

**School Based Agricultural Educators' Perceptions of Sustainable Agriculture**

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### Introduction

Williams & Dolisso (1998) recommended that curriculum specialists and teachers develop teaching and learning opportunities that help students expand their understanding of sustainable agriculture (SA). How SA practices are perceived is a concern for growers, extension agents, and some secondary teachers of school-based agricultural educators (SBAE). Borsari and Vidrine (2005) suggested that the traditional high school agricultural curriculum may include too much focus on the family farm as a business model. Comprehension and integration of various SA concepts into the curriculum is an essential responsibility of SBAE teachers (Sameipour, 2017). Examining SBAE teachers' perceptions of SA and the integration of SA concepts and practices into their instruction is related to the AAAE Research Values *Enhancing Environmental Health and Increasing Prosperity Through Innovation in AFNR Systems* (AAAE, 2023).

### Conceptual Framework

This study explores how SBAE teachers perceive SA concepts and practices as they relate to the concept of sustainability and the secondary SBAE curriculum. Agbaje et al. (2001) reported that secondary SBAE had not been adequately influenced by SA. Bosari (2001) suggested that SBAE should embrace a sustainable model that focuses on agroecosystems for long-term prosperity of farming communities. In this study, we consider SA to be an innovation within the context of farming, and it is also an innovative concept within the curriculum of SBAE. However, we recognize that some current practices aligned with conventional agriculture also contribute to the goals of SA.

### Methodology

The population for this study consisted of secondary SBAE teachers in a specific region of Texas ( $N=500$ ) where the university serves as a host for FFA events. Data were collected from a questionnaire distributed via Qualtrics. The questionnaire items consisted of Likert-type scale with 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree regarding their perceptions of whether or not a practice contributed to SA. Following recommendations by Dillman et al. (2014), a pre-notice letter, first invitation for participation, second participation invitation, and a third request for participation were sent out. Forty-nine usable responses were obtained for a response rate of 9.8%.

### Results

Of the respondents, 53% taught in rural areas and 47% taught in urban or suburban schools. The highest education level attained by the respondents included bachelor's--51%, master's--39%, doctorate--4%, and other--6%. Those identifying as female made up 53% and 47% identified as male. Respondents self-categorized themselves by racial/ethnic groups and 85.71% were white, 8.16% were African American/black, and 6.12% were Hispanic/Latino.

This study found that 61.02% of the SBAE teachers responding agreed or strongly agreed that sustainable agriculture boosts the local processing of agriculture production, followed by integrating diverse crops with livestock enterprises to promote SA (57.63%). They also agreed or strongly agreed that the exchange of knowledge about locally designed technologies among producers promotes SA practices (56.67%) and sustainable agriculture promotes local marketing of agricultural production (56.67%).

Practices for which they agreed or strongly agreed on their contribution to SA included: developing healthy soils, recycling of renewable natural resources, exchanging local knowledge and locally designed technologies, livestock integration, local marketing and markets, crop rotation, utilizing extension resources, and promotion of local processing.

When presented with the question, “Would you be willing to participate in professional development related to sustainable agriculture?” 100% indicated a response of “Yes.” When asked to rank the type of delivery of professional development in order of preference, *Presentations at Ag Teachers’ Conference* was first, *Face-to-Face Workshops* was second, *Online Presentation* was third, and *Graduate Courses* was fourth. When asked, “Would you encourage and prepare student to participate in a CDE on sustainable agriculture?” 98% responded “Yes.”

### **Conclusions/Implications**

This study concludes some SBAE teachers perceive certain conventional agricultural practices as contributing to SA. At least 10% (around 50) of the SBAE teachers in the region have some interest in interested in SA, and they would be willing to participate in opportunities that strengthen their knowledge and skill in SA. They are also willing to encourage their students to participate in similar opportunities. These results offer support and encouragement to teacher educators and other agricultural professionals who are interested in helping secondary SBAE teachers integrate more aspects of SA into their local programs. SBAE can serve as a catalyst for increasing the adoption of SA practices by current and future farmers. FFA activities and events that include or emphasize SA practices will potentially expedite the rate of adoption.

### **Recommendations**

Professional development activities, especially presentations at the annual agriculture teachers’ conference, should be developed and delivered. Additional research related to specific barriers and incentives to the integration of sustainable agriculture practices into secondary instruction should also be considered.

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