 CENTER FOR YOUTH DEVELOPMENT

4-H Science of Agriculture Challenge

ISSUE

Agriculture and agbiosciences are critically important to finding solutions to key challenges facing the United States, including economic growth, food security, human health and environmental sustainability. However, a U.S. Department of Agriculture survey showed the United States faces a shortage of agricultural scientists. The U.S. is falling dangerously behind other nations in developing its future workforce of agriculture scientists, engineers, and technology experts. Young people in America are not prepared with the necessary science, engineering and technology workforce skills to compete in the 21st century. Only 5% of American students get their undergraduate degree in science and engineering compared to 66% of Japanese and 59% of Chinese students. Statistics show that children lose interest in science, technology, engineering and math (STEM) topics as early as third grade.

UNIVERSITY RESPONSE

As part of the University of Minnesota Extension Center for Youth Development, 4-H has made improving science literacy a priority, and is working to develop the next generation of agriculture scientists. 4-H provides hands-on, experiential, inquiry-based learning opportunities that promote excitement and interest in science, and improve science literacy by equipping youth with science knowledge and skills. Through 4-H, youth:

- Gain exposure to cutting-edge science and technology in agriculture that produces abundant, healthy and economical food.
- See themselves as scientists.
- Explore college and careers in agriculture, science and engineering.

4-H SCIENCE OF AGRICULTURE CHALLENGE

The 4-H Science of Agriculture Challenge event will challenge youth to explore and develop science-based solutions to agricultural problems they have identified in their communities. 4-Hers will work on teams of 3-4 youth, in 6th grade and above. Participants will attend a statewide event to present their 4-H Science of Agriculture projects, which will be evaluated and judged. The top
three teams will be awarded scholarships that range from $1,000 to $500 per team member. Youth will also have a chance to connect with representatives from the University and the agribusiness community, who are eager to meet the next generation of leaders in agriculture and STEM.

2017 TIMELINE

**October-November** (Informing the Community)
- Information about the Challenge will be shared with 4-H clubs, youth, families, and volunteers

**November 15, 2016** (Initial Team Registration)
- Science of Agriculture coaches must complete the team registration form on the Science of Agriculture webpage (http://z.umn.edu/scienceofag) where they identify the following: coaches name and contact info, counties represented on the team, the number of youth on the team, the pillar of agricultural literacy that the teams issue will fall within and/or the team’s agricultural issue.

**April 15, 2017** (Final Registration Deadline)
- Final registration for teams. Coaches must complete the team registration form on the Science of Agriculture webpage (http://z.umn.edu/scienceofag) where they identify the following: coach's name, name of each 4-H member and their age, counties represented on the team, the pillar of agricultural literacy that the team's issue will fall within and the team's agricultural issue. Teams will also submit a brief (1-2 paragraphs) description of their issue, the research that was conducted, and the team's recommendations.

**April 22, 2017** (Regional Events)
- Regional events: There will be three regional events held on April 22, 2017 and teams will be required to participate at one of the regional events. There will be an event for the NE & NW regions, an event for the SE & SW regions, and an event for the Central region. The events will serve as an exhibition where teams will give their presentation to a panel of judges and receive feedback that they will use to prepare for the state contest. Teams **must** participate at the regional event in order to progress to the state contest. The locations of the regional events are to be determined.

**May 2017** (Community Presentations)
- Teams give their presentations locally (at least 2 times) to agricultural groups, at club meetings, community forums, etc.

**June 20-21, 2017** (State Science of Agriculture Challenge Event)
- The State Science of Agriculture Challenge event at the University of Minnesota St. Paul campus. Youth will give their presentation to panels of industry representatives while competing for scholarships. Youth will also attend 21st Century Skills workshops, go on campus tours, and participate in a College and Career Fair. At the conclusion of the event,
there will be an awards luncheon where all youth will be recognized and scholarships will be awarded to the top three teams.

SCHOLARSHIPS

The three teams with the highest scores at the end of the destination event will be recognized and receive the following scholarships for any College, University, or accredited Trade School:

- **First Place Team**
  - Each team member will receive a $1000 Scholarship.

- **Second Place Team**
  - Each team member will receive a $750 Scholarship.

- **Third Place Team**
  - Each team member will receive a $500 Scholarship.

**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. Science of Agriculture teams will distribute and collect a survey at each community presentation that they deliver and submit that to the University of Minnesota Extension Center for Youth Development State Science of Agriculture team.

COSTS & FEES FOR TEAMS

Each Science of Agriculture team will be required to pay a $400 registration fee at check in for the state event. The fee covers the cost of food, lodging, workshop materials, and tours for all Science of Agriculture team members and a coach. **Additional** chaperones and coaches will be required to pay a $80 fee. Teams will be able to apply for a $200 travel grant to offset the team registration fee starting on April 22, 2017.

IMPACT

Through “hands on” 4-H agriculture, science, technology, engineering and math learning experiences, youth will:

- Get excited about and interested in agriculture and STEM.
- Have a greater understanding and knowledge of food production and its importance in our economy and world.
- Gain 21st Century skills, including technology, health, business and economic literacy, critical thinking, problem solving, initiative and self-direction.
- Consider and connect with agricultural-related studies at the university level while being exposed to and exploring future careers in agriculture.
MORE INFORMATION

More information about the Science of Agriculture, including the quick Start Guide, sample videos of presentations, and stories from past teams can be found on the Science of Agriculture webpage: http://z.umn.edu/scienceofag

Updated: May 2017