

**FarmLab Study**  
**Phase 1 - Needs Assessment**  
**Appendix C – Ag Education Background**

October 6, 2016

Prepared for the Elkhart County Redevelopment Commission

by Phil Metzler and Mark Seeley

**Ag Education Background**

The information in this appendix provides a digest of key ag education resources with the intent of highlighting their potential value for schools and administrators considering ag education programs and for the purpose of framing this particular focus for the FarmLab study.

The contents in this section were digested from the National FFA Organization website and the website for The National Council for Agricultural Education.

**Ag Education Vision** - Agricultural education envisions a world where all people value and understand the vital role of agriculture, food, fiber, and natural resources systems in advancing personal and global well-being.

**Ag Education Mission** - Agricultural education prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber, and natural resources systems.<sup>1</sup>

Ag education pursues its mission through formal systems of instruction available to students interested in the science, business, and technology of plant and animal production or related environmental and natural resource systems. According to the FFA:

Through agricultural education, students are provided opportunities for leadership development, personal growth and career success. Agricultural education instruction is delivered through three major components:

1. Classroom/Laboratory instruction (contextual learning)
2. Supervised Agricultural Experience programs (work-based learning)
3. Student leadership organizations (National FFA Organization, National Young Farmer Educational Association and National Post-secondary Agricultural Student Organization).<sup>2</sup>

More than 1 million students in grades seven-adult currently participate in formal ag education programs across the country.

### **National Council for Agricultural Education**

The National Council for Agricultural Education (The Council) strives “to be the collective leadership voice for Agricultural Education in the United States”. The Council serves as an umbrella for 11 organizations, including the National Association of Agricultural Educators (NAAE) and the National FFA Organization.

The mission of The National Council for Agricultural Education is to establish high quality agricultural education programs in America's schools by stimulating:

1. the preparation, retention, and advancement of high quality agricultural educators;
2. the development of programs that prepare students for academic and career success;
3. program innovation and adaptability in response to changing student and industry needs;
4. the use of research-based practices in agricultural education programs at all levels; and
5. expanded opportunities for students to experience high quality educational programs in agriculture.<sup>3</sup>

### **AFNR Career Cluster Content Standards**

The strength of the The Council as a national partnership is evident in the quality and rigor of the content standards developed to support ag education leaders and educators. The National Agriculture, Food and Natural Resources (AFNR) Content Standards set the bar for student proficiency in eight primary career pathways:

1. Agribusiness Systems
2. Animal Systems
3. Biotechnology Systems
4. Environmental Service Systems
5. Food Products and Processing Systems
6. Natural Resource Systems
7. Plant Systems
8. Power, Structural and Technical Systems<sup>4</sup>

According to the “AFNR Career Cluster Content Standards” published by The Council:

The career pathway content standards outline technical knowledge and skills required for future success within this discipline. The content standards are intended to provide state agricultural education leaders and educators with a forward-thinking guide for what students should know and be able to do after completing a program of study in this career pathway. State leaders and local educators are encouraged to use the standards as a basis for the development of well-planned curriculum and assessments for Agriculture, Food and Natural Resource (AFNR)-related Career and Technical Education (CTE) programs. Adoption and use of these standards is voluntary; states and local entities are encouraged to adapt the standards to meet local needs.<sup>5</sup>

While the career pathways encompass a broad range of careers, the “AFNR Cluster Skills” and “Career Ready Practices” content standards provide a widely relevant foundation for interdisciplinary and practical education built on the Common Career Technical Core standards.<sup>6</sup> The Career Ready Practices outline “fundamental skills and practices that all students should acquire to be career ready,” including:

- |                                 |   |
|---------------------------------|---|
| • responsibility                | • problem solving                         |
| • productivity                  | • integrity                               |
| • healthy choices               | • ethical leadership                      |
| • maintaining personal finances | • management                              |
| • communication                 | • career planning                         |
| • decision-making               | • technology use                          |
| • creativity and innovation     | • cultural/global competency <sup>7</sup> |
| • critical-thinking             |   |

The Cluster Skills address fundamental knowledge and skills common to each of the AFNR career pathways and the relationships between them, including:

- analysis of current and historical issues and trends;
- application of technologies;
- safety, health and environmental practices;
- stewardship of natural resources; and
- exploration of career opportunities.<sup>8</sup>

The clear definition and application of these skills and practices in the ANFR standards through alignment with the Common Career Technical Core standards presents a valuable resource for a broader education community increasingly focused on project-based and experiential learning strategies. To encourage further adoption and use of this work, The Council has cross-walked the ANFR Career Cluster Content Standards with the following national academic standards:

- Common Core English Language Arts
- Common Core Mathematics
- Next generation Science Standards
- Green/Sustainability Knowledge and Skill Statements
- National Standards for Financial Literacy<sup>9</sup>

## **CASE**

Recognizing that “agricultural education is positioned very well to prosper in our current educational system,” The Council established the Curriculum for Agricultural Science Education (CASE) project to improve the delivery of ag education. It builds on the cross-walked ANFR content standards by providing fully developed curricular materials applying AFNR knowledge and skills to science, mathematics, and English language understanding. “For connection of relevance with student learners, the CASE curriculum highlights the strengths of experiential learning, the heart and soul of agricultural education, by utilizing activity-, project-, and problem-based instructional strategies.”

CASE targets Career and Technology Education (CTE) reform through STEM education, with curriculum development support from Project Lead the Way, Inc.<sup>10</sup> It includes a structured sequence of 12 ag-based courses and “serves as a model for elevating the rigor and relevance of agricultural education.”<sup>11</sup>

CASE is built on the three pillars of ag education and integrates FFA and supervised agricultural experience instruction into the curriculum.

“CASE is not designed to replace traditional agricultural education programs. The goals of CASE are to improve the retention of professional teachers in agriculture and generate interest in districts seeking an alternative model for agricultural education instruction. However, the developers of the CASE curriculum are confident that CASE can provide value to any program in almost any situation.”<sup>12</sup>

CASE promotes high levels of classroom instruction by providing four major areas of support: curriculum, professional development, assessment, and certification. “Each area contributes to the validity of CASE instructional materials by ensuring that teachers are properly equipped and trained and student learning is clearly accountable.”<sup>13</sup>

## **SAE**

“Experiential learning in school-based agricultural education extends beyond the classroom into the community to develop industry and career-based competencies. This high quality approach is delivered through the supervised agricultural experience (SAE).

The SAE is a required component of a total agricultural education program and is intended for every student. Through the SAE program, students can consider multiple careers and occupations, learn expected workplace behavior and develop specific skills within an industry. They can also practice their skills in a workplace or simulated workplace environment—applying what they learn in the classroom to prepare for college and career opportunities ahead.”<sup>14</sup>

SAE represents a robust experiential learning model for an education community consistently looking for new ways to stimulate learning through project-based, place-based, and career-focused strategies. It should be one of the main motivations for a school to develop an ag education program. While a student-led SAE must be agricultural in nature, it can accommodate broader career interests by using an AFNR context to develop transferable skills and competencies. SAE programs can take numerous forms according to the interests and goals of the student, including:

- Exploratory activities to set up future work
- Placements and internships
- Business ownership and entrepreneurship
- Experimental, analytical, and invention-focused research

- School-based enterprises
- Service learning<sup>15</sup>

These activities were reinforced by a four-year process concluded by The Council in 2015, focused on “determining what the driving forces were behind high quality experiential, work based and project based learning in agricultural education.”<sup>16</sup> Several significant barriers were identified that ag educators and students must overcome in order to sustain high quality experiential learning activities, including:

- Limited teacher time based on enrollment numbers to commit adequate time to supervision
- Less students coming from agricultural production backgrounds and less employment availability in the agriculture sector for youth
- Lack of resources to help students create ideas and SAE programs
- Perceived administrative barriers to what types of programs students could engage with at a local level<sup>17</sup>

As the 2nd largest agricultural County in Indiana, there are abundant opportunities for ag-based experiential learning. The collaboration between current ag education programs and partners in the local ag community has been noteworthy and encourages broader participation. Yet the aforementioned barriers will need to be addressed by any new ag education program. The intent of this feasibility study is to explore how the FarmLab could help facilitate solutions at a county-wide level.

- 1 The National Council for Agricultural Education (2012). "Ag Education." Viewed September 3, 2016 at: <https://www.ffa.org/thecouncil/ageducation>
- 2 ibid
- 3 The National Council for Agricultural Education (2012). Viewed September 3, 2016 at: <https://www.ffa.org/thecouncil/aboutus>
- 4 The National Council for Agricultural Education (2012). "National AFNR Content Standards." Viewed September 3, 2016 at: <https://www.ffa.org/thecouncil/afnr>
- 5 The National Council for Agricultural Education (2015). "The National Agriculture, Food and Natural Resources (AFNR) Content Standards." Available at: [https://www.ffa.org/SiteCollectionDocuments/council\\_afnr\\_career\\_cluster\\_content\\_standards.pdf](https://www.ffa.org/SiteCollectionDocuments/council_afnr_career_cluster_content_standards.pdf)
- 6 Advance CTE (2016). "The Common Career Technical Core." Viewed September 3, 2016 at <https://www.careertech.org/cctc>
- 7 The National Council for Agricultural Education (2015). "The National Agriculture, Food and Natural Resources (AFNR) Content Standards." Available at: [https://www.ffa.org/SiteCollectionDocuments/council\\_afnr\\_career\\_cluster\\_content\\_standards.pdf](https://www.ffa.org/SiteCollectionDocuments/council_afnr_career_cluster_content_standards.pdf)
- 8 The National Council for Agricultural Education (2015). "ANFR Cluster Skills." Available at: [https://www.ffa.org/SiteCollectionDocuments/council\\_afnr\\_cluster\\_skills.pdf](https://www.ffa.org/SiteCollectionDocuments/council_afnr_cluster_skills.pdf)
- 9 The National Council for Agricultural Education (2015). "The National Agriculture, Food and Natural Resources (AFNR) Content Standards Crosswalks." Available at: [https://www.ffa.org/SiteCollectionDocuments/council\\_afnr\\_career\\_cluster\\_content\\_standards\\_crosswalks.pdf](https://www.ffa.org/SiteCollectionDocuments/council_afnr_career_cluster_content_standards_crosswalks.pdf)
- 10 The National Council for Agricultural Education (2010). "Understanding the CASE Model." Curriculum for Agricultural Science Education, May, 2010 (Republished October, 2012). Available at [http://www.case4learning.org/images/documents/Understanding%20the%20CASE%20Model\(1\).pdf](http://www.case4learning.org/images/documents/Understanding%20the%20CASE%20Model(1).pdf)
- 11 The National Council for Agricultural Education (2013). "Curriculum for Agricultural Science Education." Viewed September 3, 2016 at: <http://www.case4learning.org/index.php/about-case/the-case-difference>
- 12 The National Council for Agricultural Education (2013). "Curriculum for Agricultural Science Education." Viewed September 3, 2016 at: <http://www.case4learning.org/index.php/about-case/the-case-difference/understanding-the-case-model>
- 13 ibid
- 14 The National Council for Agricultural Education (2015). "SAE Philosophies and Guiding Principles Infographic." Available at [https://www.ffa.org/SiteCollectionDocuments/national\\_council\\_for\\_agricultural\\_education\\_sae\\_philosophies\\_and\\_guiding\\_principles\\_infographic.pdf](https://www.ffa.org/SiteCollectionDocuments/national_council_for_agricultural_education_sae_philosophies_and_guiding_principles_infographic.pdf)
- 15 The National Council for Agricultural Education (2015). "Philosophy and Guiding Principles for Execution of the Supervised Agricultural Experience Component of the Total School Based Agricultural Education Program." Approved by the NCAE Board of Directors March 31, 2015. Available at: [https://www.ffa.org/SiteCollectionDocuments/sae\\_guiding\\_principles.pdf](https://www.ffa.org/SiteCollectionDocuments/sae_guiding_principles.pdf)
- 16 The National Council for Agricultural Education (2012). "Supervised Agricultural Education Education." Viewed September 3, 2016 at: <https://www.ffa.org/thecouncil/sae>
- 17 ibid