



Agricultural Biotechnology in North Carolina

A Landscape of Opportunity

North Carolina offers unmatched opportunities in agricultural biotechnology. With a statewide vision for biotechnology that built world-class academic institutions and developed advanced scientific expertise, the state's diverse and distinctive agricultural industry has prospered. From the leadership platform, North Carolina can see even greater promise ahead for ag biotech. To capitalize on these unmatched opportunities, the Biotechnology Center's **AgBiotech Group** and statewide partners are working to add \$30 billion a year to the ag economy, lifting its total impact beyond **\$100 billion by 2020**.

*Where do you see yourself
in North Carolina's ag biotech landscape?*

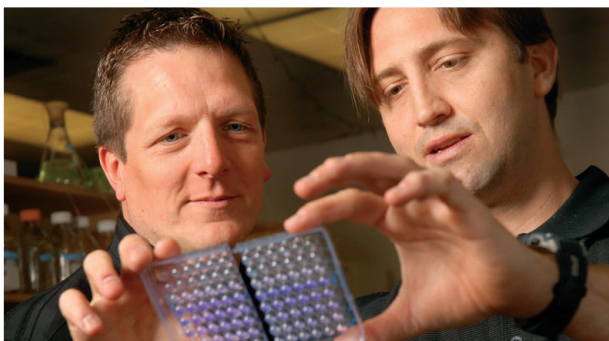


Accelerating North Carolina's Leadership in Agricultural Biotechnology

Cultivating Innovation and Collaboration

Within the North Carolina Biotechnology Center, the **AgBiotech Group** serves as a hub for all ag biotech efforts in the state. Working with existing and emerging ag biotech businesses, farmers, producers, researchers and educators, the **AgBiotech Group** helps:

- **catalyze** commercialization and applications of ag biotech products that support long-term economic and societal benefits;
- **coordinate** and spur innovations in the North Carolina ag biotech sector in animal, crop, forestry and marine biotechnology;
- **ensure** advanced and ongoing development of ag biotech scientists and the farming workforce;
- **activate** community and state leadership in support of ag biotech economic development; and
- **educate** the general public on the value and benefits that ag biotech holds for their daily lives and for their communities.



Growing Opportunities in North Carolina



The **AgBiotech Group** at the Biotech Center connects companies, farmers, producers, researchers, intellectual property holders and investors with key resources to imple-

ment strategic projects and expand their potential. Three key programs include:

- **AgBIOCEPS (Agricultural Bioscience Company and Entrepreneurial Profile System)**
AgBIOCEPS is a database showcasing entrepreneurial ag biotech companies in North Carolina seeking investment and partnerships.
- **Ag Biotech Undergraduate Research Fellowships**
This fellowship program prepares undergraduates for careers in ag biotech by supporting relevant hands-on experience and other activities to broaden students' experiences.
- **Ag Biotech Opportunities and Entrepreneurial Farmer Programs**
This series of regional programs connects progressive, early-adopter farmers and growers with researchers, entrepreneurial firms, large ag biotech companies and community resources.

See other projects of the **AgBiotech Group** at ncbiotech.org/agbio/projects

An International Success Started in North Carolina

“North Carolina has proven to be an ideal home for our fast-growing agricultural biotechnology company. Funding and other support from the Biotechnology Center have been pivotal to our success. Now sales of our enzyme-based feed additives are growing exponentially, leading us to add employees here in N.C. and to build out a new manufacturing facility in China.”

—Giles Shih, Ph.D.
co-founder and CEO
BioResource International, Inc.

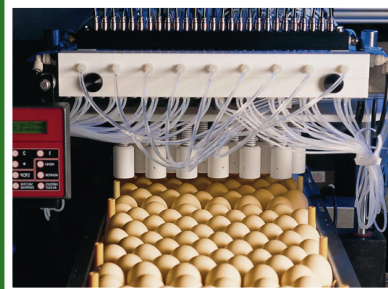
Nurturing a Rich Environment for Success

The North Carolina Biotechnology Center has the assets, track record, governmental support, spirit, vision and statewide workforce to maximize diverse ag biotech successes. Here are three:



Faster Vaccines from Tobacco

The Biotech Center played a key role in recruiting a Canadian biotechnology company to North Carolina. That firm (**Medicago USA**) has built a \$42 million, 90,000-square-foot facility in Research Triangle Park, where it will research, develop and commercialize large-quantity vaccines using tobacco plants.



Key Funding at the Right Time

The Biotech Center provided key R&D funding that enabled one company — **Embrex** — to secure \$14 million in venture capital, which resulted in public stock offerings and private stock placements totaling \$33 million. Now part of Pfizer Animal Health, Embrex has changed the way chickens are vaccinated against disease.



Research Greenhouse Space

North Carolina's **Alexandria Ag-Tech Center**, a 50,000-square-foot multi-tenanted state-of-the-art agricultural research center, with 18,000 square feet of world-class research greenhouse space, sits at the crossroads of agricultural biotechnology, clean technology and human health. The Center will feature cutting-edge individual greenhouse modules, support areas and innovative shared amenities, providing the ideal environment for early-stage ag biotech companies to thrive.

See other success stories of the **AgBiotech Group** at
ncbiotech.org/agbio/successstories

“North Carolina’s quality of workforce, its training programs and overall understanding of biotech development models were critical factors in our decision to locate in Research Triangle Park.”

— Andy Sheldon, president and CEO, Medicago

Accelerating Product Development

North Carolina is a place where agricultural tradition and 21st-century science meet to create unmatched research and business opportunities. Virtually any ag biotech company, researcher, investor or holder of intellectual property will find unique opportunities for developing ideas, products and potential in North Carolina. In fact, hundreds have.

- **More than 70 ag biotech companies** — including international giants like BASF, Bayer CropScience, Syngenta, Novozymes and Monsanto — centralize or conduct R&D operations in this state.
- **Hundreds of world-class ag biotech scientists** work in our colleges and universities.
- In just the past decade, **numerous entrepreneurial firms** have developed or commercialized ag biotech and intellectual property into products and other innovations in this state.
- Based on decades of results, **venture capitalists** have come to identify North Carolina as a location where **investment pays off.**



**North Carolina
Biotechnology Center**

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