The SOWER
Daily Nebraskan

New field of biotechnology promising for state's economy

Science of the '90s taking

By Sarah Duey

Although the concept of biotechnology has been in existence since the brewing of beer, only in the last 20 years has it grown to be a recognized field in science.

A quarter of a century ago, scientists may not have been able to read and alter the genetic blueprints of living things. Today, scientists have expertise and equipment to take them far beyond what they may have imagined.

"Biotechnology is a very important, growing industry," said Donald Weeks, director of the Center of Biotechnology at UNL. "Not only does biotechnology offer an opportunity for Nebraska graduates to get jobs, it offers an opportunity for economic benefits to the citizens of Nebraska."

The development of biotechnology, one of the fastest growing fields in science, has enabled scientists to apply biological principles to practical purposes by improving plants and animals and manufacturing products with the use of living organisms.

Biotechnology as a scientific field is relatively new to the University of Nebraska-Lincoln. Since it came into existence in 1986, the Center for Biotechnology has proved to be beneficial for UNL and the state, Weeks said.

Through funding by the Nebraska Research Initiative, the center was able to hire 18 new faculty members in key areas of biotechnology in the last three and a half years, Weeks said.

Funding by NRI has also helped the Center of Biotechnology establish seven research facilities with equipment and expertise to enhance research programs of all faculty in the biological sciences at UNL, Weeks said. DNA synthesis, DNA sequencing and production of antibodies are among the focuses of study, he said. Faculty are allowed to use the facilities for a small charge.

"Without good state-of-the-art equipment it's difficult to be competitive," Weeks said.

John Osterman, a biology professor, has worked on a joint project with agronomy professor Bill Compton since 1986.

"Research in biotechnology often involves different disciplines coming together," Osterman said.

"We have been able to use each other's talents," he said.

Through plant breeding, Osterman said he was identifying superior traits in corn that affect economic aspects of corn production and make the breeding process easier.

So far, Osterman said their goals were to develop a plant with the highest grain yield and a faster maturity.

"Seed money" programs offer faculty the opportunity to turn new ideas into research programs with adequate strength to attract support from outside the university system. Weeks said this small program provided UNL more funding than they had put into it.

But the center is not only benefitting UNL faculty. The center also has a program that provides funds for 36 graduate students. Weekly seminars with top scientists from across the United States have "proved successful in setting up interaction between students and outstanding scientists," Weeks said.

Beyond the university, the center, with its 13 departments and 160 faculty members, has provided workshops for high schools and extension agents on molecular biology and molecular genetics.

"Our goal is to help people understand what biotechnology is," Weeks said. "We want to give them insight on how biotechnology is and will be affecting their lives."

In terms of economic gains for the state, the center has been instrumental in helping biotechnology start-up companies in Lincoln, Weeks said. BioNebraska grew out of collaboration of three university professors who saw a strong commercial potential for some of their research.

Fred Wagner, biochemistry professor and president of BioNebraska, said the company, now 4 years old, developed products through biotechnology that benefit people.

BioNebraska's first