

# Next Generation Agricultural Science (NGAS)

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## Description and Goals

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A \$500,000 grant project funded by United State Department of Agriculture National Institute of Food and Agriculture (USDA NIFA) that was secured by then, two graduate students at California State University, Fresno, Jonathan Moules and Cameron Standridge.

Being awarded such a grant specifically to graduate students is a first for Fresno State and USDA NIFA.

California State University, Fresno and Cal Poly, SLO is leading a state-wide effort to prepare and disseminate new agriscience curriculum and professional development experiences to assist 9th-12th grade in-service teachers, pre-service post-baccalaureate teachers, and high school administrators and counselors in preparing the future food and agriscience workforce.

An agricultural phenomena database emphasizing Next Generation Science Standards (NGSS) will be developed and integrated into existing teacher professional development to secure long-term adoption in agriscience pathways. Experiential learning experiences, teacher externships, and administrator/counselor events, will connect educational professionals to the agriscience industry and government leaders.



## Personal Program Development Outcomes

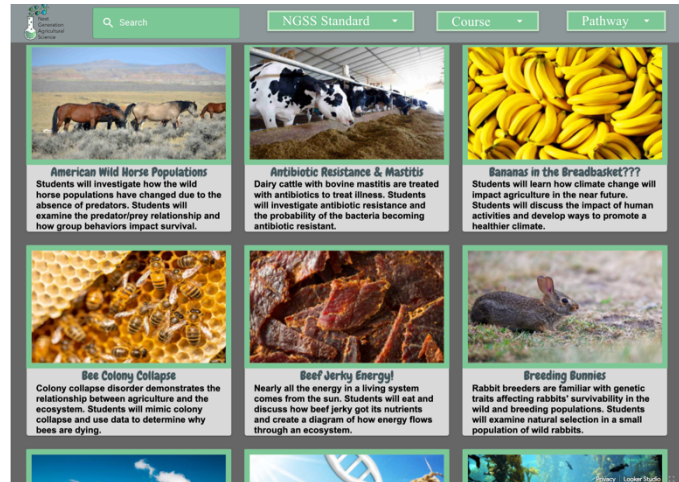
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### Agricultural Phenomena Database

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In January of 2022, 25 elite California agriscience teachers joined together to initiate the process of vetting, creating, and organizing agriscience lessons, labs, materials, and phenomena into the University of California Curriculum Integration courses: Biology and Sustainable Agriculture, Chemistry and Agriscience, and Advanced Interdisciplinary Science for Sustainable Agriculture.

The grant's initial plan was to create physical and electronic binders containing the science materials. After further consideration, a web database using Google Looker Studio now houses a number of agricultural phenomena aligned with Next Generation Science Standards.

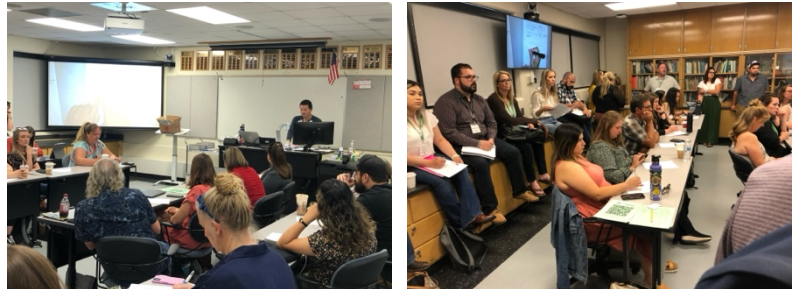


### Professional Development Workshops

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Over the course of three years of the grant's lifetime, 15 professional development workshops have been sponsored to be facilitated at local, regional, state, and national events for agriscience teachers aspiring to build their NGSS and science education efficacy.

Workshops have covered NGSS standards, note booking, agriscience resources, science fair projects, phenomena, 5E lesson planning, etc.



### Agriscience Externship Experience

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Agriscience teachers are required to accumulate 3000 hours of agricultural work experience to enter the credential program; however, building industrial competencies usually stop there as teachers enter the profession.

Teachers experience a 40-hour industry externship with a partnered agricultural company or government agency. Teachers are exposed to the current science innovations, technologies, and practices that are then employed in the agriscience classroom as phenomena. Over 30 teachers have participated.

