



CAREER CONNECTION



Career Opportunities and Challenges in the Agriculture Biotechnology Industry

[By Gitanjali Hazarika]

Because of our ever-increasing population that is predicted to reach eight billion by 2020, the need for food will remain a top priority, transcending all socio and geo-political boundaries. The increased demand for food will call on agriculture, specifically, to act as the biggest source of industry. And with the increased demand for foodstuff, better-quality yield and huge agricultural output will be required. (Though there has been vast improvement in the sector thanks to the improved quality of seeds, pesticides, and fertilizers.)

This is where the agriculture biotechnologist steps in. Agricultural biotechnologists are professionals who provide a set of tools, which, if incorporated suitably with other technologies, can be used for the sustainable development of agriculture and the food industry as a whole.

Scope of the Agri-Biotech Industry

With increased R&D efforts in the agri-biotech industry, the scope of agriculture-based biotech work has become tremendous. Agriculture biotechnologists' roles are multifarious. From being people with strong scientific expertise to being good administrators and good marketers with sharp business acumens and strong communication skills, the career options for an agri-biotechnologist are vast. Choosing the right avenue is the main priority.

Nature of the Job

Today, with modern technologies like micro propagation which allows for the multiplication of virus-free plants and tissue cultures, agriculturists have successfully combated natural hindrances to productivity such soil imbalances, crop diseases, and genetic breeding. Therefore, the agriculture-based biotech industry needs people who are qualified in the fields of

molecular biology, plant transformation and tissue cultures, biochemistry, plant genetics, pathology, entomology, and agronomy for trait evaluation and integration.

Career Options for Agri-Biotechnologists

The field of agriculture-based biotechnology is evolving each day, offering numerous career options. Besides employing people for research and development, the industry also caters to various other agri-biotech-related fields including horticulture, floriculture, dairying, poultry farming, and fishery. Agri-based biotechnologists can also sharpen their academic skills by working with food processing or post-harvest technology, better known as genetically modified (GM) technology.

Career Challenges in the Agri-Biotech Industry

With growing consciousness of the ills of chemically treated foodstuff, changes in approaches to farming are taking place all over the globe. The stage has been set for the advent of bio-chemicals and bio-insecticides, biofertilizers, and biofuels. Agriculture-biotechnology careers are never short of challenges, both natural and man-made. For instance, in the next two-and-a-half decades alone, the world must produce

the same amount of food or more than what it produced in the last 10,000 years.

For a biotechnologist, the challenge does not end with producing sufficient amounts of foodstuff. The challenge lies not only in meeting requirements within deadlines but, at the same time, causing minimal harm to the earth. Agriculture biotechnologists have to combat odds like the depletion of precious top-soil at the rate of 7% in 10 years in order to fulfill the increasing water requirements which will have doubled by that time.

Other Career Options

Several other career openings are available for agri-business graduates. From the more general opportunities within the agricultural and land-based sectors such as equine management, animal science, and horticulture, to global buying and trading of agricultural produce, the opportunities are vast for agriculture biotechnologists.

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