

Growing Ag Teachers: What is Our Yield?

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Introduction

Like colleagues in production agriculture who grow crops, in agricultural teacher education programs, we strive to “grow” agriculture teachers. Just like any production agriculturalist, it is critical that we take a moment to reflect and analyze our yield as a measure of productivity. Numerous studies on behalf of the profession (Lawver, et al., 2018, etc) regarding the supply of school-based agricultural education (SBAE) teachers have documented a shortage. One strategy to address this shortfall is to simply increase the number of program completers who take jobs in SBAE. Boe et al. (1999) described yield in teacher education as “The yield percentage for degree graduates from teacher preparation programs in one school year who entered teaching employment during the following school year”. Historically, yields for agricultural teachers have fluctuated, with times in the mid 1980s reaching levels below 50% (Kantrovich, 2010). Lawver et al. (2018) reported the average yield for 2014-2016 as 72%. While the national yield has been published regularly (Smith et al., 2022, Foster et al., 2020, Foster et al., 2019), each state has varying requirements for program completers which can make it challenging to increase yield. The goal of this study was to quantify the yield of program completers/new agricultural teachers by state using National Supply and Demand data collected from 2017 to 2021.

Conceptual Framework

The conceptual framework for the National Supply and Demand (NSD) study (adapted from Lyndsey et al., 2009) identifies factors contributing to SBAE teacher supply and demand. Five factors on the supply side of the model include: (1) SBAE teachers retained from previous year; (2) newly certified SBAE teachers from university-based teacher preparation programs; (3) SBAE teachers from alternative certification programs; (4) SBAE teachers in-migration: certified educators moving in from other states; and (5) SBAE reserve pool: educators who are willing and able to teach, but not currently employed.

Methods

This study is a review of newly licensed SBAE program completers’ (PCs) employment as reported by agricultural teacher education programs. The objectives that guided this study were: 1) describe SBAE program completer placement trends from 2017-2021 and 2) compare regional SBAE yield to vacant positions as reported in the NSD Study. The study extracted five years of data (2017-2021) from the NSD study, as approved by the Institutional Review Board at [University]. Data presented highlights supply data collected from institutions offering agricultural education teacher licensure. These institutions were listed within the NSD study frame, as key contacts at universities with agricultural teacher education programs. Given the nature of the NSD study, the supply instrument was developed from previous iterations with additions and revisions based on literature and feedback from a panel of experts to ensure validity. Reliability was found appropriate for a descriptive study. Data was collected using Qualtrics, in accordance with Dillman’s (2014) guiding principles.

Results and Findings

On average, 85 institutions with agricultural teacher education programs responded annually during the study period, representing 43 states and Puerto Rico. It should be noted that not all states have agricultural teacher education programs. Nationally, an average of 75% of program

completers (PCs) accepted positions in school-based agricultural education upon completion of licensure requirements. During this time, the yearly combined average number of PCs produced was 814, with 201 not accepting positions in SBAE upon completion. During the same time, state staff reported an average of 68 vacant positions remained on an annual basis. No significant national trend in yield was observed over the study period with the annual yield range from 74% to 77% (Table 1). A wide range was found within states over the 5-year period. The minimum yield was 27%, with a maximum of 93%. Seven states reported yields exceeding 85%. Eight states reported yields below 60%. The average of all yields, or mean yield, was 72%. As one might expect, variation of yield by year occurs within states over the study period, especially states with smaller programs.

Table 1

National Annual Yield of Program Completers Entering SBAE

Year	Vacant	Institutions	Program Completers	Employment SBAE	Yield
2017	76	88	730	554	76%
2018	69	87	873	654	75%
2019	59	89	851	658	77%
2020	51	82	855	634	74%
2021	82	78	763	567	74%
Total	337	424	4072	3067	75%

Regional yield of program completers is reported in Table 2. Since states have varying requirements for licensure and teacher preparation programs differ, direct comparison between states should not be made. However, in states where there are multiple institutions preparing SBAE teachers (21 states in 2021), comparison between institutions might be instructive.

Table 2

AAAE Regional Yield of Program Completer from 2017-2021

AAAE Region	Reports	Program Completers	Employment SBAE	Yield
North Central	168	1383	1055	76%
Southern	189	2007	1435	71%
Western	67	682	577	85%
Total	424	4072	3067	75%

Conclusions/Recommendations for the Profession

Students that complete an agricultural teacher education program have already demonstrated some commitment to joining the profession. However, what can be done to encourage more to enter SBAE? Anecdotally, program completers may pursue other opportunities due to lack of positions where they need to live or better offers outside the teaching profession. However, given the pervasive shortage we face in SBAE, more information is needed. Given the diversity of state approaches, each state should examine their programs to determine if there are opportunities to increase yield of program completers into teaching in SBAE. Further exploration of the reasons for not teaching might lead to insight on what or how to entice program completers into teaching. PCs that choose not to teach also represent a pool of potential teachers to recruit in the future. Strategies geared at tapping this pool might help increase the teacher supply. Bos et al. (1999) found that 27% of 1993 vocational education graduates delayed entry in the workforce by a year.

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