Farm-Ed

Thank you for your interest in the Farm-Ed program. Inside this PDF, you'll find an overview of the program along with a sample of our curriculum.

We look forward to supporting you as you explore funding options for your own AI Growth Chamber. A member of our team will reach out shortly to assist you.

If you have any questions in the meantime, we're here to help.

sales@farm-ed.com

Farm-Ed

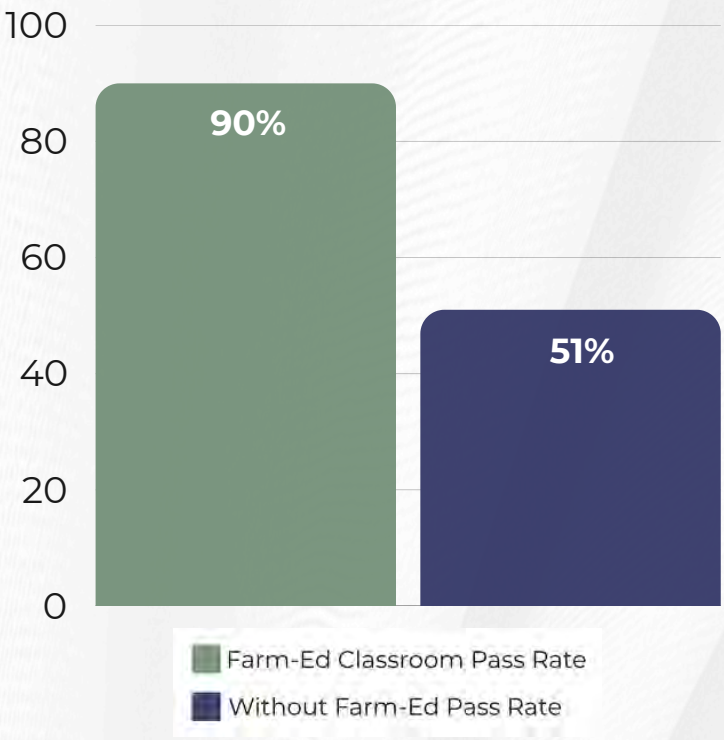
CLASSROOM IMPACT

"The Farm Ed program brings the theory of the classroom to life!"

-Florida Pilot Teacher

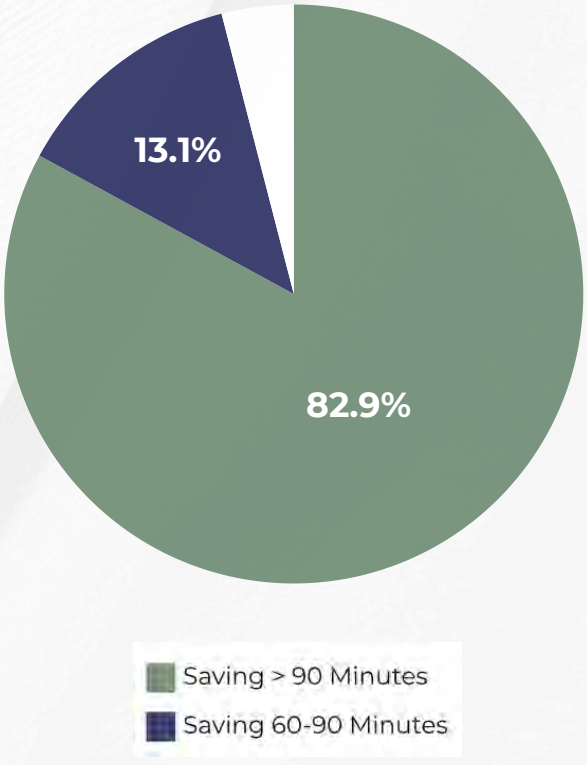
HOW WE MEASURE STUDENT SUCCESS

Farm-Ed High School Classrooms have an average pass rate of 90% on the AEST Agricultural Biotechnology Specialist Certification



HOW WE MEASURE TEACHER SUCCESS

96% of teachers save more than an hour of planning time a week with the Farm-Ed Program



91% of teachers report that the Grow Chamber is an effective teaching tool for their science, technology, math, or agriculture classroom

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Growing STEM Innovators

Farm-Ed Overview

Farm-Ed is a pioneering STEM technology platform that integrates AI-powered Grow Chambers with a dynamic curriculum designed to engage students in hands-on learning experiences related to science, agriculture, technology, and sustainability.

Check out our website!

In a Farm-Ed classroom, learners experience first-hand the freedom of exploration, experimentation, and applied data analytics.

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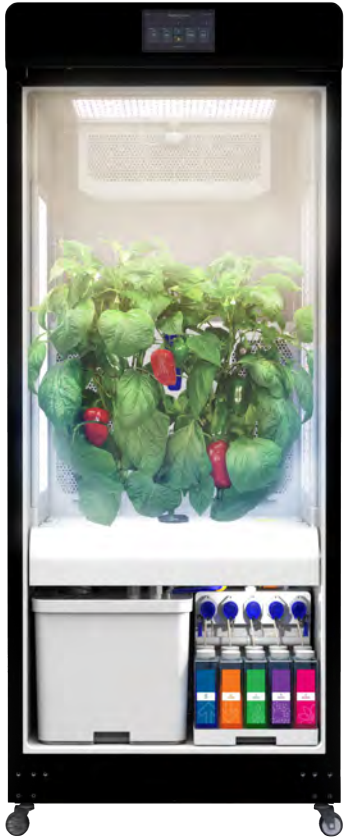
Smart Controlled Environment Grow Chamber

Farm-Ed’s Smart Grow Chamber is a complete ecosystem for plants

- ❏ Exact Temperature (±1% precision)
- ❏ Humidity Adjustments (± 5% precision)
- ❏ Lab-grade pH and EC sensors work in conjunction with other components
- ❏ Collection of 216k data points per day, per device, allowing real-time system adjustments



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Grow Chambers in Classrooms

Our goal is to make Project-Based Learning accessible to every K-12 classroom

- ➔ Select your plant type and press GROW
- ➔ AI monitoring & Push Notifications
- ➔ Data from seedling to harvest

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Data Dashboard

The Farm-Ed platform provides classrooms the tools to conduct long-term, and data rich experiments

Throughout the plant's life, learners and teachers have access to over 216,000 data points daily from each grow chamber.

Learners interact with this data through user-friendly data dashboards to assist in the analysis and understanding of growth data.

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Bringing our Program to YOU!

Designed by industry experts, our program fits into any classroom, providing learners and teachers:

- ❏ Grow Chamber and all supplies for each classroom
- ❏ Weekly curriculum lessons to enrich course standards with inquiry-based and project-based learning experiences
- ❏ Data Dashboard access correlated to their own classroom Grow Chamber
- ❏ Professional development and collaboration with other program teachers

Benefits of Farm-Ed Program

Learners will master transferable skills necessary for the future

- ➔ Design experimental modules, repeated trials, and research protocols
- ➔ Program the AI-managed environment
- ➔ Analyze data trends and apply them to real-world problems
- ➔ Understand the interdisciplinary nature of problem solving
- ➔ Control their own learning through inquiry and personal exploration

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Lesson Plan & Alignment

Topic: Artificial Intelligence (AI) in Agriculture

Driving Question: How might AI impact the Agriculture, Food, and Natural Resources industries?

Standards Covered:

Agricultural Biotechnology Industry Readiness Indicators

5.1	Identify, select or evaluate current or emerging applications of biotechnology in plant science.
5.2	Identify current or emerging applications of biotechnology in food science.
5.4	Identify current or emerging applications of biotechnology in environmental science.
5.5	Identify, select or evaluate pros and cons associated with current or emerging application of biotechnology in plant, food, animal or environmental sciences.

ACT Science Skills

IOD 303	Find basic information in text that describes a complex data presentation
IOD 702	Analyze presented information when given new, complex information

Suggested Timing:

➔ 80 minute period

- ☐ Warm Up — 5 minutes
- ☐ Introduction — 10 minutes
- ☐ Exploration & Research — 25 minutes
- ☐ Application — 30 minutes
- ☐ Wrap Up — 10 minutes

Preparation in Advance:

- ☐ AI in Agriculture Slides posted for student access to view via LMS
- ☐ Digital or printed copies of AI in Agriculture Worksheet

Learner Materials:

- ☐ Technology access for research and slides

- ☐ If not access to slides, printed versions of resources
- ☐ Writing Utensil
- ☐ AI in Agriculture Worksheet

Lesson Overview:

Warm Up: Learners will receive a basic definition of AI, then explore a scenario in agriculture from the past. Encourage an open discussion about how farmers have been solving problems, and what some of the risks may be with the solutions developed. Extend the discussion to ways that AI or more modern technologies might help solve the same problem for farmers now.

Introduction: Learners will watch a clip from a short video about the current impact on agriculture in California based on the scenario discussed on the Warm Up slide. The slides are set to show only a two minute segment of the video (1:35 - 3:53), but you are welcome to show additional pieces of the video as you see fit. Afterwards, open the class up for another discussion based on the prior points and new learning from the video. Ask how AI tools in particular could help support Agriculture.

Exploration & Research: Learners will read external sources to see how AI is being used across the fields of Education, Healthcare, Business, and Cybersecurity. On the worksheet, they should track their learning about each AI application, and then brainstorm how similar tools could be used across Agriculture. This section will serve as the foundation for the Learner-Created Solutions in the next section.

Application: Learners will extend their learning to design their own AI-based solution to solve a problem in the AFNR realm. The guided questions should help learners think through their solutions, and the research foundation should support real-world application. This section could be completed independently or in pairs.

Wrap Up: Let learners share their ideas! Debrief with the class on the driving question for the day and ask them to extend their ideas to bring together the original discussion from the day.