Perceptions of Sustainable Agriculture in the Journal of Agricultural Education and the Journal of Agroecology and Sustainable Food Systems: A Journal Specific Review

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Introduction

Changing agricultural markets and weather has illustrated a lack of resilience in United States agriculture (Prokopy et al, 2020). One solution to increase resilience is to diversify agricultural markets and implement sustainable agriculture practices (Diverse Corn Belt, n.d.). The United States Department of Agriculture (n.d.) summarizes sustainable agriculture as an integrated system of production practices that will over the long-term satisfy human needs, enhance environmental quality, efficiently use nonrenewable resources, sustain economic viability, and enhance the quality of life for farmers. Sustainable agriculture methods maintain soil fertility, improve water quality, and builds resistance to natural disasters (UC Sustainable Agriculture Research and Education Program, 2021). Agricultural educators have the opportunity to assist with the adoption of sustainable agricultural practices in the local community (Williams & Wise, 1997). Desimone (2009) suggested when educators participate in professional development of new content (such as sustainable agriculture), they apply the new skills and beliefs to improve instruction (p. 184). School-based Agricultural Education (SBAE) teachers and secondary science teachers in the United States are a likely to teach concepts of sustainability in their classrooms according to the national standards guiding their instruction (NGSS Lead States, 2013; The National Council for Agricultural Education, 2024).

This research compliments the AAAE research values of "Advancing Public Knowledge of AFNR Systems" and "Enhancing Environmental Health" (AAAE, 2023) by researching secondary educators' perceptions that could affect their curriculum design and delivery. The researcher turned to the literature to determine teacher perceptions of sustainable agriculture. This journal specific review sought to investigate secondary teachers' perceptions of sustainable agriculture in the *Journal of Agricultural Education*, the premier journal for agricultural education research in the United States. The research questions that guided our research included: (1) What are US secondary school-based agricultural education teachers' perceptions of sustainable agriculture? (2) What are US secondary science teachers' perceptions of sustainable agriculture?

Methodology

To conduct this research, the study used a research synthesis design. Research began in the *Journal of Agricultural Education* to answer the research questions above. The researcher used the search terms "teacher perceptions of sustainable agriculture", "perceptions of sustainable agriculture", and "sustainable agriculture" to explore results from the *Journal of Agricultural Education* database. To determine alignment with our research questions, the abstracts had to include teachers' perceptions, attitudes, and/or beliefs of sustainable agriculture and/or sustainable agricultural practices in the United States of America. Articles which met the inclusion criteria of the research questions were organized in a *Microsoft Excel*® matrix that included: (a) the title of the study, (b) study authors, (c) publication year, (d), the study population and sample, (e) methods, and (f) study results. Using the search terms established *a priori,* 2 articles resulted. Due to the lack of initial search results, the researcher expanded the search terms to include audiences being examined to extension educators, agricultural producers, SBAE students, and agricultural consumers and professionals. These audiences were chosen because agriculture teachers often base their curriculum on community needs and involve these audiences in their agriculture program (Talbert et al., 2022). Six additional articles were identified, leading to a grand total of 8 articles that met the parameters of the study. To gather additional relevant results, the researcher used

additional search terms related to sustainable agriculture practices, including "farming practices," "organic farming," "perceptions of sustainable farming," and "attitudes of sustainability." The results from these searches duplicated the results of the initial search terms, leading to no additional usable articles.

The research team sought a comprehensive view of the literature regarding perceptions of sustainable agriculture practices. In our estimation, 8 articles were not likely to provide the richness sought by the team. As a result, we chose to expand our search to the journal of *Agroecology and Sustainable Food Systems*, previously titled the *Journal of Sustainable Agriculture*, because this journal was the most frequently cited journal in the references of these 8 articles. Using the journal's search engine, the researcher used the search term "perceptions of sustainable agriculture," which resulted in 641 article citations which were downloaded in a *Microsoft Excel*® file. The researcher went through the file and removed any articles with a title that contained countries other than the United States, leaving 293 results. The researcher read each of the 293 abstracts, which had to include the same criteria used when reading the abstracts in *JAE* and determined the number of articles that met the parameters of the research questions and the expanded audiences was 21 articles.

Results

Between the two journals, there were 29 usable articles to determine a consensus of perception of sustainable agriculture from secondary teachers (n=4) and their students (n=2), producers (n=16), extension educators (n=2), and consumers and agriculture professionals (n=6). One article included both teacher and student perceptions in the same article. Common themes appeared throughout the literature, including a) secondary teachers and students held mostly positive perceptions of sustainable agriculture, but felt they needed to learn more, b) interest in learning more about specific sustainable agriculture practices, c) a lack of understanding of sustainable agriculture and its practices, and d) producers held mostly positive perceptions of sustainable agriculture, but were economically concerned. The research team determined that a practice was considered sustainable by returning back to the USDA definition of sustainable agriculture. Examples of these practices include organic farming practices, cover crops, and no-till farming. The researcher did not set timeframe parameters as there was so little in the literature to review. Most resulting articles were published between 2011-2020 (n=11). Since 2021, only three articles were published pertaining to perceptions of sustainable agriculture between the two journals. It was interesting to note that none of articles found between the two journals answered the second research question.

Conclusions & Recommendations

Further research is needed to explore perceptions of sustainable agriculture, specifically into US SBAE agriculture teacher and science teacher perceptions. This journal specific review illustrates a lack of this research exists in the *Journal of Agricultural Education* and the journal of *Agroecology and Sustainable Food Systems*. In this research, SBAE teachers had positive perceptions on sustainable agriculture but believed that they needed more professional development on the subject (Agbaje et al., 2001). This review calls into question why there is so little published research on teacher perceptions of sustainable agriculture in these two journals. The bulk of literature reviewed in this study was published prior to the current sociopolitical landscape. Since the 2024 US presidential election, this landscape has changed drastically resulting from a variety of executive orders affecting US priorities related to sustainability, which could affect current perceptions of teaching and implementing these sustainable agriculture practices.

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