FAEIS — Food and Agricultural Education Information System

Making Connections: Agriculture STEM programs in the FAEIS Survey

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Introduction

- Identifying and tracking STEM programs in agriculture is important for judging the gap between students graduating with STEM degrees and the workforce.
- The Food and Agriculture Education Information System (FAEIS) surveys and collates data related to enrollment, degrees awarded, and placement labeled under the accredited Classification of Instructional Program (CIP) code.

Objective & Method

- **Objective**: To explore enrollment trends in agricultural CIPs that fall under the STEM classification as designated by the National Science Foundation.
- **Method**: We examine 140 institutions with agriculture colleges or departments that match the NSF classification. The FAEIS dataset is used to compare measures between 23 of these STEM and 40 non-STEM programs in the 01 - Agriculture CIP range.

Results

Statement 1: A 33/67 male to female enrollment ratio is observed in agricultural STEM programs, including Livestock Management, Animal Science, and Horticultural Science. The calculated ratio is based off of total student enrollment in 2017 from 61 institutions who reported to FAEIS.

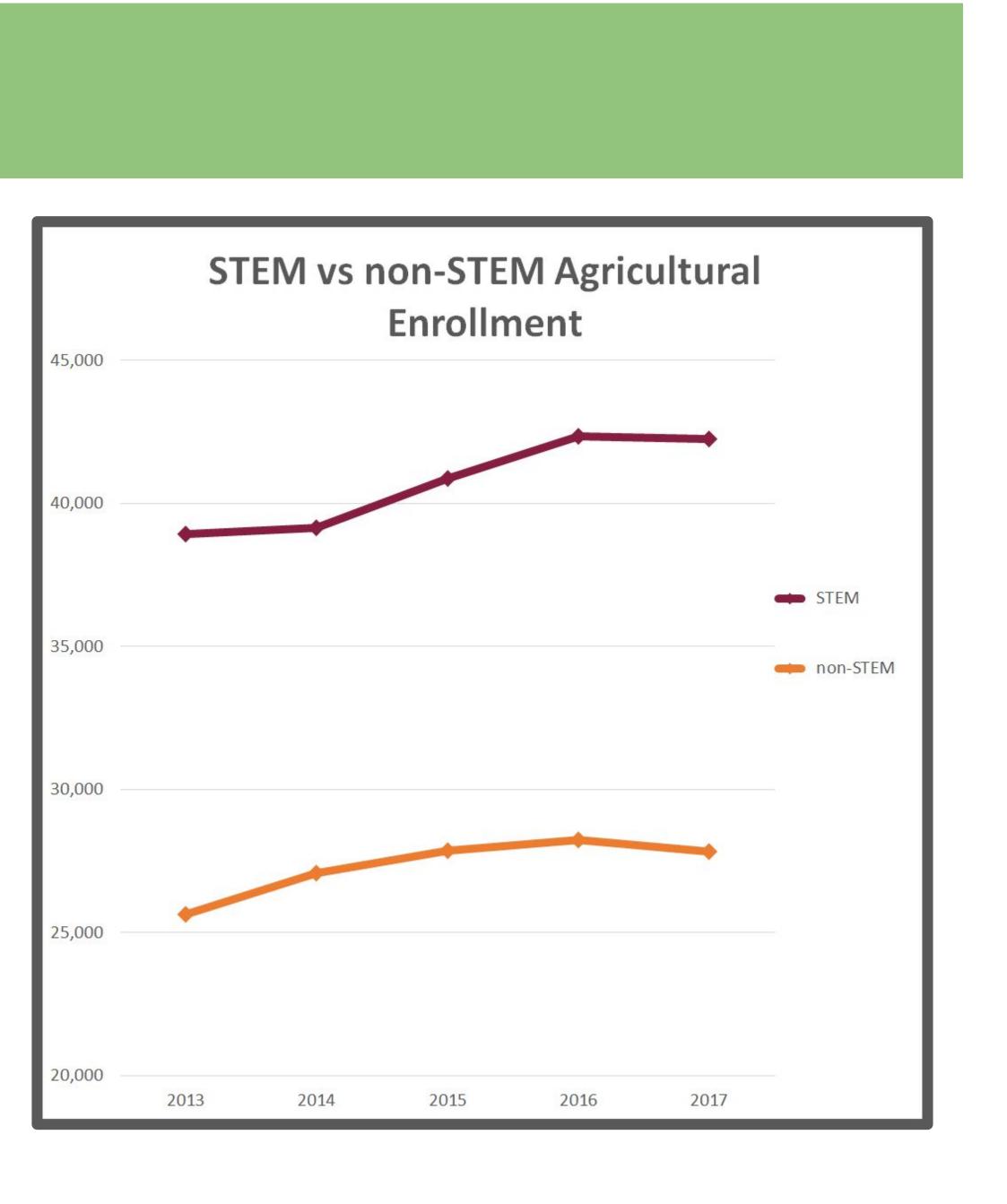Gender Breakdown of Enrollment in Agricultural STEM Programs
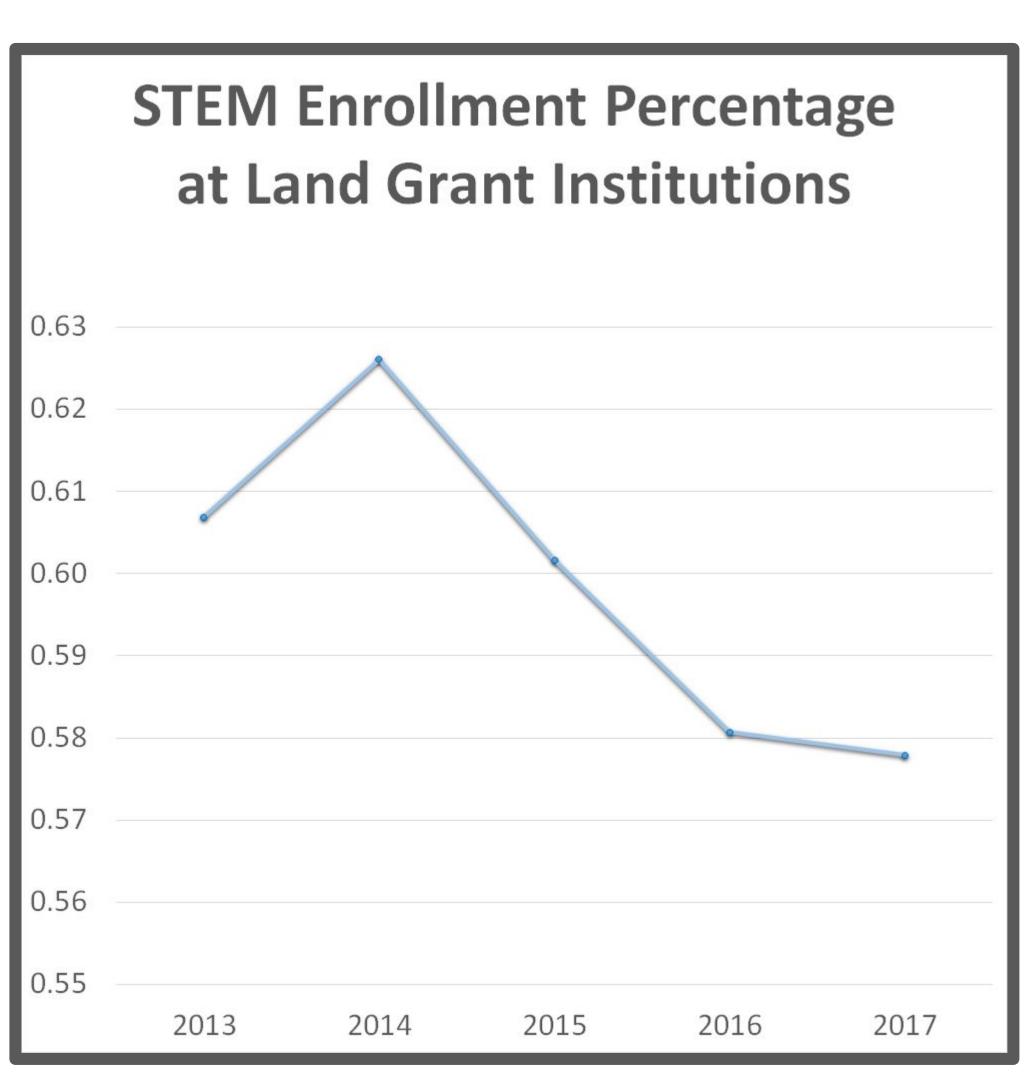Male 33%
Female 67%

Statement 2: Enrollment in agricultural STEM programs has been consistently higher than enrolment in non-STEM programs. From 2013-2016, there was a steady increase in enrollment for both groups. In 2017, enrollment slightly decreased, by less than 1.5%.

STEM vs non-STEM Agricultural Enrollment

Statement 3: In 2017, 66% of the students enrolled in agricultural STEM programs were White, non-Hispanic students. The second largest ethnic group was Hispanic students, who made up approximately 10%, followed by all non-US citizens, who made up 7%.

2017 Agricultural STEM Ethnic Breakdown
Native Hawaiian or other Pacific Islander
Unspecified Minority
American Indian or Alaskan Native
Two or More Races (Multiple Race/Ethnicity)
Black, non-Hispanic
Unknown Ethnicity
Asian
ALL Non-US-Citizens
Hispanic
White, non-Hispanic

Statement 4: At Land Grant institutions, agriculture STEM programs made up anywhere between 57% and 63% of the total agricultural enrollment. Forty-one 1862 Land Grant institutions and two 1890 Land Grant institutions contributed to this analysis.

STEM Enrollment Percentage at Land Grant Institutions

Conclusions

- STEM classification is fluid - it differs from one organization to another. The National Science Foundation, Department of Education and Immigrant and Customs Enforcement all have different academic programs they consider STEM.
- Based on the definition of what constitutes a program as STEM, we believe other Agriculture programs should be classified as STEM, including Aquaculture, Agroecology and Sustainable Agriculture, and Crop Production.
- FAEIS data provides a strong argument for the interconnectedness of agriculture and STEM.

References:
https://www.lsamp.org/help/help_stem_cip_2015.cfm
https://faeis.usda.gov/

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