National Agricultural Education Supply & Demand Study

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2023 Executive Summary

The National Agricultural Education Supply and Demand Study has been facilitated by the American Association for Agricultural Education (AAAE) since 1965. This document is a summary of findings from the 10th year (2023) of data collection by the present project team. In 2023, a national dataset was created to advance scholarship on teacher recruitment and retention, providing accessible data to all stakeholders in agricultural education to explore and interpret for their practical application.

Need for the Project

Within school-based agriculture, a shortage of highly qualified school-based agricultural educators is not a new phenomenon (Smith, Foster, & Lawver, 2017). Despite the voracious demand and ongoing program growth, persistent challenges exist in securing adequate funding for programs, addressing educator salary concerns, navigating licensure requirements, and promoting diverse representation in the teaching field. Collaborating systematically as stakeholders in agricultural education is essential to gather accurate and timely data on the supply of qualified teachers in agricultural education and the demand for school- based agricultural education positions throughout the United States. This approach will facilitate data-driven policy discussions.

Data Collection/Methods

Teacher educators at institutions with Agricultural Education teacher preparation programs were invited to provide supply data, while state supervisors/executive secretaries were invited to provide demand data. Both supply and demand instruments were developed in Qualtrics and distributed via email in September. Respondents were asked to provide data as of September 15, 2023. Multiple follow-up requests were made to each non-respondent and alternate contacts in some cases.

Supply of Agriculture Teachers

A total of 98 teacher education programs provided supply data, resulting in a 90% response rate (*N*=109). Land-grant universities represent 46% of responding institutions and account for 52% of the program completers in agricultural teacher education in 2023. Alaska, Hawaii, Maine, Rhode Island, Vermont, and the Virgin Islands currently have no existing Agricultural Education teacher preparation programs.

Of the 861 license-eligible program completers (PCs) reported in 2023, program type was reported for 852. In all, 700 were undergraduate completers, 73 post-baccalaureate program completers, 67 graduate program completers, and 12 individuals completed licensure only. Table 1 outlines the reported post-graduation employment plans of the 2023 license-eligible PCs.

Table 1.
Employment Plans of License-Eligible Program Completers as Reported by Institutions (N=98)

Employment Plans	*f*	%
Agribusiness	41	5
Extension	15	2
Graduate school	35	4
Military	1	0
Other	20	2
Production agriculture	4	0
SBAE in state	606	70
SBAE out of state	69	8
Teaching other subject	36	4
Unemployed	11	1
Unknown	23	3
Total Program Completers	861	

Of the 861 license-eligible PCs reported, gender was reported for 852. A total of 673 (79%) were female and 177 (21%) were male, and 2 (0%) non-binary. Ethnicity was reported for 838 PCs, with 87% reported as White, Non-Hispanic, with 10% Hispanic/Latino, 1% Bi-racial/Multi-racial, 1% African American, 1% American Indian/Alaskan, and 0% Asian. Ethnicity was reported as unknown or other for approximately 1% of PCs.

Demand for Agriculture Teachers

Demand data was provided by 45 states resulting in an 87% response rate (*N*=52). Non-respondent states include Delaware, Hawaii, Massachusetts, Puerto Rico, Rhode Island, Virgin Islands, and Wyoming.

As of September 15, 2023, 45 state staff reported a total of 9,212 school-based agricultural education programs employing 14,756 teachers of which 14,376 were full-time (97%) and 380 were part-time (3%). Of the total number of teachers, 1,508 (10%) were new hires in school-based agricultural education (SBAE) while 641 teachers, comprising just over 4%, transitioned to different schools. Table 2 identifies the reported sources of new hires.

Table 2.
Source of new hires in SBAE

Source	*f*	%
Newly licensed undergraduate student (prepared in-state)	531	35
Alternative licensure route completer	372	25
Non-licensed individual	214	14
Unknown	138	9
Newly licensed graduate student (prepared in-state)	95	6
Other	84	6
Newly licensed undergraduate student (prepared out-of-state)	60	4
Newly licensed graduate student (prepared out-of-state)	14	1
Total	1508	

Note: A total of 44 states reported data

Information on prior educational and/or employment experience for non-licensed individuals hired to teach school-based agricultural education in 2023-2024 was solicited. Of the 214 non-licensed individuals hired to teach school-based agricultural education, 59 were from disciplines outside of agricultural education, 94 were from agribusiness, farming, or industry, 37 were graduates of an agriculture program, 2 were graduates of an education program, 1 was a retired educator, and 3 were graduates outside of agriculture or education.

Additional teachers were still needed to meet demand in school-based agricultural education; state supervisors reported 155 full time and 6 part-time vacancies in 45 states as of September 15, 2023. Continued growth and expansion of school-based agricultural education occurred in 2022-2024 with 474 new positions and 223 new programs added.

It should be noted that 25 states reported a loss of programs or positions. Across the nation, a total of 105 positions were lost and 48 programs closed. State Staff reported that 1016 school-based agricultural educators who taught in the 2022-2023 school year would not be returning to the classroom in 2023-2024. Table 3 identifies the reasons if known provided for leaving. A total of 15 school-based agricultural educators moved to another state but continued teaching agriculture.

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Online Resources
Published data from 2014-2023 is available at https://nsd.aaaeonline.org/ and may be viewed in chart or map or downloaded to Excel.

Table 3.
Reported reasons for teachers leaving SBAE

Reason	*f*	%
Unknown	266	26
Agribusiness	169	17
Retirement	154	15
Another content area (not Ag Ed)	105	10
Stay at home parent/caregiver	66	6
Moved out-of-state	50	5
Not offered a contract/terminated	50	5
School administration	40	4
Other	27	3
Production agriculture/farming	21	2
Ag Ed state staff	17	2
Postsecondary education	16	2
Extension	13	1
Continuing education/grad school	9	1
Health	8	0
Death	3	0
Employed in adult education/FBM	2	
Total	1016	

Note: A total of 44 states reported data

Plans for Continuation

Collective utilization of the national dataset for analysis and interpretation by the profession is encouraged and provides for innovation. One example of data from the national dataset is presented in Table 4 showing the human resource capacity for agricultural teacher education reported in 2023.

Table 4.
US Agricultural Teacher Education FTE Profile by type of Academic Institution.

Type of Institution	1862 LG	1890 LG	NLG	PVT	Total
Full Prof	16	4	8	2	30
Assoc Prof	14	0	24	0	38
Asst Prof	12	1	17	0	30
Clinical	12	0	5	0	17
Instructor	16	4	12	0	32
Grad TA	20	0	5	0	25
Other	5	0	4	0	9
PC per FTE	4.4	0.7	5.1	2.5	4.5
Total FTE	95	9	75	2	181

Note: LG = Land-grant; NLG = Non Land-grant; PVT = Private Institution

Continued collaboration with the American Association for Agricultural Education, the National Association of Agricultural Educators, National Association of Supervisors of Agricultural Education, National FFA State Relations Specialists will enable successful data collection in future years.