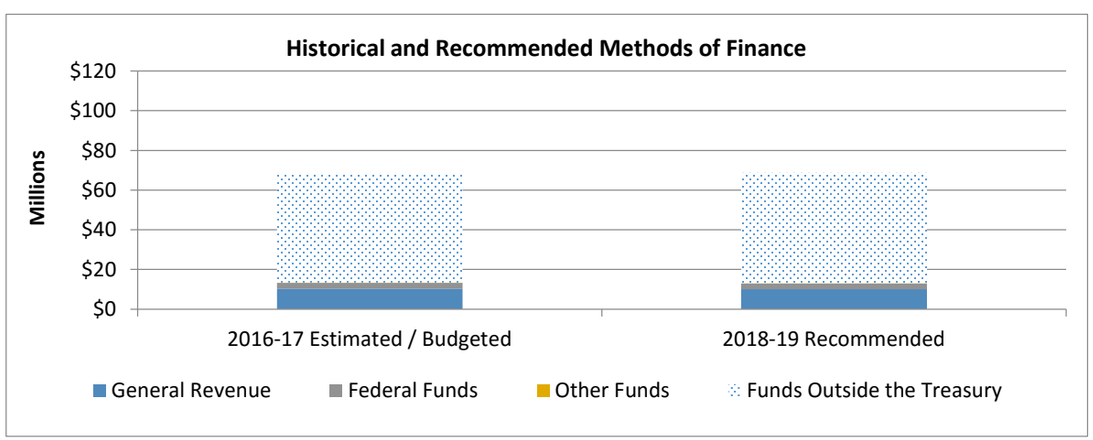
Facilitate development of health, management, breeding, and nutritional strategies to improve animal production, animal health and well-being, and food quality and safety, while reducing environmental risk factors and conserving natural resources.

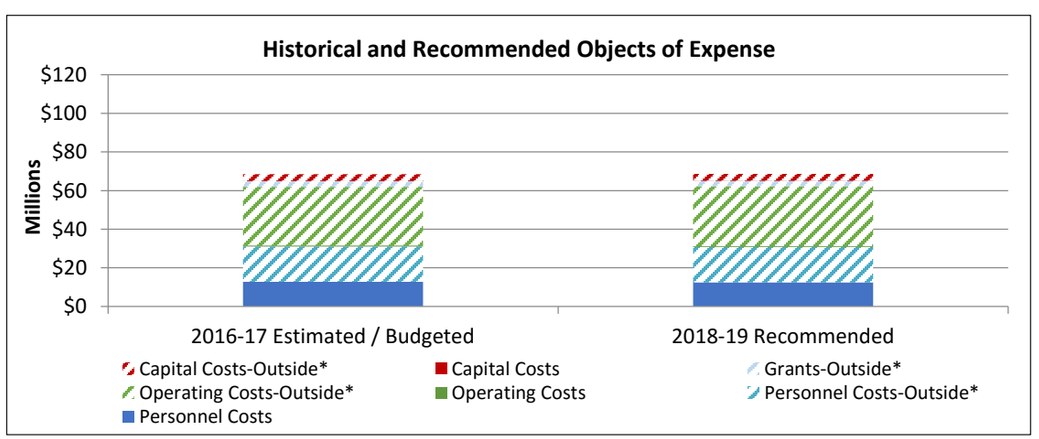
Legal Authority: Education Code, Chapter 88; Federal Funds - Hatch Act of 1887, Animal Health and Disease Research Program (AHDR Section 1433)

Year Implemented	1888	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	No	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Natural Resources Management & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Production of livestock and poultry	$ 40,286,640	152.8	$ 40,052,236	146.0	58.3%
Anti-Microbial Resistance	$ 17,124,885	74.1	$ 17,576,908	72.6	25.6%
Disease of livestock and poultry	$ 11,122,079	47.4	$ 11,077,272	46.1	16.1%
Total	$ 68,533,604	274.3	$ 68,706,416	264.7	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 13,077,200	19.0%
Funds Outside the State Treasury	$ 55,629,216	81.0%
Total	**$ 68,706,416**	100.0%

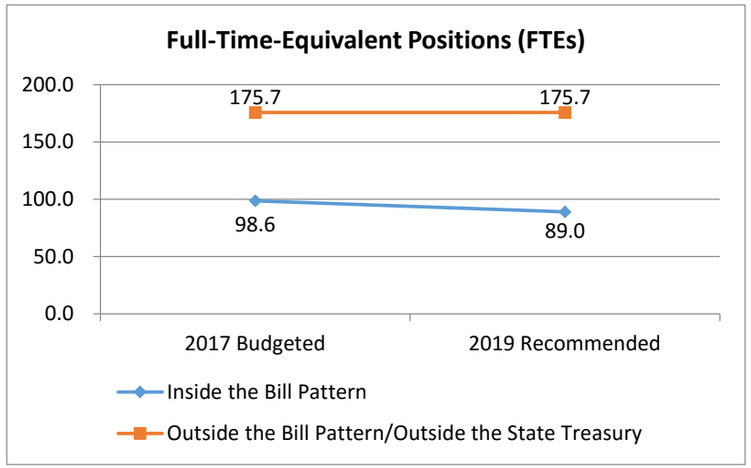




*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Animal Production and Protection

Agency Ranking **4 out of 11**



Summary of Recommendations and Fiscal and Policy Issues

1 The agency facilitates development of health, management, breeding, and nutritional strategies to improve animal production, animal health and well-being, and food quality and safety, while reducing environmental risk factors and conserving natural resources.

2 Examples of agency activities (as reported by TAES):

* Agency researchers study pregnancy stress and calving rates of beef cattle to develop a line of tropically adapted Brahman cattle to increase beef production efficiency in Texas.
* The Cattle Value Discovery System was developed to maximize beef and dairy cow production efficiency in the feedyard by marketing cattle individually to reduce excess fat produced, increase consistency and quality of products, and increase economic returns. This technology has been used by Texas companies to manage cattle.
* The agency conducts research on viruses that infect bacteria and on the use of phages in animal agriculture to reduce the use of chemical antibiotics, which increases agricultural efficiency and reduces the burden of antibiotic resistance in humans and animals.
* Agency researchers have demonstrated that a metal-based drug can replace traditional antibiotics and reduces antimicrobial resistance, which is a major problem for livestock industries, including horse production.
* In collaboration with other entities, the agency is working to develop a monitoring system using radio frequency identification technology for detection and mitigation of bovine respiratory disease in beef cattle, the most common cause of morbidity and mortality in the beef cattle industry.
* The agency develops agricultural screening tools that aid in detection and response to high consequence diseases such as classical and African swine fevers, foot and mouth disease, and other endemic livestock diseases.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 Additional funding resources could increase genomics base techniques to enhance production efficiency.

Challenges to Operation of Program

1 Biosecurity threats, disease outbreaks, antimicrobial resistance, and extreme weather events.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6e: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Plant Production and Protection

Agency Ranking **5 out of 11**

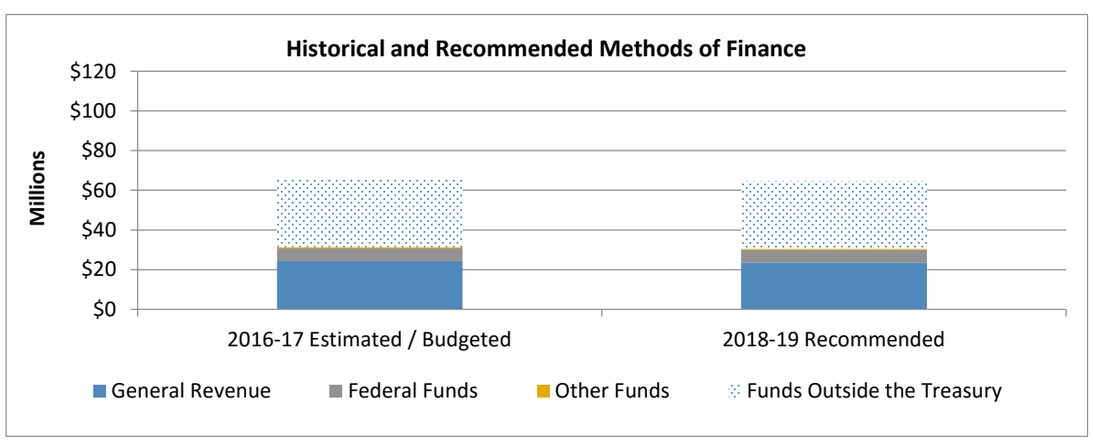
Develop new drought/cold-tolerant, disease-resistant hybrids; breed better tasting cultivars; and conduct cropping systems research. Develop remote sensing to detect physiological indicators of stress in plants; and monitor/mitigate insect vector-borne diseases/invasive species that affect plants.

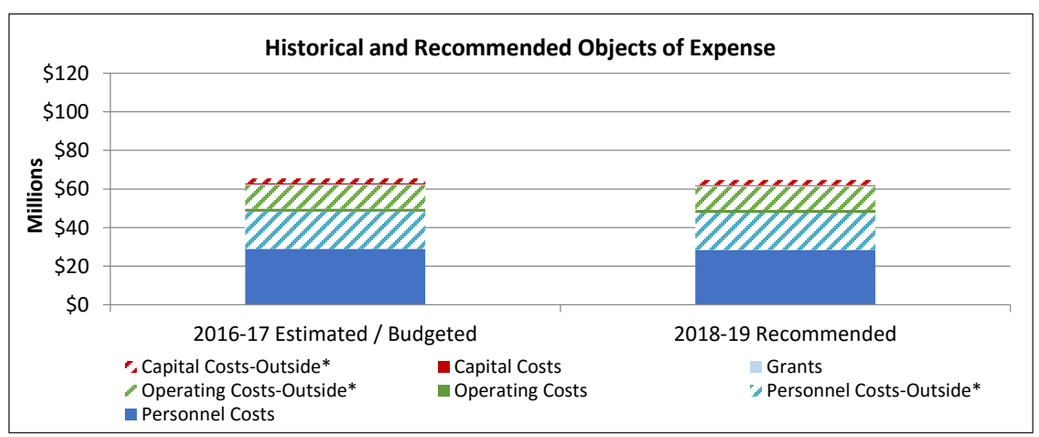
Legal Authority: Education Code, Chapter 88; Federal Funds - Hatch Act of 1887

Year Implemented	1888	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	Partial	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Natural Resources Management & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Breeding/Cropping Systems	$ 37,997,127	242.1	$ 37,540,960	228.3	58.7%
Protection	$ 25,724,779	150.7	$ 24,734,708	144.0	38.7%
Vegetable and Fruit Improvement	$ 1,737,178	10.4	$ 1,645,584	9.3	2.6%
Total	$ 65,459,084	403.2	$ 63,921,252	381.6	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 29,824,520	46.7%
Funds Outside the State Treasury	$ 34,096,732	53.3%
Total	**$ 63,921,252**	100.0%

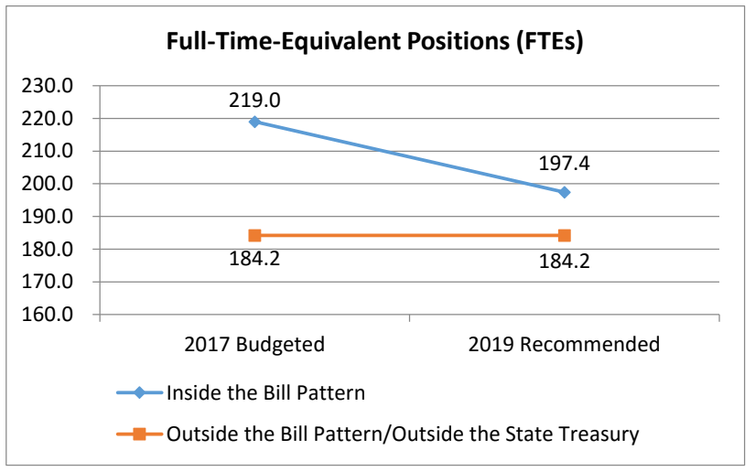




*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Plant Production and Protection

Agency Ranking **5 out of 11**



Summary of Recommendations and Fiscal and Policy Issues

1 The agency reports that it develops new drought/cold-tolerant, disease-resistant hybrids; breed better tasting cultivars; and conduct cropping systems research. It also develops remote sensing to detect physiological indicators of stress in plants and monitors/mitigates insect vector-borne diseases/invasive species that affect plants.

2 Examples of agency activities (as reported by TAES):

* Soil health in the Texas Southern Plains is an area of study by the agency due to tillage, cropping systems, and increasing water demands. The agency has developed a three-year cropping systems study on the impacts of soil practices related to soil carbon, soil water holding capacity, nutrition availability, and yield/production economics; and conducts ongoing demonstrations related to study results.
* Agency researchers in the Amarillo area are working to develop wheat germplasm lines that can tolerate multiple stresses, using conventional and molecular breeding.
* The agency reports a new initiative that is focused on identifying native and adapted plant species with low water requirements which have potential for commercial use in urban landscapes, rangeland restoration, forage production, and improved food and shelter for wildlife.
* The agency's vegetable breeding program has generated more than 700 new lines and hybrids of pepper, tomato, onion, and melon and is evaluating them for commercial potential.
* The agency's Uvalde research faculty are researching the adaptation of specialty crops for growth in southwest Texas. The studies include stress management, nitrogen fertilization, and irrigation practices on a variety of crops.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 Additional resources could provide improvements to precision agriculture.

Challenges to Operation of Program

1 Disease, water availability, and the need for additional capital equipment.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6f: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Regulatory Testing of Feed & Fertilizer - Office of State Chemist

Agency Ranking **6 out of 11**

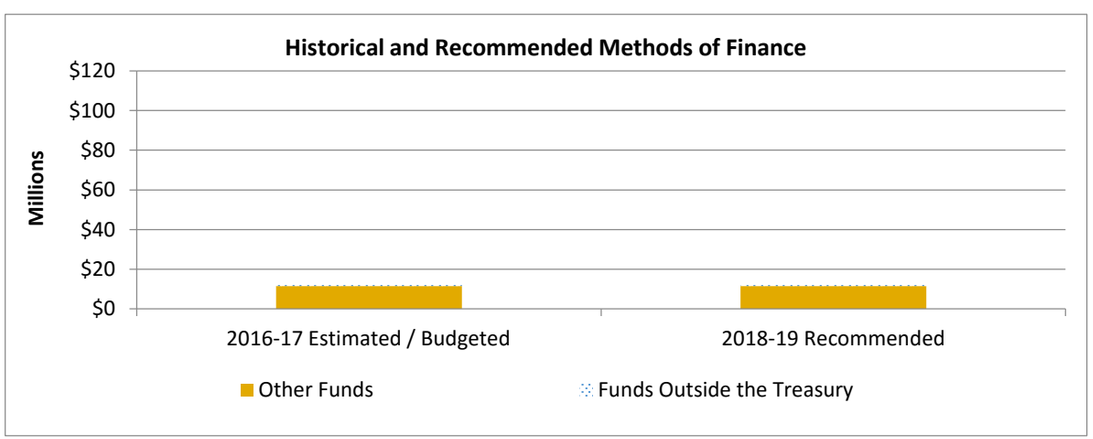
Feed and fertilizer regulatory compliance program, monitoring of animal-human health and environmental hazards, and preparedness planning.

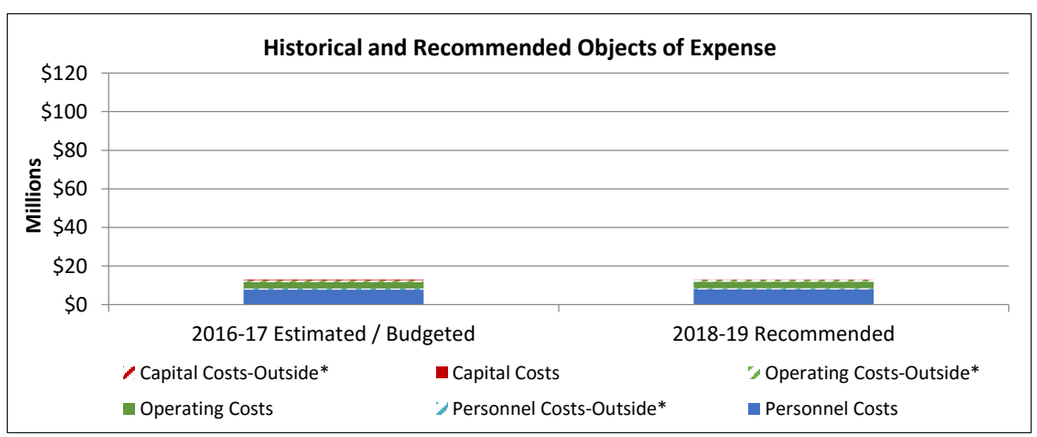
Legal Authority: Education Code, Chapter 88; Agriculture Code, Chapters 63 and Chapter 141

Year Implemented	1899	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	No	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Business & Workforce Development & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Regulatory Compliance	$ 11,470,000	55.6	$ 11,470,000	55.6	88.8%
Hazard Assessment and Surveillance	$ 1,263,006	4.9	$ 1,263,006	4.9	9.8%
Testing and Quality Assurance	$ 179,054	0.3	$ 179,054	0.3	1.4%
Total	$ 12,912,060	60.8	$ 12,912,060	60.8	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 11,470,000	88.8%
Funds Outside the State Treasury	$ 1,442,060	11.2%
Total	**$ 12,912,060**	100.0%

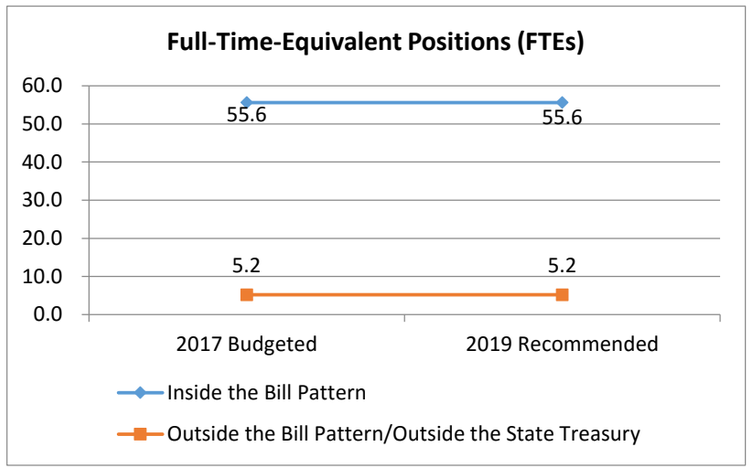




*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Regulatory Testing of Feed & Fertilizer - Office of State Chemist

Agency Ranking **6 out of 11**



Summary of Recommendations and Fiscal and Policy Issues

1 The agency provides the state's feed and fertilizer regulatory compliance program covering over 5,000 entities, monitors animal-human health and environmental hazards, and conducts preparedness planning.

2 The agency indicates it collaborates closely with the U.S. Food and Drug Administration (FDA) which credentials the agency's investigators to perform animal feed inspections.

3 The agency reports that it works directly with various state entities, such as the Department of State Health Services regarding all hazards response team activities, the Texas Department of Insurance and State Fire Marshall's Office on fire inspections of an ammonium nitrate storage facility, and the Texas Commission on Environmental Quality to ensure accurate inventory reporting from ammonium nitrate storage facilities.

4 Communication and collaboration occurs between the agency and various county and city officials related to ammonium nitrate storage facility fire inspections, and homeland security/preparedness at the local level.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 The agency indicates the FDA lacks the resources and capability to fully implement the Food Safety Modernization Act, and the agency is interested in contracting with FDA to perform regulatory services that would be cost-effective and efficient.

Challenges to Operation of Program

1 None.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6g: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Cotton, Wool, and Mohair Research

Agency Ranking **7 out of 11**

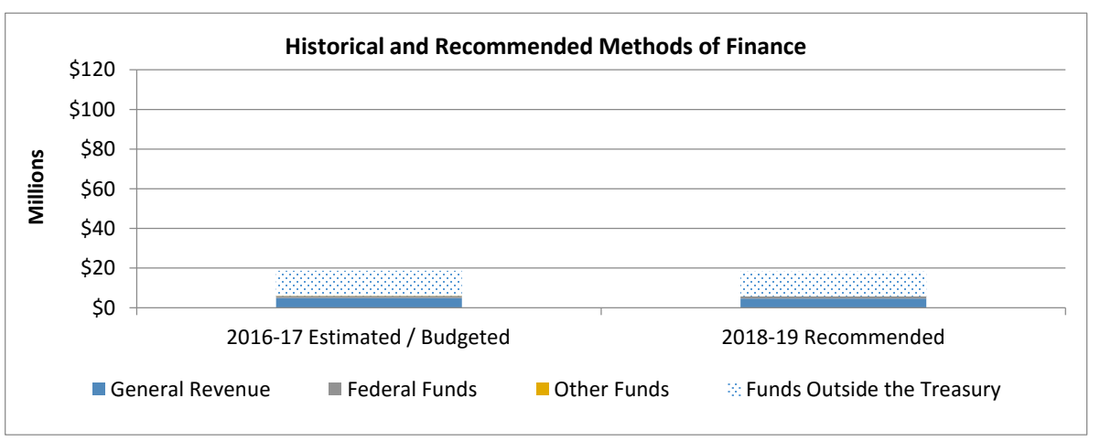
Sheep, goat, wool, and mohair research programs; improving wool marketing; studying the economics of high-value crops; and breeding cotton strains with high yield, disease and stress tolerance, and high fiber quality.

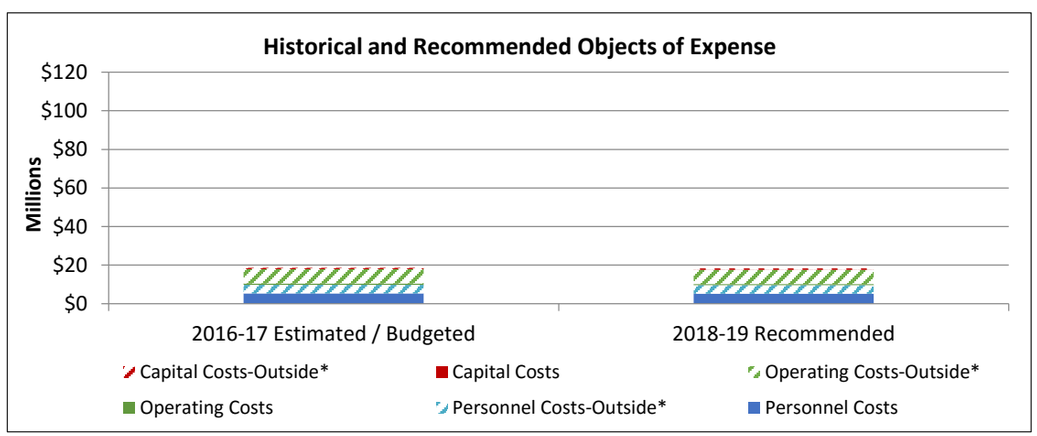
Legal Authority: Education Code, Chapter 88; General Appropriations Act (2016–17 Biennium), Rider 7; Federal Funds - Hatch Act of 1887

Year Implemented	1888	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	No	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Natural Resources Management & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Cotton Germplasm Conservation	$ 8,762,948	40.6	$ 8,625,940	38.2	47.1%
Fiber Analysis	$ 4,926,824	21.5	$ 4,844,744	20.6	26.5%
Quality Assessment	$ 4,919,977	21.5	$ 4,837,794	20.6	26.4%
Total	$ 18,609,749	83.6	$ 18,308,478	79.4	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 5,746,258	31.4%
Funds Outside the State Treasury	$ 12,562,220	68.6%
Total	**$ 18,308,478**	100.0%

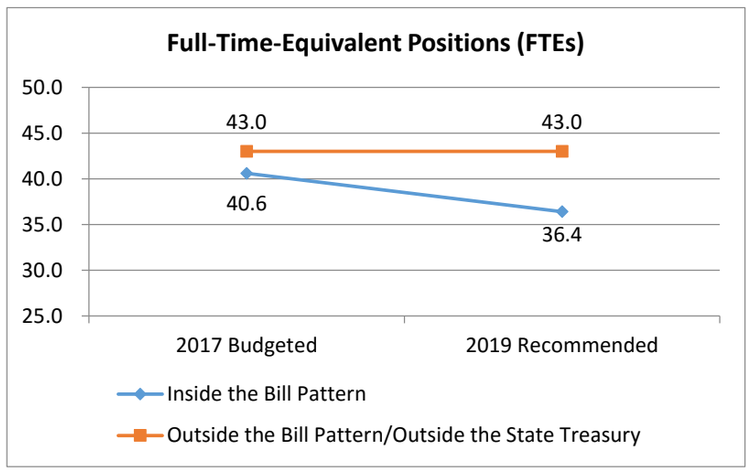




*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Cotton, Wool, and Mohair Research

Agency Ranking **7 out of 11**



Summary of Recommendations and Fiscal and Policy Issues

1 This program area includes sheep, goat, wool, and mohair research; improving wool marketing; studying the economics of high-value crops; and breeding higher quality cotton strains.

2 In conducting its research, the agency indicates it works closely with commodity groups such Cotton Inc. and Plains Cotton Growers Inc., as well as major seed producers like BayerCrop Sciences, Monsanto, and Dow.

3 The agency's cotton breeding research focuses on development of high quality breeding lines for the Texas High Plains through its Plains Cotton Improvement Program. The program facilitates germplasm development for fiber quality, cold and drought tolerance, and disease such as Verticillium wilt, bacterial blight, and nematodes.

4 The agency conducts research to develop objective measurements of animal fibers which are necessary for producers and scientists to make progress in selection for superior fiber traits and to monitor the effects of nutrition. They are also necessary for effectively marketing and establishing the value of raw materials and for predicting processing characteristics for the textile industry.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 With additional resources, the agency could devote research efforts towards developing instrumentation to better classify fiber properties and develop more rapid techniques for screening cotton genotypes to improve cotton breeding.

Challenges to Operation of Program

1 Drought conditions and extreme weather events.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6h: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Feedyard Beef Cattle Production Research

Agency Ranking **8 out of 11**

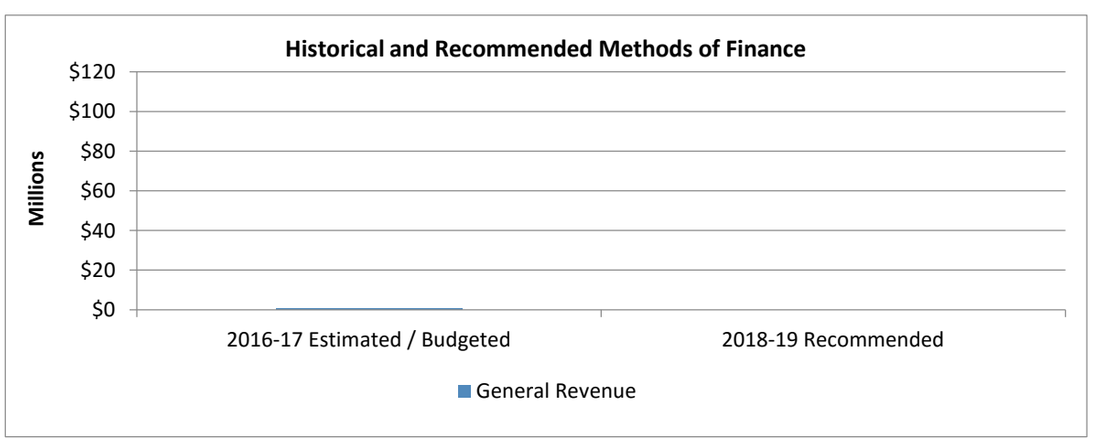
Studying the use of distillers grains in finishing systems. Distillers grains are a feed byproduct of the distillation process in the ethanol production industry. Provide ways to include distillers grains in cattle diets.

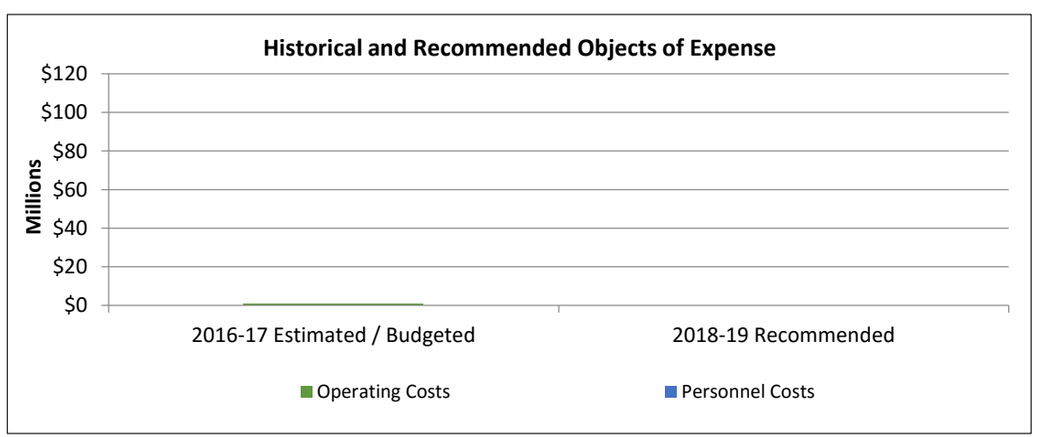
Legal Authority: Education Code, Chapter 88; Federal Funds - Hatch Act of 1887

Year Implemented	2008	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	No	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Natural Resources Management & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Nutritional and Health Assessment in Cattle	$ 728,296	3.5	$ -	0.0	0.0%
Total	$ 728,296	3.5	$ -	0.0	0.0%

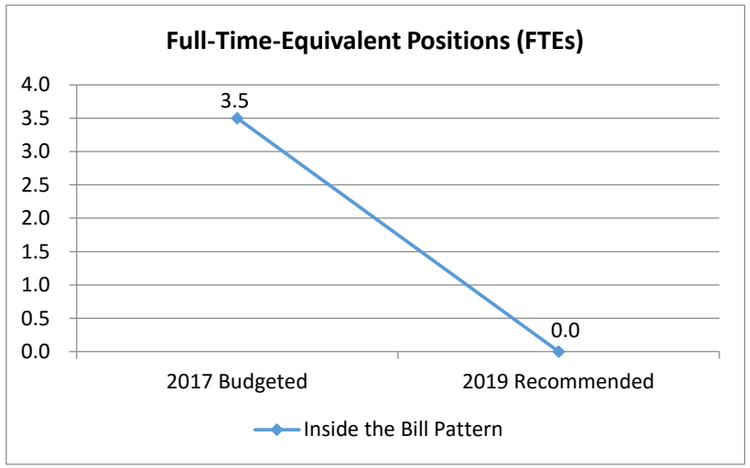
	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ -	0.0%
Funds Outside the State Treasury	$ -	0.0%
Total	**$ -**	0.0%





Program: Feedyard Beef Cattle Production Research

Agency Ranking **8 out of 11**



Summary of Recommendations and Fiscal and Policy Issues

1 Regarding program results, through its research to-date, the agency reports the following:

a) all cattle rations used by one of the largest cattle feeding companies in the nation contains between 22-33 percent distillers grain;

b) nearly all cattle feeding companies today are using distillers grains in its products;

c) distillers grain can be used as a 20-30 percent substitute for corn without affecting cattle performance; and

d) the agency discovered and patented a new bacterium which provides the following benefits to cattle production systems:

* reduces toxicity risk when feeding high nitrate hays;
* allows for nitrate to be fed to cattle as an alternative to urea without risk of toxicity; and
* decreases risk of foodborne pathogens.

2 The agency reported one performance measure for this program and it measures the number of patents, disclosures, and licenses resulting from research. The agency reported 1 patent in fiscal year 2012 and 0 for fiscal years 2013-19.

3 The program was started in fiscal year 2008. In fiscal years 2008-09, $850,000 in General Revenue was appropriated for the program, and a rider was included directing the agency to spend that amount for this purpose.

4 This program is the only one at the agency funded entirely with General Revenue, with no funds outside the treasury or federal funds.

5 The agency's *Strategy A.1.2, Feedyard Beef Cattle Production* and requested funding of $697,678 in General Revenue and 3 FTEs are not included in the 2018-19 recommendations.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 Agency reports additional resources in this area could provide findings for alternative use of distillers grains. Alternative uses for distillers grain would be to incorporate it into other feeding rations for pork and poultry. The agency indicates another alternative is to examine the economics of drying distillers grain down and pelletizing it for feed rations for cattle.

Challenges to Operation of Program

1 A decrease in the production of ethanol results in less distillers grain available for the agency to research its use in the beef production industry.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6i: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Bioenergy Research

Agency Ranking **9 out of 11**

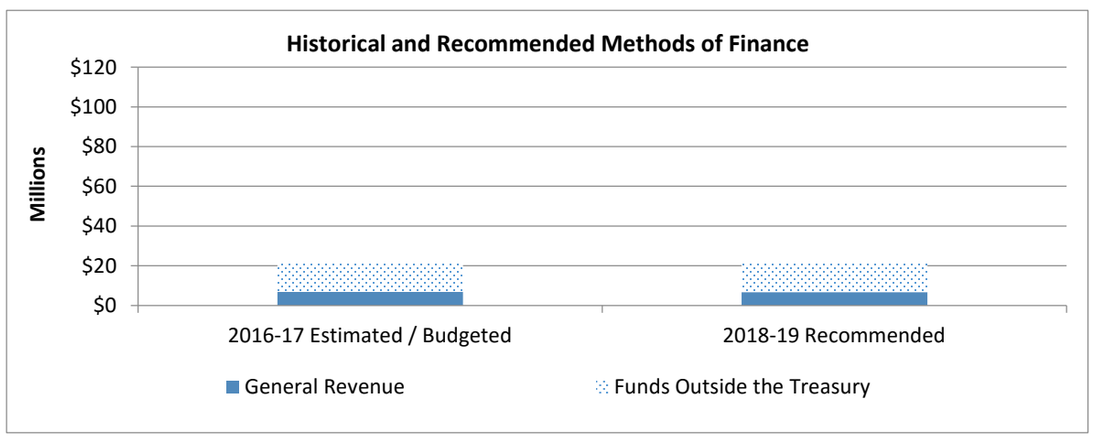
Create alternative energy systems through basic and translational research, develop/improve sources of biomass and biomass production systems, and develop technologies for biofuel production.

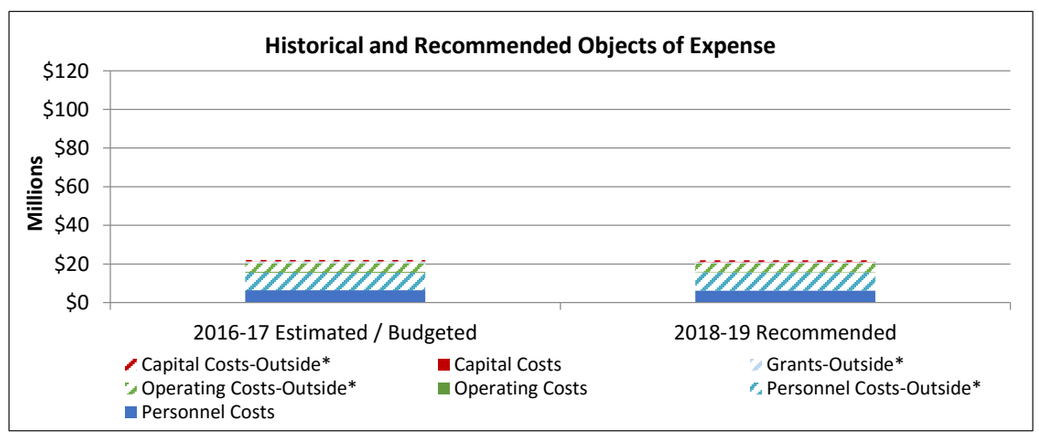
Legal Authority: Education Code, Chapter 88; Federal Funds - Hatch Act of 1887

Year Implemented	2008	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	No	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Natural Resources Management & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Biological Feedstock Development	$ 10,412,246	69.7	$ 10,339,118	66.9	47.3%
Conversion Technologies	$ 6,756,629	41.9	$ 6,711,420	40.3	30.7%
Logistics	$ 4,850,691	28.0	$ 4,808,884	26.9	22.0%
Total	$ 22,019,566	139.6	$ 21,859,422	134.1	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 6,666,790	30.5%
Funds Outside the State Treasury	$ 15,192,632	69.5%
Total	**$ 21,859,422**	100.0%

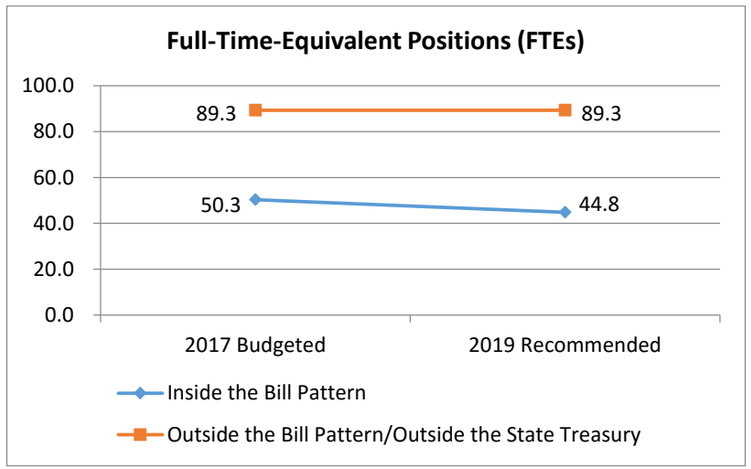




*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Bioenergy Research

Agency Ranking **9 out of 11**



Summary of Recommendations and Fiscal and Policy Issues

1 The agency works toward the creation of alternative energy systems through basic and translational research, developing and improving sources of biomass and biomass production systems, and developing technologies for biofuel production.

2 Examples of agency activities (as reported by TAES):

* Agency researchers have completed three years of evaluating bioenergy feedstocks and sustainable biomass production systems, including soil, water, and wildlife stewardship. The agency reports significant progress in the area of new sorghum-based bioenergy crops.
* The agency's researchers in Lubbock are working on a new algae biofuel, developing algae growth and harvesting techniques that can be commercially scaled and economically replicated in the Southwest desert regions of the U.S.
* The agency is studying the thermochemical conversion of biomass using pyrolysis, liquefaction, and gasification. This technology for producing electricity from gasification of municipal solid waste has been licensed by the agency and is being commercialized by a Texas company.
* Agency scientists are studying bioenergy crops for biofuel feedstocks, using a watershed and land management simulation model to evaluate combinations of feedstocks and water options under different weather and soil conditions.
* Researchers in the Corpus Christi area have developed plans to grow and use macroalgae for biofuels, human consumption, and various feed ingredients, and have determined that algal residue has potential as a safe and effective fertilizer.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 The agency indicates additional resources could impact its competitive proposal process to award bioenergy and bioproducts research projects. The research targets the development of new methodologies and technologies to enhance the operational efficiency and profitability of bioenergy and bioproducts.

Challenges to Operation of Program

1 Fuel costs, availability of external funding sources, and the need to focus more on oil industry fluctuations, low-emission biofuels, and renewable energy.

Funding Alternatives

1 None.

Texas A&M AgriLife Research

Strategic Fiscal Review Appendix 6j: Program Summary - Senate

(Includes Programs from All Funding Sources - Both Inside and Outside the State Treasury)

Program: Honey Bee Research/Texas Apiary Inspection Service

Agency Ranking **10 out of 11**

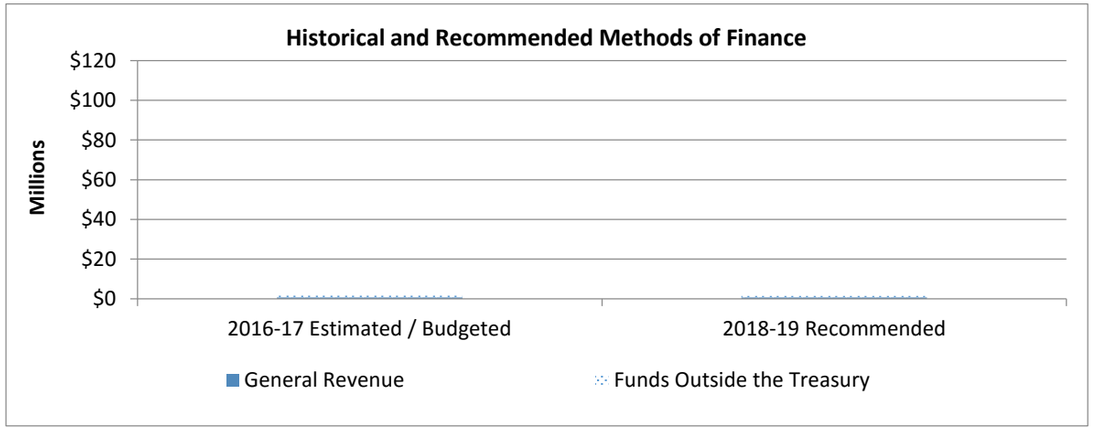
Inspect, control, eradicate, or prevent the introduction, spread, or dissemination of contagious or infectious diseases of bees; regulate the apiary industry of Texas.

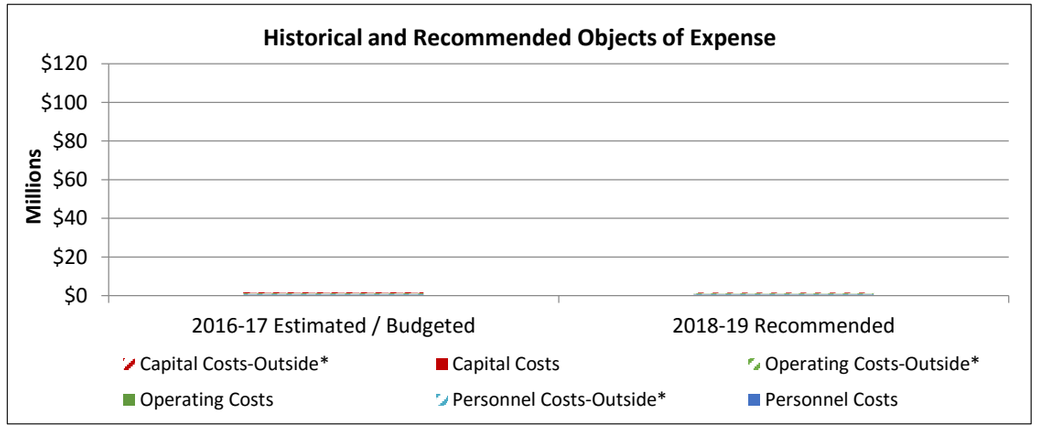
Legal Authority: Education Code, Chapter 88; Agriculture Code, Chapter 131

Year Implemented	1920	**Performance and/or**		**Revenue Supported**	Yes
Authority	Strong	**Operational Issues**	No	**Appropriate Use of Constitutional and**	
Centrality	Strong	**Outsourced Services**	Partial	**General Revenue-Dedicated Funds**	Compliant
Service Area	Statewide	**State Service(s)**	Business & Workforce Development & Regulation		

Major Activities	2016-17 Estimated / Budgeted	2017 FTEs	2018-19 Recommended	2019 FTEs	% of Total
Colony Collapse	$ 734,103	1.7	$ 734,104	1.7	48.4%
Disease	$ 535,873	5.2	$ 517,234	4.9	34.1%
Parasites	$ 265,002	0.2	$ 265,008	0.2	17.5%
Total	$ 1,534,978	7.1	$ 1,516,346	6.8	100.0%

	2018-19 Recommended	% of Total
Funds Inside the State Treasury	$ 754,884	49.8%
Funds Outside the State Treasury	$ 761,462	50.2%
Total	**$ 1,516,346**	100.0%

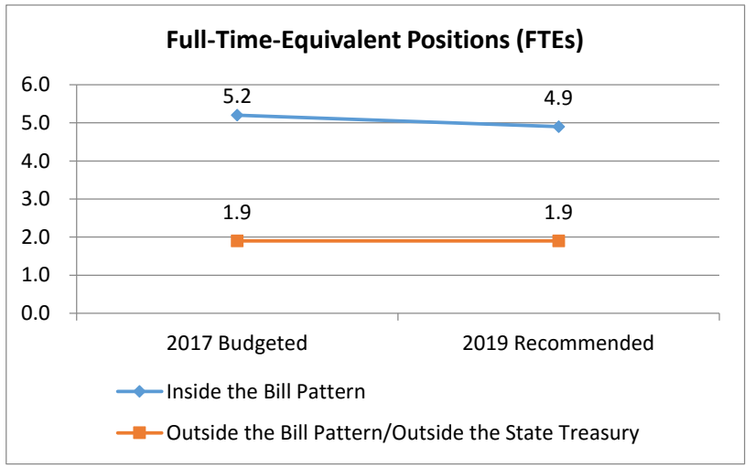




*Indicates Outside the Bill Pattern/Outside the State Treasury.

Program: Honey Bee Research/Texas Apiary Inspection Service

Agency Ranking **10 out of 11**



Summary of Recommendations and Fiscal and Policy Issues

1 The agency inspects, controls, eradicates, and works to prevent the introduction, spread, and dissemination of contagious or infectious diseases of bees; and regulates the apiary industry of Texas.

2 The agency's Texas Apiary Inspection Service is the sole entity responsible for regulating the apiary industry of Texas. The number of apiaries (where bee hives of honey bees are kept) inspected by the agency in fiscal year 2016 was 194. The agency inspected 182,082 bee colonies in Texas in fiscal year 2016. Beekeepers throughout Texas are also provided educational opportunities by the agency.

3 The agency reports that honey bees are a vital part of the agricultural industry in Texas, and that pollination by honey bees provides a significant amount of value to Texas crops. Honey bee research and services revolve around the behavioral ecology of honey bee colonies, pollination and beekeeping practices, and effectively monitoring and mitigating pests and diseases of honey bees.

Recommended Statutory Changes for Program Improvement

1 None.

Enhancement Opportunities

1 The agency indicates additional resources could assist in work towards improved honey bee pollination.

Challenges to Operation of Program

1 Interstate movement of bee colonies around the country.

Funding Alternatives

1 None.

Texas A&M AgriLife Research
Appendices - Senate

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* Appendix is not included - no significant information to report

** Information is included in the presentation section of the packet

Texas A&M AgriLife Research
Funding Changes and Recommendations - Senate, by Strategy -- ALL FUNDS

Strategy/Goal	2016-17 Base	2018-19 Recommended	Biennial Change	% Change	Comments
AGRICULTURAL/LIFE SCIENCES RESEARCH A.1.1	$103,346,578	$99,075,551	($4,271,027)	(4.1%)	Recommendations include: 1) $3.4 million decrease in General Revenue Funds and GR-Dedicated Funds and a reduction of 33.0 FTEs resulting from the four percent base reduction requirement (see Section 3 for details); 2) $0.7 million decrease in Interagency Contracts (Other Funds); and 3) $48,546 decrease in All Funds due to a shift of funds across strategies.
FEEDYARD BEEF CATTLE PRODUCTION A.1.2	$726,748	$0	($726,748)	(100.0%)	Recommendations include a $0.7 million decrease in General Revenue Funds and a reduction of 3.5 FTEs due to elimination of funding for this strategy (see Section 3 for details).
Total, Goal A, AGRICULTURAL/LIFE SCIENCES RESEARCH	**$104,073,326**	**$99,075,551**	**($4,997,775)**	**(4.8%)**	
HONEY BEE REGULATION B.1.1	$534,733	$516,070	($18,663)	(3.5%)	Recommendations include: 1) $21,502 decrease in General Revenue Funds and a reduction of 0.2 FTE resulting from the four percent base reduction requirement (see Section 3 for details); and 2) $2,839 increase in All Funds due to a shift of funds across strategies.
FEED AND FERTILIZER PROGRAM B.2.1	$9,649,034	$9,630,148	($18,886)	(0.2%)	Recommendations include an $18,886 decrease in All Funds due to a shift of funds across strategies.
Total, Goal B, REGULATORY SERVICES	**$10,183,767**	**$10,146,218**	**($37,549)**	**(0.4%)**	
STAFF GROUP INSURANCE C.1.1	$2,328,732	$2,352,212	$23,480	1.0%	Recommendations include a $23,480 increase in All Funds due to benefits costs proportionality requirements.
WORKERS' COMP INSURANCE C.1.2	$270,449	$272,000	$1,551	0.6%	Recommendations include a $1,551 increase in All Funds due to benefits costs proportionality requirements.
UNEMPLOYMENT INSURANCE C.1.3	$98,224	$98,402	$178	0.2%	Recommendations include a $178 increase in All Funds due to benefits costs proportionality requirements.

Texas A&M AgriLife Research
Funding Changes and Recommendations - Senate, by Strategy -- ALL FUNDS

Strategy/Goal	2016-17 Base	2018-19 Recommended	Biennial Change	% Change	Comments
OASI C.1.4	$1,609,446	$1,624,396	$14,950	0.9%	Recommendations include a $14,950 increase in All Funds due to benefits costs proportionality requirements.
Total, Goal C, STAFF BENEFITS	**$4,306,851**	**$4,347,010**	**$40,159**	**0.9%**	
INDIRECT ADMINISTRATION D.1.1	$10,871,728	$10,583,210	($288,518)	(2.7%)	Recommendations include: 1) $0.4 million decrease in General Revenue Funds and a reduction of 3.1 FTEs resulting from the four percent base reduction requirement (see Section 3 for details); and 2) $0.1 million increase in All Funds due to a shift of funds across strategies.
INFRASTRUCTURE SUPPORT IN BRAZOS CO D.1.2	$11,317,843	$11,544,718	$226,875	2.0%	Infrastructure Support formula funding General Revenue amount for FY2018-19 is based on FY2016-17 total appropriated levels and adjusted based on updated data.
INFRASTRUCT SUPP OUTSIDE BRAZOS CO D.1.3	$6,326,789	$6,353,708	$26,919	0.4%	Infrastructure Support formula funding General Revenue amount for FY2018-19 is based on FY2016-17 total appropriated levels and adjusted based on updated data.
Total, Goal D, INDIRECT ADMINISTRATION	**$28,516,360**	**$28,481,636**	**($34,724)**	**(0.1%)**	
Grand Total, All Strategies	**$147,080,304**	**$142,050,415**	**($5,029,889)**	**(3.4%)**	

Texas A&M AgriLife Research
Summary of Federal Funds - Senate
(Dollar amounts in Millions)

Program	Est 2016	Bud 2017	Rec 2018	Rec 2019	2016-17 Base	2018-19 Rec	2018-19 Rec % Total	Recommended Over/(Under) Base	% Change from Base
Hatch Act Payments to Agricultural Experiment Stations	$8.7	$8.7	$8.7	$8.7	$17.3	$17.3	**94.7%**	**$0.0**	**0.0%**
Cooperative Forestry Research	$0.5	$0.5	$0.5	$0.5	$1.0	$1.0	**5.3%**	**$0.0**	**0.0%**
TOTAL:	**$9.2**	**$9.2**	**$9.2**	**$9.2**	**$18.3**	**$18.3**	**100.0%**	**$0.0**	**0.0%**

	Expended 2015	Estimated 2016	Budgeted 2017	Recommended 2018	Recommended 2019
• *Number of Scientific Publications*	2,399	1,831	2,400	2,400	2,400
Measure Explanation: This measure represents the number of publications (paper or electronic) recognized by a peer group of scientists as a professional journal of record for dissemination of information for the intended audience. Depending upon the scientific field, the time frame for experiments may vary from months to years.					
• *Amount of External Sponsor Support (in dollars)*	84,636,738	125,650,042	98,250,000	94,250,000	94,250,000
Measure Explanation: External sponsor support is the monies awarded to the agency from sources other than General Revenue and federal formula funds. These monies are often received through competitive grants and research contracts.					
• *Number of Bee Colonies Inspected*	228,573	182,082	185,000	185,000	185,000
Measure Explanation: The agency inspects bee colonies for disease and to insure the bees are European Honey Bees in order to maintain the health and quality of bees in Texas. Weather conditions, and whether the bees are being used for pollination or honey production, influences whether the colonies need to be inspected.					

Texas A&M AgriLife Research
Summary of Ten Percent Biennial Base Reduction Options - Senate

			Biennial Reduction Amounts					
Priority	**Item**	**Description/Impact**	**GR & GR-D**	**All Funds**	**FTEs**	**Potential Revenue Loss**	**Reduction as % of Program GR/GR-D Total**	**Included in Introduced Bill?**
1)	Indirect Administration	Reduction in Indirect Administration and 3.7 FTEs which Texas A&M AgriLife Research (TAR) reports would result in a delays in timely payments and timely reporting. Also, TAR indicates needed separation of staff duties would become an issue.	$495,542	$495,542	3.7	$0	5%	No
2)	Research Programs	Reduction in TAR's research programs and 48.0 FTEs. TAR reports this reduction would result in limiting scientists' ability to quickly respond to emerging problems, like Zika. Both scientists and staff jobs would be eliminated and research locations could be consolidated or closed. TAR also indicates the reduction in General Revenue Funds and scientists would negatively impact the agency's ability to obtain over $10 million in externally generated revenue due to the loss of contracts/grants and intellectual property.	$4,143,662	$4,143,662	48.8	$10,000,000	5%	No
3)	Indirect Administration	Additional reduction in Indirect Administration and 3.7 FTEs which TAR reports would result in additional delays in timely payments and timely reporting. Also, TAR indicates needed separation of staff duties would become an issue.	$495,544	$495,544	3.7	$0	5%	No
4)	Research Programs	Additional reduction in TAR's research programs and 48.0 FTEs. TAR reports this reduction would result in further limiting scientists' ability to quickly respond to emerging problems. Both scientists and staff jobs would be eliminated and research locations could be consolidated or closed. TAR also indicates the reduction in General Revenue Funds and scientists would negatively impact the agency's ability to obtain over $10 million in externally generated revenue due to the loss of contracts/grants and intellectual property.	$4,143,664	$4,143,664	48.8	$10,000,000	5%	No
TOTAL, 10% Reduction Options			**$9,278,412**	**$9,278,412**	**105.0**	**$20,000,000**		