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2018 Agricultural Education & FFA Engagement Executive Summary Report

In 2018, 5,986 programs comprising 47 states used the AET to track students' experiences in agricultural education, but 4,792 programs illustrated consistent use in student logins, and SAE and FFA recordkeeping therefore serving as a representative sample of programs (a 15.9% increase from 2017). Table 1 provides a summary of chapters in this 2018 sample and compares their rank in National FFA membership to validate the sample contains proportionate values and represents national rankings.

Table 1 – AET Sample summary & National Membership Ranking (n=4,792)

AET Sample Rank	State	AET Sample Chapter #	AET Sample FFA Student #	% of National Chapters	% of National Students	National FFA Rank (Chapter)
1	TX	760	108,736	71%	84%	1
2	OK	341	25,492	94%	95%	2
3	IL	311	19,025	93%	97%	8
4	CA	308	89,076	91%	96%	6
5	OH	268	23,268	78%	91%	5
6	NC	189	17,979	65%	88%	9
7	NE	185	9,275	98%	97%	18
8	AR	160	11,911	78%	83%	14
9	AL	148	11,540	58%	73%	10
10	IA	127	8,798	52%	57%	12
11	KS	121	6,330	59%	63%	15
12	PA	120	12,188	83%	95%	23
13	KY	111	11,421	73%	83%	22
14	CO	110	6,994	96%	97%	27
15	OR	97	6,931	92%	94%	28
16	MI	96	7,957	83%	92%	26
17	MT	86	4,951	92%	96%	31
18	MN	83	11,190	45%	107%	19
19	ID	82	5,250	93%	100%	32
20	UT	77	7,320	91%	99%	35
21	GA	76	12,463	23%	29%	7
22	ND	75	5,745	87%	93%	33
23	AZ	71	9,575	88%	95%	37
24	IN	71	6,002	34%	47%	13
25	WA	63	4,388	38%	37%	21
26	WV	62	5,523	75%	85%	36
27	MO	57	4,286	16%	17%	4
28	NM	52	2,919	69%	79%	39
29	WY	51	3,209	93%	97%	40
30	WI	51	6,251	20%	30%	11
31	SD	46	2,632	53%	56%	34
32	VA	42	3,387	24%	38%	20
33	SC	38	4,971	38%	59%	29
34	NY	38	3,130	33%	46%	25
35	TN	36	6,656	18%	48%	16
36	FL	34	2,665	10%	13%	3
37	LA	27	3,948	14%	36%	17

38	NV	23	2,397	82%	78%	44
39	MD	23	1,528	56%	69%	41
40	DE	17	2,827	50%	72%	43
41	MS	17	885	18%	28%	30
42	NJ	16	1,659	46%	71%	42
43	CT	15	2,500	71%	72%	45
44	AK	6	337	60%	83%	51
45	VT	2	90	15%	30%	48
46	HI	2	36	10%	11%	46
47	MA	1	96	6%	5%	47
	Total Values	4,792	505,737	Sample Ave. 58%	Sample Ave. 68%	

Table 1 illustrates 58% of programs and 68% of students in states utilizing the AET represents the majority of FFA programs and is likely a representative sample for agricultural education. Table 2 provides a demographic summary of students and programs in this sample.

Table 2 Sample Program Demographics (n=4,792)

Program Demographic	Average (Per Program)	Most Often Value (Mode)	95% Confidence Range of Avg.
Number of Teachers	1.78	1	1.7 to 1.8
Active Students (all grades)	98.5	32	95 to 102
% of students with SAEs (Active)	57%	n/a	n/a
% of students with Journals (Active)	73%	n/a	n/a

SAE and journal engagement values are similar in 2018 to 2017 (2017 57% SAE and 74% journaling); teacher and student averages increased slightly from 2017 values (1.77 teachers and 97 students).

2018 Agricultural Education Program Engagement

Table 3 provides a summary of engagement by SAE type per program and a national estimate of total SAE.

Table 3 Student SAE Involvement by Primary SAE Type (n=4,792)

SAE Descriptive Area	2018 SAE # (Per Program)	%	SAE National Estimate (N=8,232 Programs)
Placement SAE	47	53%	383,099
Entrepreneurship SAE	28	32%	232,057
Research SAE	14	8%	112,445
Total Immersion SAEs	72		727,601
Foundational SAE	28		226,517
Total SAEs Per Program	116		954,118

As illustrated in Table 3, the highest immersion SAE category is placement (job experiences) with foundational SAEs representing about 28 projects (28%) per program. SAE engagement by AFNR area and relative value is listed in Table 4.

Table 4 Student SAE Involvement by Interest Area (n=4,792)

SAE Descriptive Area	Average (Per Program)	2018 %	National Estimate (N=8,232 Programs)
Animal Systems	52.43	45.2%	431,564.36
Agribusiness Systems	7.32	6.3%	60,230.04
Leadership Education & Comm.	10.36	8.9%	85,257.08
Environmental Systems	4.68	4.0%	38,546.95
Food Products and Processing	6.25	5.4%	51,428.72
Power, Structural and Technical	11.28	9.7%	92,855.31
Natural Resources	3.07	2.6%	25,253.48
Plant Science	20.14	17.4%	165,832.17
Biotechnology	0.38	0.3%	3,149.54
Total SAE Interest	115.90		954,117.63

As illustrated in Table 4, animal systems is the most frequent SAE area with other areas listed. Student experiential learning activities for SAE, FFA, and community service are outlined in Table 5.

Table 5 Students Time Invested (Journal Hours) in Experiential Learning (n=4,792)

Descriptive Area	Average (Per Program)	%	National Estimate (N=8,232 Programs)
Journal Hours in SAE Projects	4,146.7	78.2%	34,135,662
Journal Hours in FFA Activities (Offices, CDE, Committees)	880.4	16.6%	7,247,318
Journal Hours in Community Service Activities	275.2	5.2%	2,265,227
Total Hours	5,302.3	100%	43,648,207

As illustrated in Table 5, the total experiential learning time is estimated at 43.6 million hours in 2018. This is a slight decrease from 2017 values, but likely just a representative value from slightly less student journaling. Table 6 outlines how students report involvement in FFA activities. These values illustrate nearly identical values from the 2017 report, illustrating similar areas of involvement, which is mostly other FFA activities (72%) and CDE activities listed as the second most frequently-involved areas (17%).

Table 6 Student Activities (#) by Common Areas of FFA Involvement (n=4,792)

Descriptive Area	Average (Per Program)	%	National Estimate (N=8,232 Programs)
Other FFA-related Activities (Convention, Camps, Meetings, etc.)	148.4	72%	1,221,982
FFA Office-related Activities	11.7	6%	95,987
CDE-related Journal Activities	35.0	17%	287,711
Committee-related Journal Activities	9.7	5%	80,211
Total FFA Activities	204.8	1.0	1,685,892

2018 Economic Values from SAE Engagement in Agricultural Education

Not only does SAE engagement involve time and learning but also financial investments and potential earnings. Table 7 provides a summary of student SAE earnings for a typical agricultural education program.

Table 7 Income Values from SAE Engagement in Agricultural Education Programs (n=4,792)

Area of SAE Income (SAE returns)	Average (Per Program)	%	National Estimate (N=8,232 Programs)
Paid Work Income	$25,316	33.5%	$208,403,901
SAE Labor Exchange	$5,530	7.3%	$45,522,197
Cash/Market Sale	$23,669	31.3%	$194,841,619
Stock Show Sale	$9,744	12.9%	$80,214,887
Award/Scholarship/Premium	$3,199	4.2%	$26,336,754
Research Funding	$2,679	3.5%	$22,052,387
Used at Home	$1,456	1.9%	$11,981,929
Rental Income	$4,002	5.3%	$32,942,617
Total Value	$75,595		$622,296,291

As illustrated in Table 7, an average program has students earning $75,595, which is nearly identical to the 2017 value ($75,137). In total, it is estimated students earn $622 million through their SAE projects, which can assist them in other educational and career goals. Table 8 outlines SAE spending, which is a key factor in economic growth.

An average program has students investing $57,895 in supporting their SAE projects. Nationally, SAE spending is estimated to be $476.6 million in local financial investments that likely support local businesses. These investments are allocated across common SAE-related expenses, which are outlined in Table 8.

Table 8 SAE Investments in Operating Expenses (n=4,792)

Area of Economic Investing	Average (Per Program)	%	National Estimate (N=8,232 Programs)
Inventory for Resale	$15,727	27.2%	$129,464,825
Feed	$9,656	16.7%	$79,491,574
Other Expenses	$6,072	10.5%	$49,987,370
Fertilizer/Chemicals	$4,677	8.1%	$38,501,950
Rent	$7,113	12.3%	$58,555,107
Contract/Custom Hire	$3,622	6.3%	$29,817,396
Paid Work Expense	$1,704	2.9%	$14,024,888
Supplies	$2,095	3.6%	$17,246,988
Seed	$2,122	3.7%	$17,469,276
Fuel	$1,122	1.9%	$9,235,302
Entry Fees/Commissions	$1,727	3.0%	$14,219,757
Repairs/Maintenance	$1,191	2.1%	$9,800,556
Veterinary Medicine	$1,066	1.8%	$8,774,613
Total Value	$57,895		$476,589,605

Investment values also include non-current assets (long-term assets), such as breeding animals, machinery, buildings and land, which are additional drivers to local, state and national economies ($51,185 in 2018). Once investments are measured, additional impacts can be derived using economic multiplier factors ($1.90 per $1 in spending IMPLAN Type II Multiplier). Table 9 provides a summary of both direct agricultural education program investment values and related economic impact values (direct spending and economic value).

Table 9 Direct Investments and Economic Impact Values from SAE Engagement (n=4,232)

Area of Economic Activities (SAE Investments)	Avg. Program Value Direct Spending (Per Program)	Avg. Program Economic Value[1] (IMPLAN 1.90, Type II)
Total Operating SAE Expenses	$57,895	$110,000
Non-Current Asset Purchases	$51,185	$97,252
Total Value	$109,080	$207,252

1 – IMPLAN Model values represent direct, induced and indirect economic values derived from spending

As illustrated in Table 9, an average agricultural education program encourages SAE investment of $109,080 in SAE expenses and investment in non-current items. In terms of economic impact, these programs are likely developing $207,252 in total economic impact that supports all areas of the region. Considering 2017 values, this represents a 43% increase in economic activity (2017=$145,172 to 2018=$207,252 in economic value).

Economic values from agricultural education programs (FFA chapters) with SAE activities defines not only local values but also national values. Table 10 defines the national economic impact value from SAE engagement.

Table 10 National Direct Investments and Economic Impact Values from SAE Engagement (N=8,232)

Area of Economic Activities (SAE Investments)	National SAE Direct Spending	National Economic Value[1] (IMPLAN 1.90, Type II)
Total Operating SAE Expenses	$476,589,605	$905,520,250
Non-Current Asset Purchases	$421,358,367	$800,580,897
Total Value	$897,947,972	$1,706,101,147

1 – IMPLAN Model values represent direct, induced and indirect economic values derived from spending.

As illustrated in Table 10, the national economic value of SAE engagement in agricultural education reaches $1.7 billion. Considering national values and total FFA student enrollment (702,046), each FFA member potentially represents $1,279 in direct spending, $2,430 in economic values from SAE project involvement and 48 hours of outside-of-class learning experiences.

Application of Information

This report provides a summary of agricultural education, which also represents FFA chapter metrics describing a typical U.S. agricultural education program and national value estimates. Appropriate use of these values can drive support in agricultural education or FFA programs, potentially prioritizing educational initiatives. Values listed here also may serve as comparisons to local program reports listed in AET.

As in the case of all research reports, standard error always exists when summarizing and extrapolating data; however, several key areas (% SAE involvement, SAE spending, and FFA involvement) were compared to a random selection of programs and no significant differences were found, which does offer support that these values do represent typical programs in agricultural education with students tracking their educational experiences.

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