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Careers in Biotech

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CAREERS IN BIOTECH

by Michael West

A Technological Revolution Is Underway That Has Nothing to Do with the Virtual World of Computers, the Internet or DVD. This "Other" Revolution--the Agricultural Biotechnology Revolution--Is About Life. And, if You Play Your Cards Right, It May Be About Jobs.

But, just what is biotechnology? How does it affect us today? And what does the future hold, especially for **careers**?

The basic concept behind biotech is fairly simple. Your work as a scientist or lab technician might include a day like this: Using sophisticated laboratory techniques, locate an organism's genes--those microscopic heredity packages that determine whether your eyes are green, your hair is brown, or a plant needs lots of water to survive. Then, also **in** the lab, play with those genes just enough to get the organism to do something it's not used to doing. **In** the case of that thirsty plant, for example, convince it that water is overrated by giving it a gene from a cactus. Ultimately, if all goes as planned, the new, "genetically modified" plant will survive periods of drought. And, the farmer that grows the new plant will have one less thing to worry about come growing season.

Many people believe that such genetic manipulation has led to significant improvements to agriculture, especially **in** terms of increased crop production, better flavor and higher nutritional values. Still, the issue is open to debate.

"Biotechnology is somewhat controversial," notes Stacy Byrd, an **agriscience** teacher at Eagle's Landing High School **in** McDonough, Georgia, and the 1999 National **Agriscience** Teacher of the Year. "There's this whole notion of 'appropriate technology,' which means 'just because we can do it, should we do it?'"

"I think, though, that as long as biotech improves food quality and food availability, the field itself is just going to boom."

In other words, if you're thinking about a career **in** agriculture and just happen to have a talent for science, here's your chance.

Dan Eramian couldn't agree more. He's vice president of communications for the Biotechnology Industry Association, and speaks for more than 850 of the world's leading technology companies and academic institutions.

"If you want to get involved with an industry that's growing, and will be even larger **in** the future, biotech is the place to be," he proposes.

Currently, many biotech positions are available throughout the country **in** a range of public and private settings. Most positions involve research, testing, or screening--the kinds of things required before a new product (like an insect-resistant potato, for instance) can be sold on the market. You'll find jobs everywhere from small start-up companies developing high-tech tomatoes, to large organizations responsible for ensuring new products are safe. The U.S. Department of Agriculture offers jobs related to food development, nutrition and safety.

So where do you begin? For one, load up on those science classes. **In** the world of biotech, science is key--especially biology, chemistry, and genetics. Next, talk to your advisor about job opportunities **in** your area. Perhaps you can line up an internship or a supervised agricultural experience at a local biotech company or schedule a class visit to a nearby university for some hands-on lab experience. Often, biotech companies will allow interested students to "shadow" their employees to get a feel for what it's like to work **in** the industry. The goal is exposure. The more experience you can get while **in** school, the more prepared you'll be for a future career **in** biotech.

Whatever you do, take your time. Scientific expertise isn't something you gain overnight, and expertise is definitely necessary **in** this demanding field. And besides, there's no need to rush. According to Dr. Richard Stuckey, executive vice president of the Council for Agricultural Science and Technology, the biotech boom is here to stay. "There is so much promise **in** biotechnology," says Stuckey. "Biotech people are **in** demand. Their future is bright."

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BIOTECH BRIEFS

- The United States is home to 1,283 biotech companies.
- The U.S. biotech industry employs more than 153,000 people.
- The U.S. biotech industry spent \$9.9 billion **in** research and development **in** 1998.
- Thirty percent of North America's corn and 50 percent of is soybeans are grown using biotechnology.

(Source: Biotechnology Industry Organization)

THE SCOOP ON BIOTECH

For more information on biotechnology--it's past, present, and future--contact the following organizations:

Biotechnology Industry Association, 1625 K Street NW, Suite 1100, Washington, DC 20006; 202/857-0244; www.bio.org

Biotechnology Information Center, National Agricultural Library, 10301 Baltimore Avenue, Beltsville, MD 20705; 301/504-5755; www.nal.usda.gov/bic

Council for Agricultural Science and Technology, 4420 West Lincoln Way, Ames, IA 50014; 515/292-2125; www.cast-science.org

National Center for Biotechnology Information, National Library of Medicine, Building 38A, Room 8N805, Bethesda, MD 20894; 301/496-2475; www.ncbi.nlm.nih.gov

National Council for Agricultural Education, 1410 King Street Suite 400, Alexandria, VA 22314;
703/838-5881; www.agedhq.org/council.html

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