



Game Changer: THE BACE WORKFORCE

As the biotechnology industry continues to grow, so does the need for talent. Since 2006, the University of Florida's (UF) Biotility has been focused on building a workforce that meets this growing need.

To do so, Biotility's Biotechnician Assistant Credentialing Exam (BACE) encourages high school and college students to pursue careers in biotechnology by validating important technical skills. With the credential, a high school graduate is better positioned to get a job as a biotechnician assistant, often earning well above minimum wage.

To date, an estimated 800 high schoolers have received the BACE credential – and the number of students who take the exam grows significantly each year, reaching more than 1,000 this past May. This is good news for Florida, home to the nation's seventh-largest biotechnology research and development industry, nearly 300 biotechnology establishments and 27,000 employees.

Biotility's Associate Director Tamara Mandell, and Lori Wojciechowski, assistant director of secondary programs, initially developed the exam as a tool to validate mastery of industrial biotechnology program standards in Florida. Recognition by private industry was vital to the adoption of BACE by the Florida Board of Education in 2012.

"We had representatives from a variety of industry sectors – medical diagnostics, biopharmaceutical, environmental – review the exam and the questions in terms of rigor and relevance to their company," said Mandell.

Several Florida companies and institutions are already reaping the benefits of a BACE-credentialed workforce, including Syngenta, a global agritechnology company with a laboratory in Vero Beach.

"Whoever you bring on board at any level, they will require some training," said Neil Glynn, Ph.D., Syngenta group leader for disease control in biological research and development. "As far as I'm concerned, when we bring students in who already have experience and exposure to equipment and approaches, the training period is a lot less. Our scientists build confidence much quicker in the students' abilities, so they can delegate sooner and, eventually, assign more elaborate tasks. It allows the scientists to be more productive."

"If we're deciding between a couple of candidates and one has the certification, we're certainly going to give a nod to the student who is certified," added Joseph Wuerffel, Ph.D., Syngenta research and development scientist



for product evaluation and biological assessment in North America. “We know they have the background and would likely be more qualified to be in a lab and perform more complicated molecular techniques.”

Equipped with the skills to work in a research laboratory, Halle Sellers was confident in a role typically filled by college students.

“The BACE credential gives an upper hand to students who become certified and helps employers,” said Sellers. “I’ve always asked a lot of questions, so it’s been cool to watch and understand how things work at a molecular level. I really became interested in agriculture in this Syngenta internship and I would definitely want to do something with nematology or plant science later on.”

Before graduating from the industrial biotechnology program at Vero Beach High School in May, Sellers already had five months of hands-on experience as a laboratory technician. Her success with Syngenta is due, in part, to the work of Jeffrey Bush, biotechnology teacher at Vero Beach High School. He introduced the school’s first industrial biotechnology program and the BACE two years ago.

“The BACE is completely different from other exams the students usually take,” said Bush. “Most of the students I teach are all four-year college bound and take several advanced placement courses. This is the only type of test for an advanced course with a hands-on component, which makes the exam very different from anything else I have administered. It also justifies all the hard work the students have done in their last two years and makes sure that their lab techniques really do count.”

Due to such success, the exam has been adopted by academia and private industry in Arizona, and was piloted this year in Louisiana, Oklahoma, Texas and Washington.

“As other states contact us to use the BACE, it is essential the bioscience industry continues to be involved,” said Mandell. “We’ve made significant efforts to travel to these states, present at national conferences and discuss with any interested parties how we developed the credential, and how it aligns with industry needs nationally at the entry level. We also work closely at the state and local levels with anyone interested in piloting or adopting the credentialing exam.”

Such has been the case at the Southern Oklahoma Technology Center in Ardmore, where Dr. Fiona McAlister has been impressed not only with the BACE as a tool for validating student skills, but also with its impact on student confidence.



"I don't like reinventing the wheel, especially if people have already done a lot of the ground work," she said. "It's like Biotility was five or six years ahead of us in having the conversations with industry, academia and high schools about the skillsets these technicians should have."

Similarly, in Texas, the BACE is becoming recognized as an essential component for workforce growth. Dr. Linnea Fletcher, department chair of biotechnology at Austin Community College and executive director of the AC2 Bio-Link Regional Center, introduced the exam in Texas this year.

"In biotech, there has to be a laboratory component," said Fletcher. "I was really impressed by the level of detail that was embedded in that laboratory portion [of the BACE]. Plus, the other thing I was really excited about was how much regulatory information was in the test. Even in an entry level position, you have to know all the regulations."

Fletcher has seen high school students win jobs over college students because they knew proper laboratory techniques. She is hopeful to see the widespread adoption of BACE because of the career options it affords those with the credential.

"The value of BACE is that it has been industry validated in other states," said Fletcher. "It serves as a benchmark for students on their career pathway and, if we get this widely accepted, it will be valuable for students transferring into a two- or four-year school and private industry in Texas or elsewhere."

With growing momentum, Biotility has already set its sights on international expansion – Brazil – further turning heads to Florida and The Corridor. ■

