# National Agricultural Education Supply & Demand Study

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## 2024 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 11th 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
The shortage of highly qualified school-based agricultural educators is a longstanding issue within agricultural education. Despite increasing demand and continued program expansion, challenges persist in securing sufficient program funding, addressing educator compensation, navigating complex licensure requirements, and ensuring diverse representation within the teaching workforce. To support data-informed policy discussions, it is critical for stakeholders in agricultural education to collaborate systematically in collecting accurate and timely data regarding both the supply of qualified educators and the demand for agricultural education positions across the United States.

### Data Collection/Methods
State supervisors and executive secretaries were invited to provide demand-side data, while teacher educators at all institutions with known agricultural teacher preparation programs were included in the comprehensive supply frame and asked to submit supply-side data. The reported data reflect program completers from the 2023–2024 academic year.

Both supply and demand instruments were developed and distributed via Qualtrics in September 2024. Respondents were asked to provide data as of September 15, 2024. To increase response rates, multiple follow-up requests were sent to non-respondents, and alternate contacts were engaged when necessary.

### Supply of Agriculture Teachers
A total of 95 teacher education programs submitted supply data, resulting in an 88% response rate (N = 108).

Land-grant universities comprised 45% of responding institutions and accounted for 52% of all agricultural teacher education program completers in 2024.

In 2024, 781 individuals were identified as license-eligible program completers (PCs). Of these, 594 (76%) were undergraduate completers, 119 (15%) were post-baccalaureate completers, 59 (8%) were graduate program completers, and 9 (1%) completed licensure-only programs. Table 1 provides an overview of the reported post-graduation employment plans for these license-eligible individuals. Both the overall number of completers and the yield—defined as the percentage of PCs entering school-based agricultural education (SBAE) positions—declined in 2024. The yield was 74%, compared to 79% in 2022 and 78% in 2023.

**Table 1**
*Employment Plans of License-Eligible Program Completers as Reported by Institutions (N=95)*

| Employment Plans | $f$ | % |
|---|---|---|
| SBAE in state | 525 | 67 |
| SBAE out of state | 53 | 7 |
| Graduate school | 48 | 6 |
| Teaching other subject | 38 | 5 |
| Unknown | 32 | 4 |
| Agribusiness | 29 | 4 |
| Other | 19 | 2 |
| Unemployed / Undecided | 16 | 2 |
| Extension | 15 | 2 |
| Military | 3 | 0 |
| Production agriculture | 3 | 0 |
| Total Program Completers | 781 | |

Of the 781 license-eligible program completers, 599 (77%) identified as female, 180 (23%) as male, and 2 (<1%) as non-binary. This gender distribution is consistent with recent trends, with females comprising 75% of completers in 2022 and 78% in 2023, suggesting a possible plateau in the growth of female representation among agricultural educators. Table 2 presents the reported ethnicity of program completers. Over the past three years, the percentage of White program completers has decreased by 5%, while the percentage of Hispanic completers has increased by 7%.

**Table 2**

*Race of License-Eligible Program Completers*

| Race | ƒ | % |
|---|---|---|
| White, Non-Hispanic | 622 | 80 |
| Hispanic / Latino | 90 | 12 |
| Unknown | 36 | 5 |
| African American / Black | 17 | 2 |
| Bi-racial / Multi-racial | 9 | 1 |
| American Indian / Alaska Native | 4 | 1 |
| Other | 2 | 0 |
| Asian | 1 | 0 |
| Native Hawaiian / Pacific Islander | 0 | 0 |
| Total Program Completers | 781 | |

### Demand for Agriculture Teachers

Demand data were provided by 46 states, resulting in a 92% response rate (N = 50). No contact information was available for Puerto Rico or Rhode Island.

As of September 15, 2024, state staff from 46 states reported a total of 9,202 school-based agricultural education (SBAE) programs employing 15,005 teachers. Of these, 14,647 (98%) were full-time and 358 (2%) were part-time. Among the total SBAE teaching population, 4143 teachers were new to their position at the start of the 2023-2024 academic year. Of these individuals, 1,965 (13%) were newly hired teachers, 2,178 (53%) were SBAE teachers who transitioned to different schools, and 111 (6%) were licensed SBAE teachers who returned after time out of the profession – a new metric added to the 2024 instrument. Table 3 presents the reported sources of new hires.

**Table 3**

*Source of New Hires in SBAE*

| Source | ƒ | % |
|---|---|---|
| Alternative licensure route completer | 1037 | 53 |
| Newly licensed undergraduate student (prepared in-state) | 457 | 23 |
| Non-licensed individual | 212 | 11 |
| Other | 81 | 4 |
| Newly licensed graduate student (prepared in-state) | 75 | 4 |
| Newly licensed undergraduate student (prepared out-of-state) | 67 | 3 |
| Unknown | 27 | 1 |
| Newly licensed graduate student (prepared out-of-state) | 9 | 0 |
| Total New Hires | 1965 | |

The 2024 data reflect notable shifts in teacher hiring patterns. Teachers who moved from one school to another were tracked separately, as they both vacate and fill teaching positions. In 2024, over half of positions filled were filled by teachers transferring between schools—a significant increase compared to previous years. In total, 15% of the SBAE workforce changed schools in 2024. Additionally, the number of alternatively licensed teachers increased significantly, comprising more than 50% of new hires.

Information was also gathered on prior education and employment backgrounds of non-licensed individuals hired to teach SBAE during the 2024–2025 academic year. Of the 212 non-licensed hires, 35% had backgrounds in agribusiness, farming, or industry; 25% were graduates of an agriculture program; and 20% were graduates of an education program.

Table 4 summarizes reported reasons for teachers leaving SBAE roles. The most frequently cited reasons were transitions to jobs in agribusiness (non-production), retirement, and a shift to teaching other subjects.

**Table 4**
*Reported Reasons for Teachers Leaving SBAE*

| Reason | $f$ | % |
|---|---|---|
| Agribusiness | 184 | 21 |
| Retirement | 171 | 19 |
| Another content area (not Ag Ed) | 106 | 12 |
| Unknown | 102 | 12 |
| Stay at home parent/caregiver | 62 | 7 |
| Not offered a contract/terminated | 54 | 6 |
| School administration | 54 | 6 |
| Moved out-of-state | 35 | 4 |
| Production agriculture/farming | 27 | 3 |
| Other | 20 | 2 |
| Extension | 20 | 2 |
| Ag Ed state staff | 12 | 1 |
| Continuing education/grad school | 12 | 1 |
| Postsecondary education | 8 | 1 |
| Personal Health | 5 | 1 |
| Death | 3 | 0 |
| Employed in adult education/FBM | 3 | 0 |
| Total | 878 | |

Despite new hires, vacancies remained. As of September 15, 2024, 45 states reported 152 full-time and 4 part-time teaching vacancies. These figures are consistent with previous years. Continued growth and expansion of SBAE programming was observed in 2024, with 394 teaching positions and 236 programs added nationwide.

Nonetheless, 107 teaching positions were lost, and 58 programs closed. The most cited reasons for position losses were a lack of available teachers (33%), low student enrollment (27%), and insufficient funding (21%). Notably, the percentage of position losses attributed to funding shortfalls increased sharply from 5% in 2023 to 21% in 2024.

### Trends in SBAE

School-based agricultural education continues to experience steady growth across the United States. Tables 5 and 6 present net gains in both SBAE programs and teaching positions nationwide and growth – based on the number of programs or positions the previous year. This upward trend has remained consistent in recent years and, barring significant policy changes, is expected to continue.
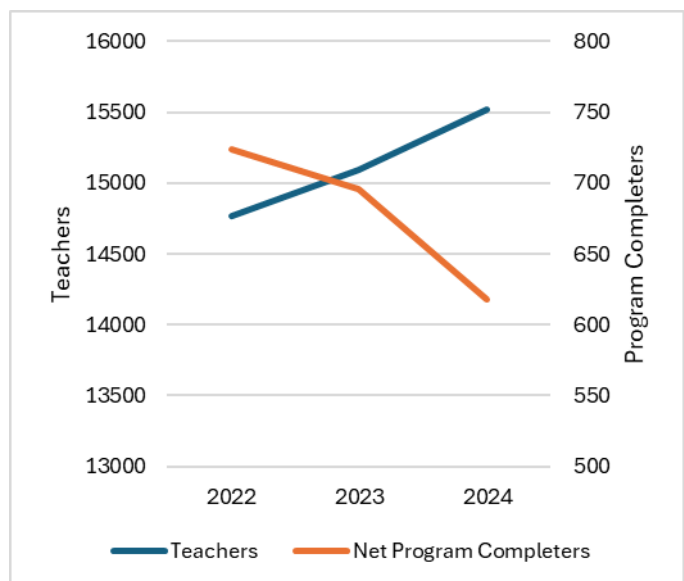
**Table 5**
*SBAE Program Growth*

| Year | 2022 | 2023 | 2024 |
|---|---|---|---|
| States Reporting | 45 | 44 | 46 |
| Total Programs | 8968 | 9200 | 9202 |
| Added Programs | 212 | 223 | 236 |
| Programs Lost | 48 | 48 | 58 |
| Net Programs | 164 | 175 | 178 |
| Program Growth | - | 2% | 2% |

**Table 6**
*Position Growth*

| Year | 2022 | 2023 | 2024 |
|---|---|---|---|
| States Reporting | 45 | 44 | 46 |
| Total Teachers | 14409 | 14741 | 15005 |
| Added Positions | 425 | 474 | 394 |
| Lost Positions | 97 | 105 | 107 |
| Net Positions | 328 | 369 | 287 |
| Program Growth | - | 3% | 2% |

Because the number of survey respondents can vary from year to year, imputation of missing values was used to provide a more accurate representation of total teachers and program completers over time. This approach supports more meaningful year-to-year comparisons. Figure 1 illustrates a clear trend of increasing numbers of SBAE teachers alongside a decline in the number of program completers, based on interpolated data.

**Figure 1**
*Interpolated Teacher and Program Completer Trends*

As the supply of traditionally prepared program completers falls short of meeting demand, the gap is increasingly filled by alternatively licensed or unlicensed teachers (see Table 3). The long-term implications of this shift for the SBAE workforce remain largely unknown.

## Plans for Continuation

Continued collaboration with the American Association for Agricultural Education, the National Association of Agricultural Educators, National Association of Supervisors of Agricultural Education, the National FFA will enable successful data collection in future years. The next scheduled data collection cycle will be fall of 2025.

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**Recommended Citation**

Smith, A. R., Spiess, M., Foster, D. D., & Lawver, R. G. (2025). *National Agricultural Education Supply and Demand Study, 2024 Executive Summary.* https://nsd.aaaeonline.org

**Online Resources**

Published data from 2014-2024 is available at https://nsd.aaaeonline.org/ and may be viewed in chart or map formats or downloaded to Excel.

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