Food4Thought Provides Students STEM Opportunities in Food Science

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The Need

Institute of Food Technologists (IFT) members have always been passionate about the food science profession. There is never a shortage of volunteers to participate in the “Find a Food Scientist” program, judge a student competition, or visit a local school’s career day. In 2006, IFT and Feeding Tomorrow, the Foundation of the IFT, commissioned an initiative with Discovery Education to provide food science multimedia toolkits to every high school in the United States. These toolkits “The Science and Scientists behind the Food” provided career information, experiment guides and videos to bring the field of food science to life for educators and students. Feedback was overwhelmingly positive, and is one of many initiatives driving the recent enrollment increases that we have seen within food science departments in the United States. (Discovery Education Science Resources).

The Response

Over the past several years, there has been a significant current movement around promoting careers in STEM. This includes the May 2013 release of the U.S. Government’s 5-year strategic plan for Federal STEM, drafted by the National Science & Technology Council, and the creation of various coalitions such as the STEM Education Coalition. In 2012, based on IFT’s strategic mission to act as a “Steward for the Profession & Its Community” and the fundamental vision of Feeding Tomorrow, we launched IFT’s formal STEM program, Food4ThoughtSM.

Studies show that children who learn about careers in STEM fields early in school tend to pursue these fields as their profession. However, there is a general lack of awareness about STEM career opportunities, particularly among girls and underserved populations. Food4Thought is built on 3 foundational pillars:

- Educate: Position Food Science as a Key STEM Science
- Engage: Implement Pilot Programs for Future Food Scientists
- Empower: Develop Learning Resources

Through Food4Thought we are demonstrating that food science is a premier STEM field providing students with unique career opportunities that make a difference in how we live and eat. We are positioning food science as a key STEM field, creating foundational food science resources for students and parents, and leveraging educational immersion programs that introduce food science as a career of choice.

Our initial partners for Food4Thought have been Girls, Inc., specifically the Orange County Chapter, as well as Chapman Univ. in Orange County. Working together for the past 2 years, we have created a pilot program where students from Girls, Inc. of Orange County visit Chapman Univ. Some of the girls were already participants in the Eureka! program that seeks to provide STEM experiences for them, so the alliance was a perfect fit. This is especially important because this linkage ensures that the students we reach already have a basic interest in science, but may not know about food science.

Through this alliance in Orange County, the girls participate in Food Science 101 at Chapman, where they spend time learning about the profession, meeting graduate students and faculty, and exploring basic science concepts through the food science lens—using ice cream to do this also helped! From this group of 30–35 girls who participate in the Food Science 101 1-d class at Chapman, 4 are typically selected to attend the IFT Annual Meeting.
Empowering Students through Food4Thought . . .

Figure 1–High school students attending Annual Meeting and Food Expo from Girls Inc. of Orange County taste newly developed Fizzio sodas during tour of a local New Orleans-themed Starbucks store.

Figure 2–Students from Girls Inc. of Orange County met with Edlong Dairy Technologies’ CEO Laurette Rondenet-Smith and her team to learn about sensory science and the science behind different dairy products during their trip to AMFE.
Empowering Students through Food4Thought... & Food Expo® where they participate in a more extensive immersion experiences, including visiting Wrigley and Hamburger Univ. in Chicago and the USDA ARS location in New Orleans. Their onsite experience also includes a tour of the expo floor, meeting with members of IFTSA, and learning the science behind flavors, textures, military MREs, and canning products. Programs like these are made possible due to the generous corporate support from Founding Partners Edlong and Starbucks Coffee Company, Champion Partner Kerry, and Supporters Firmenich and Tate & Lyle.

“The objectives of Food4Thought give Edlong another opportunity to live out our mission of enriching the lives of those we touch. We will be creating interest among bright young students in the field of food science, and ultimately capturing the ingenuity and creativity of future generations to solve critical supply and food safety challenges,” said Laurette Rondenet-Smith CEO of Edlong Dairy Technologies.

It’s important to reach these high school students, as 65% of 8th graders had teachers who spent less than 5 h/wk on science, and only 16% of American seniors are proficient in math and interested in a science career. This alarming trend continues in college, with only 14% of students graduating in STEM fields (Change the Equation, 2012)

We are excited about the initial feedback about our pilot program in Orange County. We have changed their impressions about careers in food science and have opened their eyes to the diversity and challenges that a career in food science provides. We know that at least half of the girls who attended the annual meeting will be applying to college to pursue a food science degree.

“IFT provided me with a life changing experience—twice! I was fortunate enough to attend the Food Expo 2013 in Chicago, and then I was blessed to be, yet again, selected to attend the Food Expo 2014 in New Orleans. When I traveled to Chicago I had a simple interest in Food Science and the careers it has to offer, but this year I was completely fascinated with it. Having 2 consecutive experiences in the Food Expo not only assured me of my passion for Food Science, but it has also given me the confidence to take the next step and pursue a higher education in that field.” -Melanie Hercules

We’ve also received positive feedback from the IFT members who have contributed to this initiative—so much so that we are exploring expanding the 2014–2015 program to Birmingham, Alabama; Chattanooga, Tennessee; Redding, California; and Grand Rapids, Michigan. Our goal in 2015 is to collaborate with members in these areas and local Girls, Inc. Chapters so that we can expand the Food Science 101 programs and ultimately bring 20 students to the 75th anniversary Food Expo in Chicago next year.

We are also working with our corporate supporters to explore launching a job shadow/internship program for the students so that they can extend their learning experience beyond the Food Science 101 and field trip to the annual meeting. We believe that this enhancement will round out the experience and solidify the girls’ interest in food science careers.

We’re in this together.

IFT and Feeding Tomorrow are playing a leading role ensuring that food science is top of mind in STEM career discussions. We want to make sure that our outreach is targeted and impactful so that resources, time and energy are coordinated wisely. We want to ensure that future workforce needs are met—and that there are still jobs filled with innovative, energetic professionals. Building and growing the Food4Thought programs is one way we can do this. We look to the IFT community for help to take this initiative to the next level—we need assistance with sponsorships, grants to financially support this program—and we need volunteer time and talent to create the internships and work with the students locally. While our initial pilot program is with Girls, Inc., we are also exploring opportunities to work with other organizations. If you’d like to become involved, please email Amanda Perl at aperl@ift.org.

Links

Feeding Tomorrow—www.feedingtomorrow.org
Food4Thought—www.feedingtomorrow.org/food4thought
Video of Food4Thought Participants—http://bcove.me/ls190gbc