BioSpectrum the business of Bio & Health Sciences

"Destiny is a matter of choice"

19 April 2013 | Views | By BioSpectrum Bureau

â€œDestiny is not a matter of chance, it is a matter of choiceâ€?

Biotechnology is nothing but a toolbox that solves problems. Biotechnology helps to survey the current and developing microbial, environmental, agricultural, and pharmaceutical applications. We use biotechnology to grow our food to feed our families. We use biotechnology to make medicines and vaccines to fight diseases. And we are now turning to biotechnology to find alternatives to fossil-based fuels for a cleaner, healthier planet.

The foundation of biotechnology is based on our understanding of cells, proteins and genes. Biologists study the structure and functions of cells, what cells do and how they do it. By using the advances in biomedical research we can understand genes, cells and proteins to pinpoint the differences between diseased and healthy dells. Once the scientists discover how the diseased cells are altered, they can easily develop new medical diagnostics, devices and therapies to treat diseases and chronic conditions. Biotechnology is grounded in the pure biological sciences and intimately entwined in the industry sectors for development in agricultural biotechnology, biofuels, biomanufacturing, human health, nanobiotechnology, regenerative medicine and vaccines.

There are many fields which open the career door in biotechnology. Those include environment, plant, animal, industrial, and medical biotechnology. One of the challenges that we will face in the future is to produce more foodstuffs in limited land for feed production. The next challenge is to upgrade feed ingredients though genetic modification and lastly to enhance the utilization of feed through innovative feed additives. So how do we produce more food for feed or in other words, increase crop productivity?

Considering the scenario, I would like to work on the transgenic plant production to produce more food to feed the increasing population. I would like work mainly on sugarcane to decrease its maturity time along with high water stress resistance. The technology can be used as a tool for researchers to gather evidence about hypotheses and insert useful genes as a means of improving crops, after transgenic process is completed.

At this point, I have plants with a specific piece of DNA inserted into them. I am keen on studying the offspring of this plant in

order to make sure that the plant is homozygous for the insertion. If the plant's phenotype looks more like a normal plant than a dying plant, then this transgenic plant shows evidence that supports my hypothesis that a certain piece of DNA encodes a protein that is important for plant immunity. The more I can figure out about proteins like this one, the more I can add to global knowledge of plant defense systems and the more I can help solve problems pertaining to plant defense. I have always been passionate about the work that I do and I am willing to work hard and do what it takes to succeed, with an abiding desire to make a difference in the health and well being of others.