

## NORTH DAKOTA

North Dakota has an employment specialization in the agricultural feedstock and chemicals subsector (location quotient of 1.74). Of the \$74 million in total academic bioscience research expenditures in 2006, \$47.6 million were in agricultural sciences. Funding from the National Institutes of Health grew faster than nationally. Of the 63 bioscience patents issued in the past 6 years, the largest share was in biotechnology, followed by agricultural sciences, biochemistry, and surgical and medical instruments.

### Major Industry Developments and Recent Successes

- Contract research organization **Aldevron** added 3,000 square feet to an existing 3,500-square-foot Genetic Immunization and Antibody facility in Fargo.
- **PRACS Institute-Cetero Research** of Fargo earned accreditation by COLA.

### Recent State Initiatives

The **Center of Excellence for Life Sciences and Advanced Technologies** at the University of North Dakota broke ground after release of the last BIO report. In 2007, Governor John Hoeven signed a \$20 million renewal of the overall Centers of Excellence program that also included a 25 percent **R&D Tax Credit**, a **Seed Capital Investment Tax Credit**, an increase in start-up funding through the North Dakota Development Fund, and \$8 million in new workforce initiatives including an internship program and **Internship Employment Tax Credit**.

For additional information about North Dakota's biosciences policies and programs, please see <http://www.growingnd.com/index.asp> and <http://www.governor.state.nd.us/init/ce-init.html>.

## Bioscience Industry Base, 2006

Industry Subsector	North Dakota		United States	
	2006	2001-06 Change	2006	2001-06 Change
<b>Agricultural Feedstock &amp; Chemicals</b>				
Establishments	10	-22.5%	2,183	3.8%
Employment	441	-12.1%	105,846	-6.1%
Location Quotient	1.74		n.a.	
Direct-Effect Employment Multiplier	5.26		11.22	
Total Employment Impact	2,323		1,214,709	
Average Annual Wage	\$47,904		\$67,870	
<b>Drugs &amp; Pharmaceuticals</b>				
Establishments	0	0.0%	2,654	1.9%
Employment	0	0.0%	317,149	4.0%
Location Quotient	0.00		n.a.	
Direct-Effect Employment Multiplier	0.00		9.92	
Total Employment Impact	0		2,880,242	
Average Annual Wage	\$0		\$86,892	
<b>Medical Devices &amp; Equipment</b>				
Establishments	16	23.1%	15,215	0.3%
Employment	191	-2.1%	422,993	-0.9%
Location Quotient	0.19		n.a.	
Direct-Effect Employment Multiplier	2.15		4.85	
Total Employment Impact	411		1,980,128	
Average Annual Wage	\$33,106		\$59,441	
<b>Research, Testing, &amp; Medical Laboratories</b>				
Establishments	32	4.4%	22,857	32.7%
Employment	359	84.6%	449,991	17.8%
Location Quotient	0.33		n.a.	
Direct-Effect Employment Multiplier	1.90		3.25	
Total Employment Impact	681		1,440,500	
Average Annual Wage	\$47,031		\$71,284	
<b>Total Private Sector</b>				
Establishments	22,986	7.4%	8,575,730	10.2%
Employment	271,643	8.4%	113,463,842	3.1%
Average Annual Wage	\$31,023		\$42,272	

Note: n.a. = metric is not applicable.

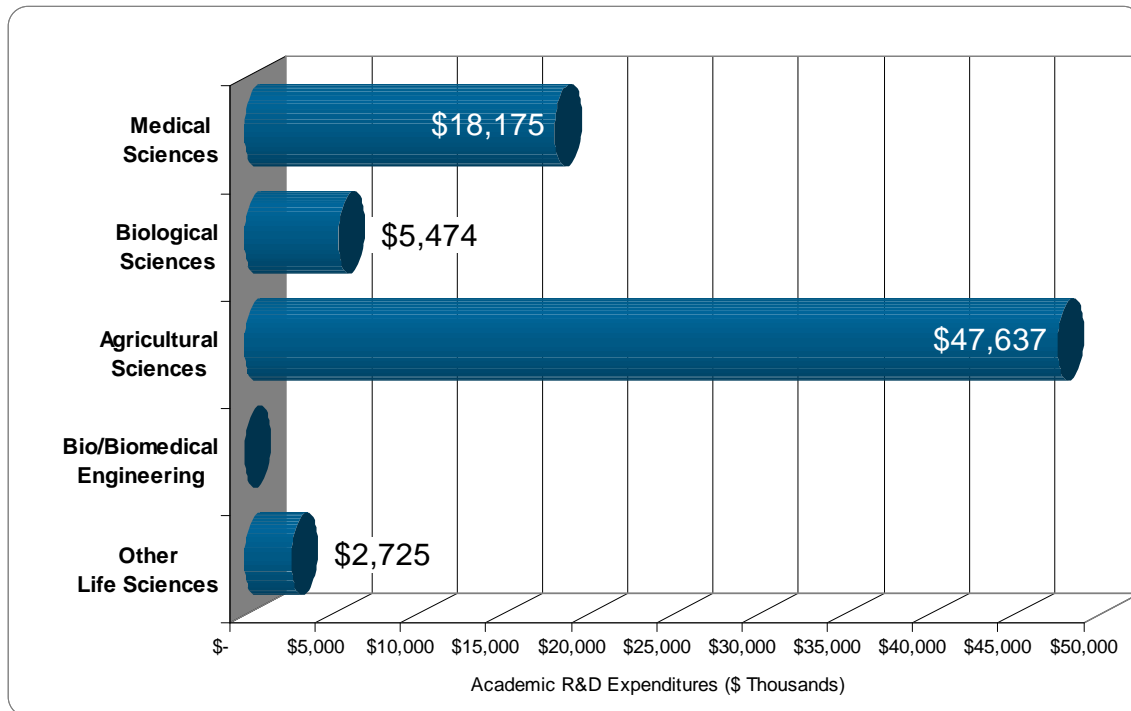
## Additional Bioscience Performance Metrics

### Summary of State Performance in Selected Bioscience-related Metrics

	North Dakota	United States	Rank
Academic R&D Expenditures, FY 2006			
Total (\$ thousands)	\$160,095	\$47,760,402	44
Bioscience R&D (\$ thousands)	\$74,011	\$29,307,628	44
Bioscience Share of Total R&D	46.2%	61.4%	
Bioscience R&D Per Capita	\$116.10	\$98.10	
Change in Bioscience R&D FY 2002–2006	19.8%	36.9%	
NIH Funding, FY 2007			
Total (\$ thousands)	\$16,992	\$21,066,389	48
Per Capita Funding	\$26.56	\$69.84	
Change in Funding, FY 2002–2007	24.9%	11.2%	
Higher Education Degrees in Bioscience Fields, AY 2006	508	143,433	45
Employment in Bioscience-related Occupations, 2006	1,800	588,520	46
Bioscience Venture Capital Investments, 2002-2007 (\$ millions)	\$0.0	\$51,260.9	47
Bioscience and Related Patents, 2002-2007	63	121,817	50

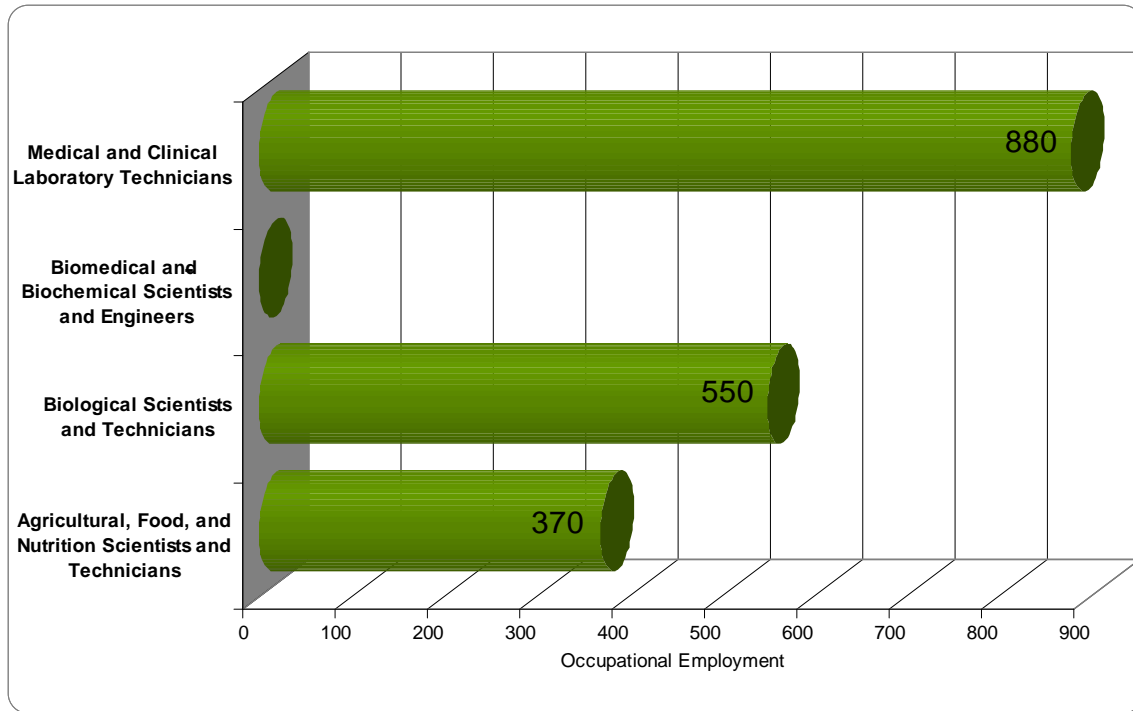
## Bioscience R&D Base

### Bioscience Academic R&D Expenditures in North Dakota, FY 2006

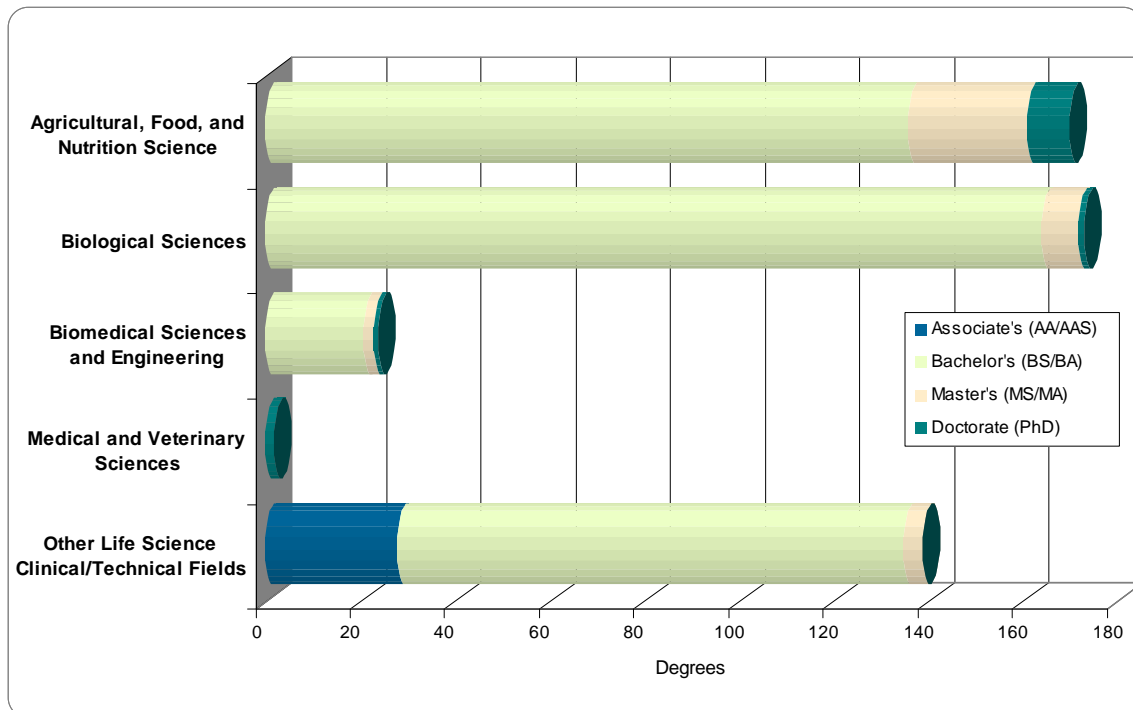


## Bioscience Talent Base

### Bioscience-related Occupational Employment in North Dakota, 2006

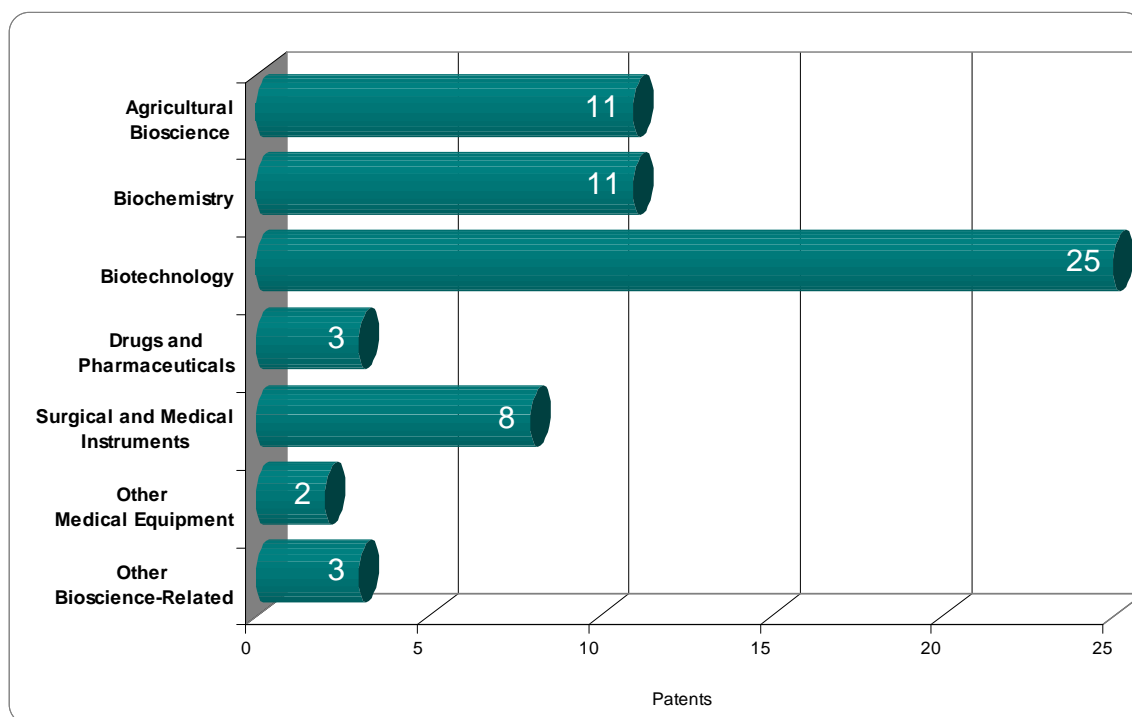


### Bioscience-related Degrees in North Dakota, AY 2006



## Bioscience Patents

### Bioscience-related Patents by Classification Group in North Dakota, 2002–2007



## State Bioscience Contacts

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### Source Notes:

**Employment, Establishment, and Wage Data:** U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW) industry data provided by the Minnesota IMPLAN Group, 2001 and 2006.

**Employment Multipliers:** U.S. Bureau of Economic Analysis RIMS II Employment Multipliers, 2005 (most currently available).

**Academic R&D Expenditures:** National Science Foundation (NSF) Survey of Research and Development Expenditures at Universities and Colleges, 2002 and 2006.

**NIH Funding:** National Institutes of Health – Office of Extramural Research, Award Trends – Dollars Awarded by State, 2002 and 2007.

**Higher Education Degrees:** National Center for Educational Statistics, Integrated Postsecondary Education Data System (IPEDS), 2006.

**Occupational Employment:** U.S. Bureau of Labor Statistics, Occupational Employment Statistics (OES) survey data, 2006.

**Venture Capital:** Thomson Reuters VentureXpert Database, 2002-2007, as of May 1, 2008.

**Patents:** U.S. Patent & Trademark Office data as available from the Thomson Reuters' Delphion Patent Analysis Database, 2002–2007, as of May 1, 2008.

For a more detailed discussion of the data and methodology used please see the Appendix to the full national report.