

Minnesota 4-H Science of Agriculture Challenge

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WHAT IS THE SCIENCE OF AGRICULTURE CHALLENGE?

- Youth to explore and develop science-based solutions to agriculture-related issues they have identified in their communities.
- Youth teams will work with local agriculture partners to explore issues and find solutions to agricultural challenges.



OUTCOMES & OBJECTIVES

Through “hands on” 4-H agriculture, science, technology, engineering and math learning experiences in the Science of Agriculture Challenge, 4-H youth will:

STEM

- Get excited about and interested in agriculture and STEM.

21st Century Skills

- Gain 21st Century skills, including technology, health, business and economic literacy, critical thinking, problem solving, initiative and self-direction.

Agricultural Literacy

- Have a greater understanding and knowledge of food production and its importance in our economy and world.

Career Exploration

- Be exposed to and explore future careers in agriculture.

THE PRODUCT BEING DEVELOPED BY THE TEAMS

Challenge Format

Presentation/Demonstration that will include 30 minutes total

- 20 minutes for presentation/Demonstration where all members of team actively participate
- 10 minutes for interaction and questions with the judge(s).
- ❖ Teams need to put a presentation/demonstration together that tells the judges what their problem was and how they utilized the 8 steps in the engineering design process to address their local agricultural issue.



SCHOLARSHIPS & AWARDS

The three teams with the highest scores at the end of the destination event will be recognized and receive the following:

❖ 1st Place Team

- Each team member will receive a \$1000 Scholarship.

❖ 2nd Place Team

- Each team member will receive a \$750 Scholarship.

❖ 3rd Place Team

- Each team member will receive a \$500 Scholarship.

New for 2016 Challenge:

❖ **Community Engagement Award**

- Each member of the Science of Agriculture team who share their presentation to the highest number of community members will receive a \$100 award.
- Teams will distribute and collect a survey at each community presentation that they deliver and submit that to the State SOA team.



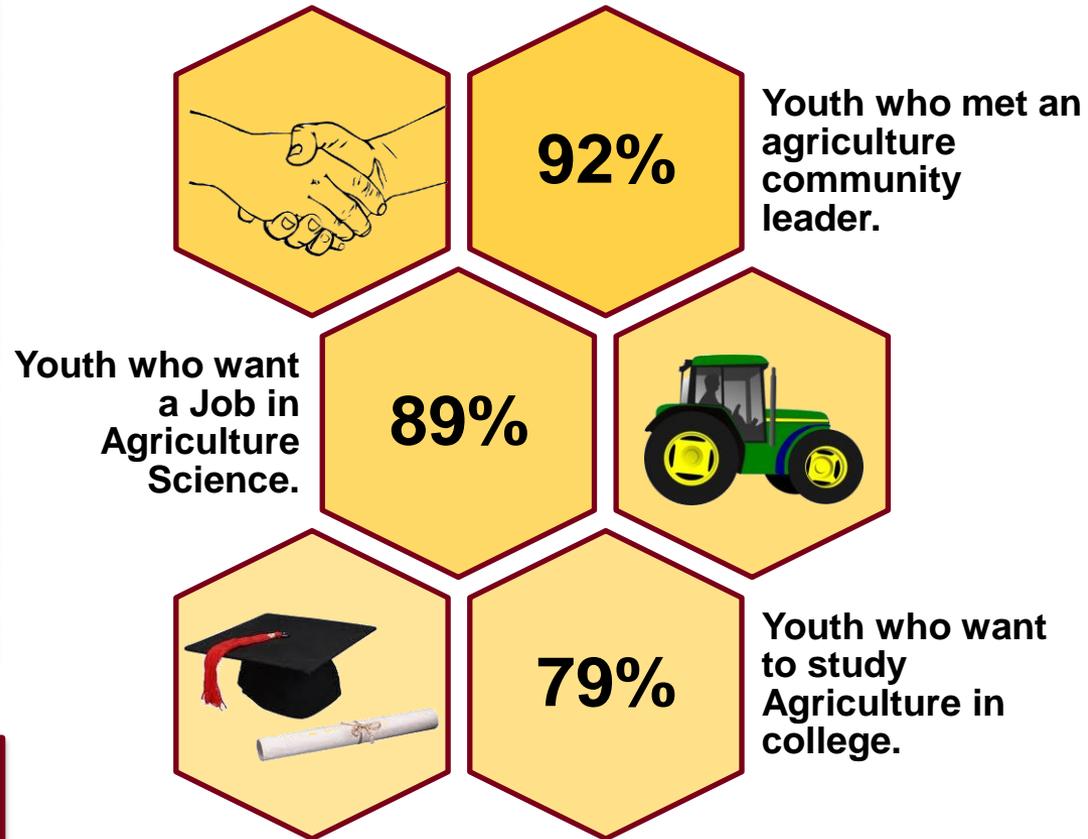
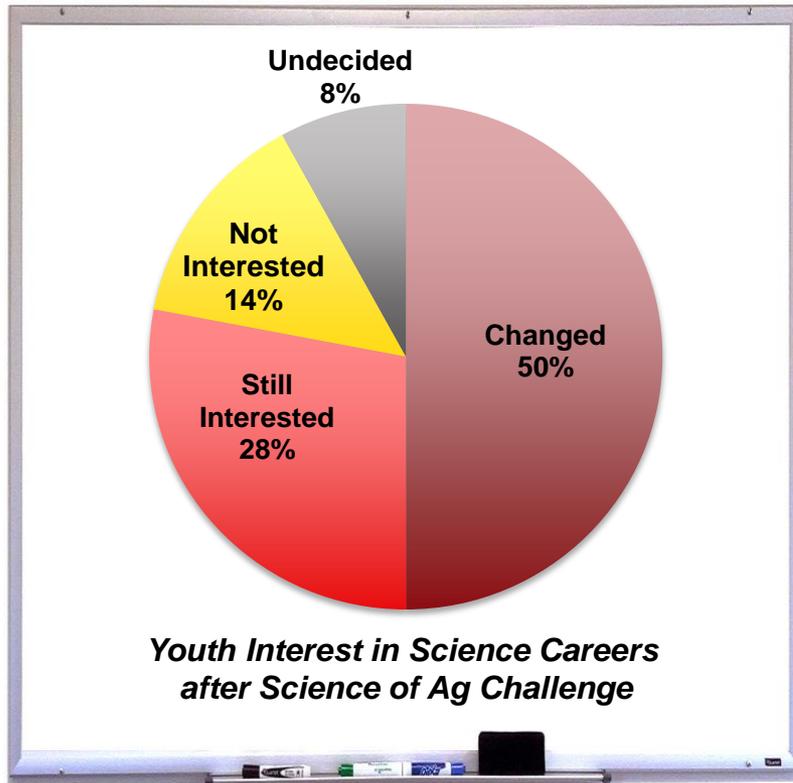
SCIENCE OF AG DESTINATION EVENT

June 21-23, 2016

- Team Presentations
- Educational Workshops
- Campus Tours
- Team Building Activities
- College & Career Fair
- Awards Luncheon



2015 CHALLENGE DATA AND RESULTS



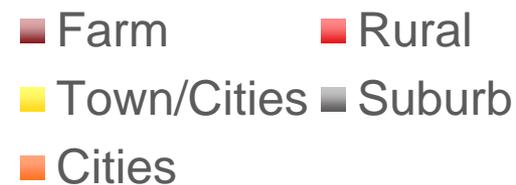
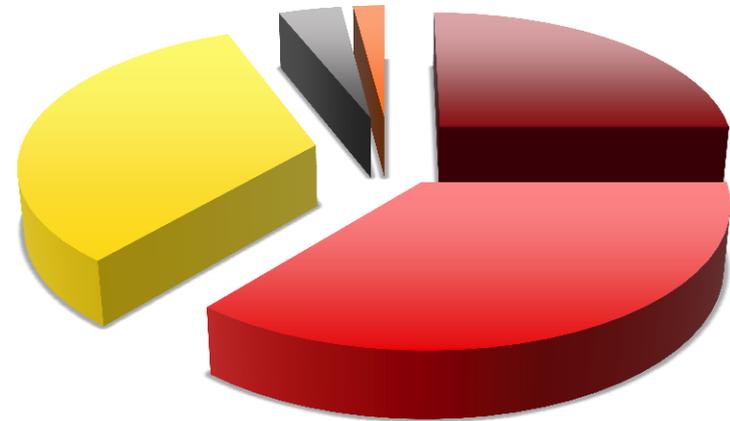
TEAMWORK WAS THE MOST IMPORTANT SKILL LEARNED DURING THE SCIENCE OF AGRICULTURE CHALLENGE.



BROADBAND AND THE SCIENCE OF AGRICULTURE?

Over 65,000 Minnesota youth participated in an Extension Youth Development program, representing all areas of the state:

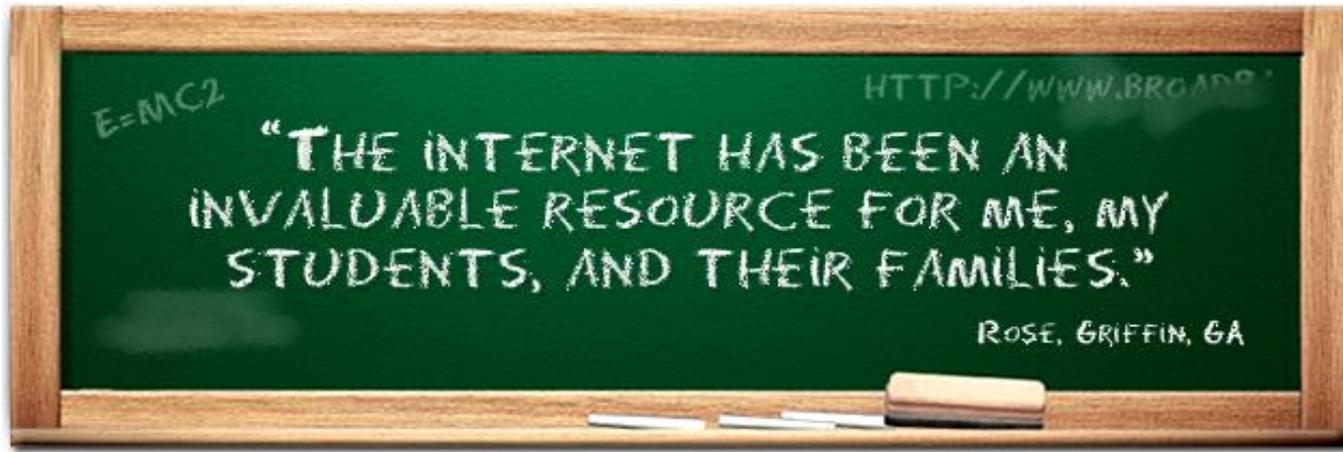
- 25% Farm
- 36% Rural/Town (under 10,000)
- 33% Town/Cities (10,000-50,000)
- 4% Suburb
- 2% Cities over 50,000



BROADBAND & EXPLORATION

- Allows 4-H youth to investigate agriculture concepts in other states and countries.
- Youth find information regarding their topics as well as past and present research that exists.
- It allows youth to communicate in a large state.
- MN 4-H is working to create on-line learning environments.





 *"The issue of broadband access is a moral and economic imperative to ensuring that our students are ready for the world that awaits."*

*- PETER COHEN & JEFF LIVINGSTON
MCGRAW-HILL EDUCATION
for QZ*

"Access to computers and the Internet has become a basic need for education in our society."

- Kent Conrad

If your kid doesn't have broadband access, that's a real disadvantage for participating in modern education.

- Julius Genachowski





Science of Agriculture Response Challenge

Facebook: <https://www.facebook.com/Minnesota4HSOAR>



Webpage: www.4-H.umn.edu/events/science-of-ag-response



REFERENCES

- Chen, C.P. (1997). Career projection: Narrative in context. *Journal of Vocational Behavior*, 54, 279-295.
- Rice, J.E. (2014). Science of Agriculture Response (SOAR): Integrating science content standards into 4-H youth development curriculum and 4-H projects. Presented at the 12th Annual North Central Region American Association of Agricultural Educators Research Conference, Morgantown, West Virginia.
- Scheer, S.D. (1997). Youth leadership and community service: A perfect combination. Leadership Link. (Winter, 1997). Columbus, OH: The Ohio State University Leadership Center.
- Smith, M. H., Meehan, C. L., Enfield, R. P., George, J. L., & Young, J. C. (2004). Improving county-based science programs: Bringing out the science teacher in your volunteer leaders. *Journal of Extension*, 42(6), Retrieved from <http://www.joe.org/joe/2004december/a5.php>

