

**Sowing Knowledge: The Role of Agricultural Education in Shaping Ag Literacy Among Youth**

Hannah Grace Childress  
University of Kentucky, 500 W.P. Garrigus Building  
Lexington, KY 40546  
(859) 257-3275  
[Hannahgrace.childress@uky.edu](mailto:Hannahgrace.childress@uky.edu)

Allison Reaves  
University of Kentucky, 500 W.P. Garrigus Building  
Lexington, KY 40546  
(859) 257-3275  
[Allison.reaves@uky.edu](mailto:Allison.reaves@uky.edu)

Rebekah B. Epps  
University of Kentucky, 500 W.P. Garrigus Building  
Lexington, KY 40546  
(859) 257-3275  
[Rebekah.epps@uky.edu](mailto:Rebekah.epps@uky.edu)

## **Sowing Knowledge: The Role of Agricultural Education in Shaping Ag Literacy Among Youth**

### **Introduction**

It is projected that over 9.2 billion people will populate the earth by the year 2050 (Silva, 2018). In a world with a current and projected rapid population increase, the current state of younger generations' agricultural literacy is of great concern. Particularly, the influence a lapse in agriculture literacy could have on the environment, social, economic, and health of society (Cosby, et al., 2022). Over decades of research, programs have been created to generate agriculture literacy to leave a lasting impact. According to Kovar's (2013) study, the local organizations were successful at fostering temporary agriculture literacy but had limited effect on long-term knowledge. Moreover, students who lack agricultural literacy are at significant risk of lacking decision-making skills on food insecurity in the food chain upon graduation (Cosby, et al., 2022). A study conducted with first through fifth-grade teachers revealed a desire to include agriculture topics in their curriculum (Knobloch & Ball, 2003). This study concluded primary teachers often lack efficient supplemental training and resources for proper execution of agriculture integration (Knobloch & Ball, 2003). To meet this demand and bridge the gap of agriculture illiteracy, a program was developed at the University of Kentucky Agriculture Education Department to create quality lessons along with resources for primary teachers to utilize. This research aligns with AAEE's research values, advancing public knowledge and nurturing positive youth development through AFNR systems (AAEE, 2023).

### **How it Works**

The Kentucky Department of Agriculture has launched an initiative to further individual agriculture literacy within Kentucky grades kindergarten through fifth. The inaugural event is constructed to provide teachers with lesson plans, slide shows, and resources with hands-on assessments to properly gauge students' knowledge (Kentucky Department of Agriculture, 2025). The initiative will further community engagement between local industry leaders and the elementary classroom (Kentucky Department of Agriculture, 2025). Staff overseeing the event at the Department of Agriculture connected with the University of Kentucky's agriculture education program to assist with the construction of lesson plans. State staff and university professors choose seven agriculture content areas for lessons to be formed around Kentucky's booming agriculture industries. The careful selection of educating students on the top-ranked industries- allowing these individuals to learn more about their state agricultural initiatives.

At the collegiate level, agricultural education undergraduate students at the University of Kentucky were tasked to compose a lesson plan for kindergarten through second grade and third through fifth grade on each of the seven topics. The curriculum writing class worked in pairs to ensure content and definitions were consistent throughout both lesson outlines. Within each lesson, the teacher is provided with the standard, interest approach, content knowledge, activity, and assessment. Materials needed for the lesson are recorded and worksheets/ printable materials are provided for ease of teacher utilization. Additionally, elementary teachers are given a

PowerPoint based on the lesson to employ. Pre-service teachers designed slideshows to accompany material based on the lesson outlines. After the collegiate students finished their lesson materials and formatted them to the Department of Agriculture's campaign format, all materials were reviewed by their peers along with university faculty and then forwarded to the state level for review and publishing once the initiative was launched.

### **Results to Date/ Implications**

Collegiate students in the Agriculture Education Department created seven kindergarten through second-grade and seven third through fifth-grade lesson plans. Each lesson was accompanied by a PowerPoint with content and activities to ensure the success of each session. Once Agriculture Education Week is commenced every elementary student within the state will partake in this material (Kentucky Department of Agriculture, 2025). For the success of this initiative, additional partnerships with the Kentucky Department of Education were fostered in order to gain support at the state level from the Governor's office. Additionally, this experience for pre-service agriculture teachers to develop a statewide curriculum is unique to the University of Kentucky. By integrating these students, the program is not only providing valuable experience but also grants the state of Kentucky custom-tailored lesson plans with previously unorthodox creativity.

### **Future Plans**

In recent years, agricultural production has been on the rise in Kentucky. In fact, farming income was reported to total \$466 million across the state in 2022- an 11% increase from 2017 (Kentucky Department of Agriculture, 2024). It has also been reported that the Department of Agriculture expects a continued production escalation in the coming years (Kentucky Department of Agriculture, 2024). Additionally, an increase in agricultural production often comes parallel with an increase in agricultural misinformation- especially among youth (Chowdhury et al., 2023). By partnering with Kentucky Department of Agriculture, the University of Kentucky can foster ancillary agricultural education and literacy development for the next generation. This continued support will ideally expand ongoing agricultural education improvement and support. This collaboration may foster future partnerships with the Department of Agriculture and other organizations to develop lesson plans and curricula across the state.

### **Cost/ resources needed**

While the development of lesson plans requires minimal direct financial support but requires University resources. The undergraduate Department of Agriculture Education at the University of Kentucky utilizes a canvas platform to create and share lesson plans, which was required for project success. Students enrolled in agriculture education courses were responsible for developing lesson content and conducting any appropriate background research required. Additionally, faculty members' time is utilized to provide guidance, ensuring lesson plans meet academic, educational, and agricultural standards.

## References

- American Association for Agricultural Education (AAAE). (2023). AAAE Research Values.
- Cosby, A., Manning, J., Power, D., & Harreveld, B. (2022). New decade, same concerns: A systematic review of agricultural literacy of school students. *Education sciences*, 12(4), 235.  
<https://doi.org/10.3390/educsci12040235>
- Chowdhury, A., Kabir, K., Abdulai, A., & Alam, M. (2023). Systematic review of misinformation in social and online media for the development of an analytical framework for agri-food sector. *Sustainability*. <https://doi.org/10.3390/su15064753>.
- Kentucky Department of Agriculture. (2025). *Agriculture education week*.  
<https://www.kyagr.com/marketing/Ag-Education-Week.html>
- Kentucky Department of Agriculture. (2025). *Lieutenant governor, commissioners of agriculture and education announce agriculture education week*. <https://www.kyagr.com/Ky-agriculture/PressRelease/2025/Lieutenant-Governor-Commissioners-of-Agriculture-and-Education-announce-Agriculture-Education-Week>
- Knobloch, N. A., Ball, A. L. (2003). An examination of elementary teachers' and agriculture literacy coordinations' beliefs related to the integration of agriculture. *Agriculture Education Research Summary Report*. [10.13140/RG.2.2.16867.35361](https://doi.org/10.13140/RG.2.2.16867.35361)
- “U.S. Census of Agriculture Shows Growth for [state] Agricultural Products.” *Kentucky Department of Agriculture*, 22 Feb. 2024, [www.kyagr.com/ky-agnews/press-releases/2024/US-Census-of-Agriculture-shows-growth-for-Kentucky-agricultural-products.html](http://www.kyagr.com/ky-agnews/press-releases/2024/US-Census-of-Agriculture-shows-growth-for-Kentucky-agricultural-products.html). Accessed 25 Feb. 2025.
- Kovar, K.A.; Ball, A.L. (2013). Two decades of agricultural literacy research: A synthesis of the literature. *Journal of Agriculture Education* 54(1), 167–178.<https://doi.org/10.5032/jae.2013.01167>
- Silva, G. (2018). *Feeding the world in 2050 and beyond part 1: Productivity challenges*. Michigan State Extension. <https://www.canr.msu.edu/news/feeding-the-world-in-2050-and-beyond-part-1>