

MISSISSIPPI

Mississippi has an employment specialization in the agricultural feedstock and chemicals subsector (location quotient of 1.49). Academic bioscience research funding was \$191 million in 2006, with the largest share in agricultural sciences (\$92 million), and the total growing faster than the national average. Of the 267 patents granted in the past 6 years, the largest number was in biotechnology, followed by surgical and medical instruments.

Recent State Initiatives

The Mississippi Seed Fund is a newly enacted fund providing early-stage capital to start-up companies and research groups to encourage technology-based companies. The Fund is administered by the Mississippi Technology Alliance (MTA), a nonprofit organization responsible for driving technology-based economic development in Mississippi. The \$4 million Fund focuses on R&D activities through its Research and Development Program, technology-based businesses through its Mississippi New Technology Business Program, and rural-based businesses through its Rural Innovation Program. It will also enhance university-level R&D.

In addition to promoting the development of technology-based companies in general, the State of Mississippi has targeted the biomass industry for development. MTA administers the **Strategic Biomass Initiative (SBI)** funded by the U.S. Department of Energy with cost share from statewide public and private partners. The purpose of SBI is to foster viable commercial enterprises based on the state's natural biomass resources and develop near-term opportunities through university-based R&D. The initiative has funded 14 applied R&D and commercialization projects totaling approximately \$3.2 million from 2006 to 2008.

For additional information on Mississippi's bioscience policies and programs, please see <http://www.mta.ms>.

Major Industry Developments and Recent Successes

- **Scott Biodiesel** opened a 20-million-gallon-per-year biodiesel and glycerin refinery in Greenville in October 2007, employing 28 people. Feedstocks include soybeans, catfish oil, poultry fat, and other rendered products from the Delta region.
- **Delta BioFuels** began operations in May 2007 of its BQ-9000 accredited biodiesel production plant located in Natchez. This facility uses primarily soybean oil as feedstock and could produce 80 million to 100 million gallons per year of biodiesel.
- **Ergon Ethanol, Inc.**, and **Bunge North American, Inc.**, are partnering to build a \$100 million state-of-the-art ethanol plant in Vicksburg. The plant, which will have 31 employees and a \$1.5 million payroll annually, is scheduled to open in June 2008. It will consume about 20 million bushels of corn per year and produce 180,000 tons of dry distillers grains in addition to its rated capacity of 60 million gallons of ethanol per year.

Bioscience Industry Base, 2006

Industry Subsector	Mississippi		United States	
	2006	2001-06 Change	2006	2001-06 Change
Agricultural Feedstock & Chemicals				
Establishments	21	-5.6%	2,183	3.8%
Employment	1,237	-20.6%	105,846	-6.1%
Location Quotient	1.49		n.a.	
Direct-Effect Employment Multiplier	5.46		11.22	
Total Employment Impact	6,758		1,214,709	
Average Annual Wage	\$43,512		\$67,870	
Drugs & Pharmaceuticals				
Establishments	18	38.5%	2,654	1.9%
Employment	1,164	1.0%	317,149	4.0%
Location Quotient	0.47		n.a.	
Direct-Effect Employment Multiplier	3.36		9.92	
Total Employment Impact	3,908		2,880,242	
Average Annual Wage	\$35,304		\$86,892	
Medical Devices & Equipment				
Establishments	82	-3.7%	15,215	0.3%
Employment	828	-24.0%	422,993	-0.9%
Location Quotient	0.25		n.a.	
Direct-Effect Employment Multiplier	2.15		4.85	
Total Employment Impact	1,782		1,980,128	
Average Annual Wage	\$31,298		\$59,441	
Research, Testing, & Medical Laboratories				
Establishments	122	33.3%	22,857	32.7%
Employment	843	-9.9%	449,991	17.8%
Location Quotient	0.24		n.a.	
Direct-Effect Employment Multiplier	1.95		3.25	
Total Employment Impact	1,645		1,440,500	
Average Annual Wage	\$42,260		\$71,284	
Total Private Sector				
Establishments	64,687	8.4%	8,575,730	10.2%
Employment	889,931	0.6%	113,463,842	3.1%
Average Annual Wage	\$30,641		\$42,272	

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

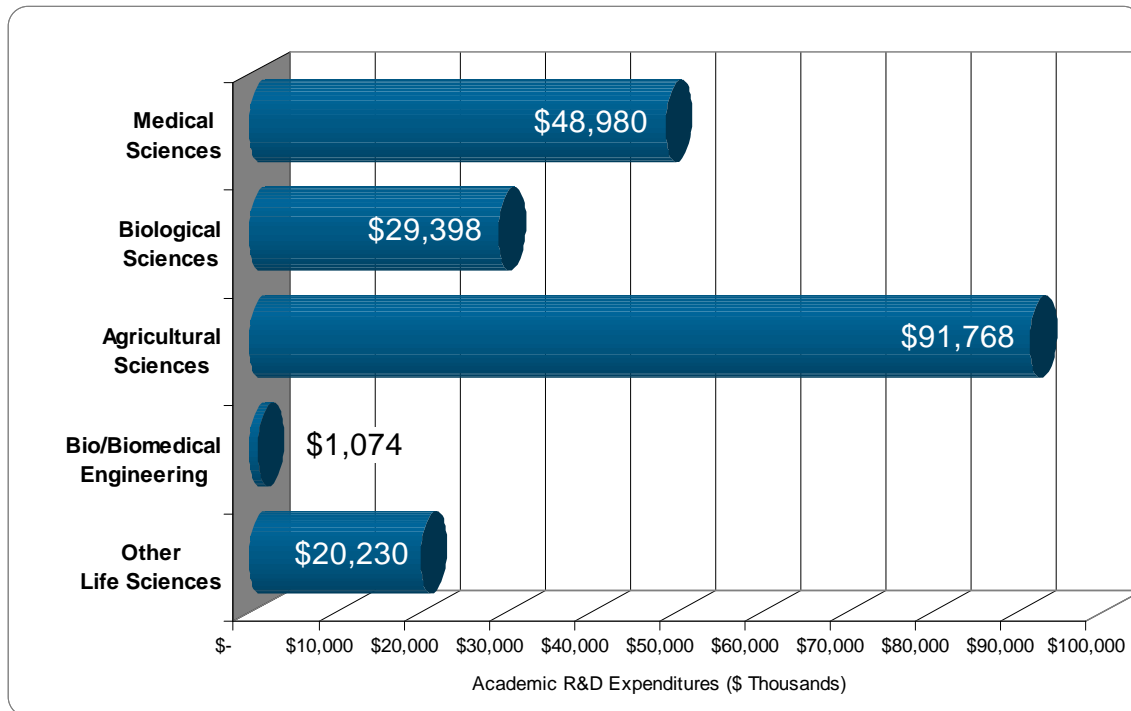
Additional Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

	Mississippi	United States	Rank
Academic R&D Expenditures, FY 2006			
Total (\$ thousands)	\$369,143	\$47,760,402	32
Bioscience R&D (\$ thousands)	\$191,450	\$29,307,628	33
Bioscience Share of Total R&D	51.9%	61.4%	
Bioscience R&D Per Capita	\$66.04	\$98.10	
Change in Bioscience R&D FY 2002–2006	47.1%	36.9%	
NIH Funding, FY 2007			
Total (\$ thousands)	\$27,914	\$21,066,389	45
Per Capita Funding	\$9.56	\$69.84	
Change in Funding, FY 2002–2007	-18.3%	11.2%	
Higher Education Degrees in Bioscience Fields, AY 2006	1,316	143,433	34
Employment in Bioscience-related Occupations, 2006	4,390	588,520	35
Bioscience Venture Capital Investments, 2002-2007 (\$ millions)	\$11.4	\$51,260.9	41
Bioscience and Related Patents, 2002-2007	267	121,817	42

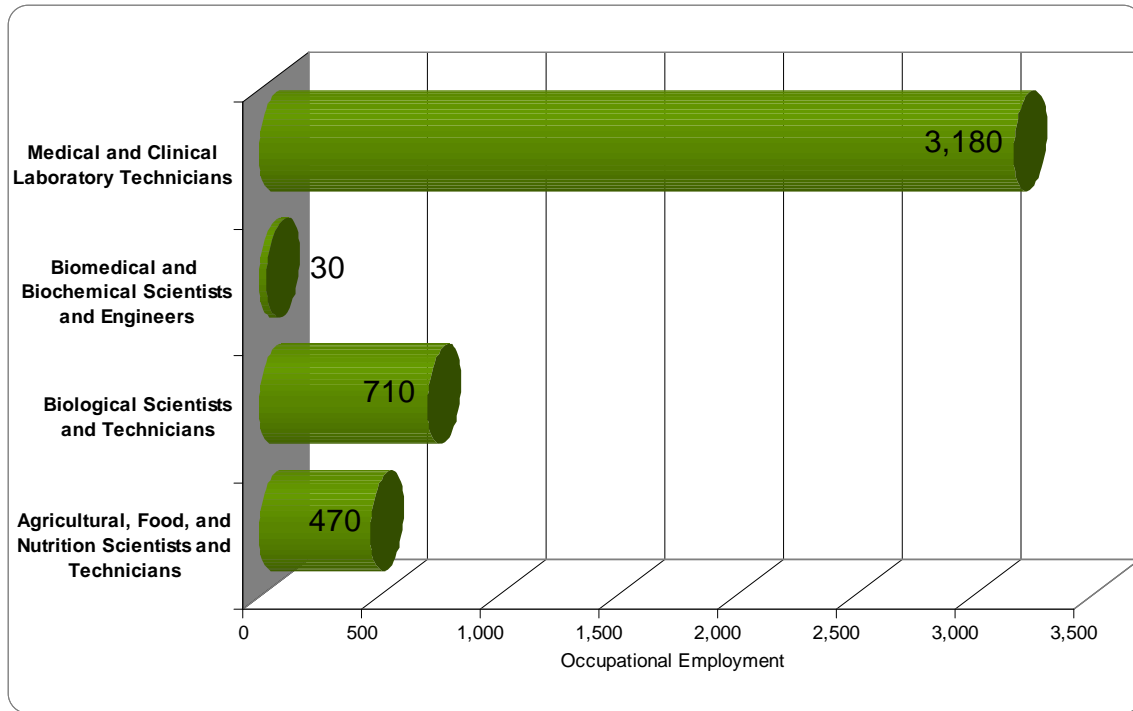
Bioscience R&D Base

Bioscience Academic R&D Expenditures in Mississippi, FY 2006

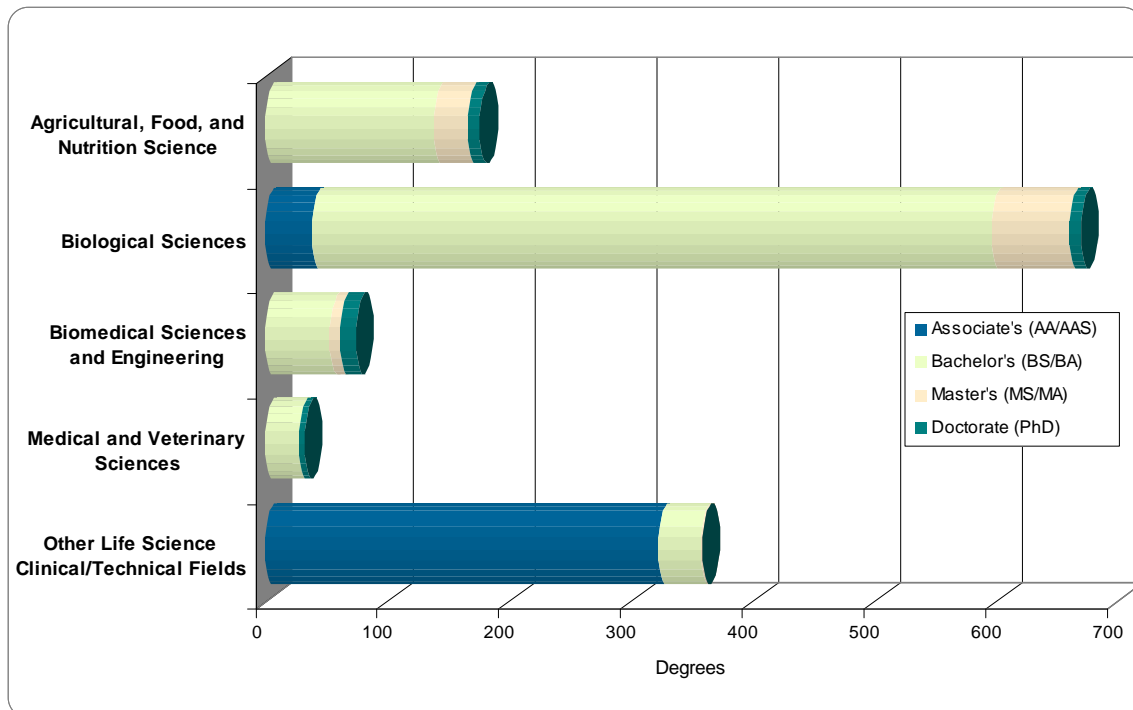


Bioscience Talent Base

Bioscience-related Occupational Employment in Mississippi, 2006

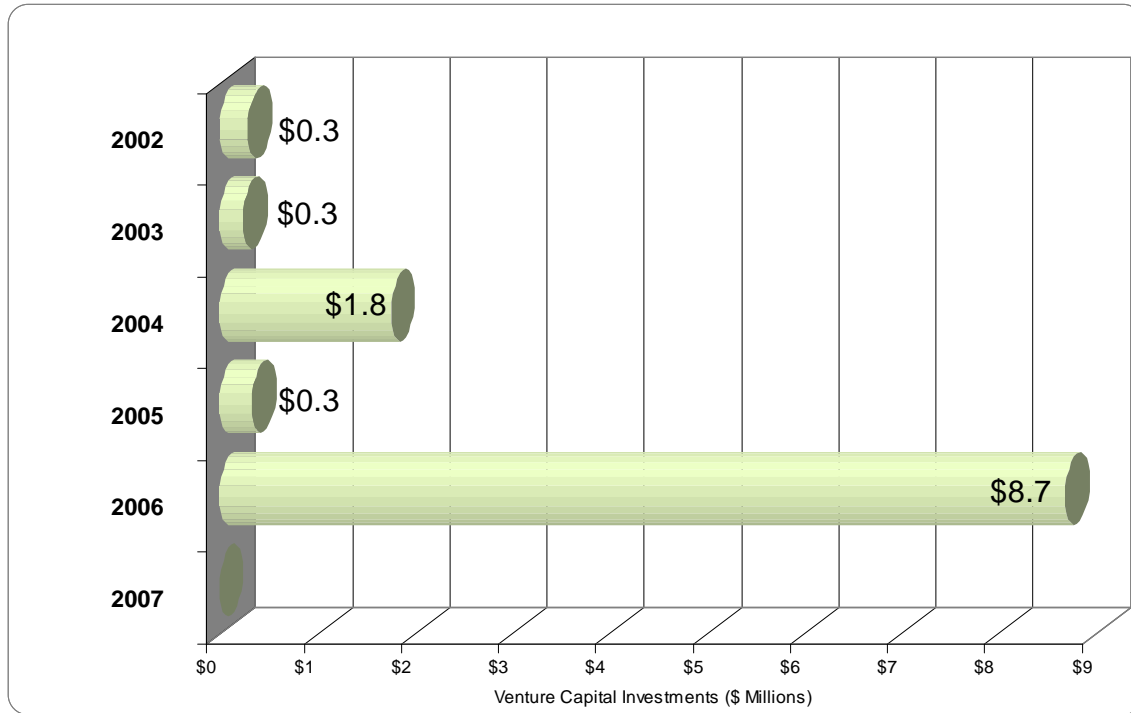


Bioscience-related Degrees in Mississippi, AY 2006

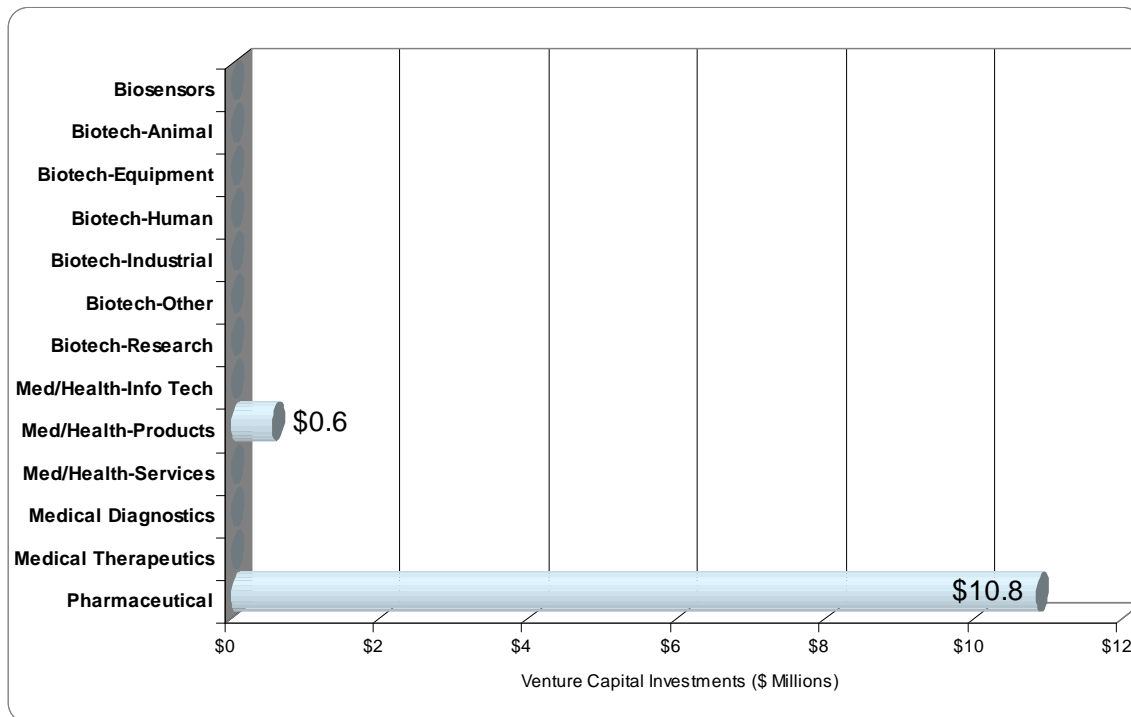


Bioscience Venture Capital

Bioscience-related Venture Capital Investments in Mississippi, 2002–2007

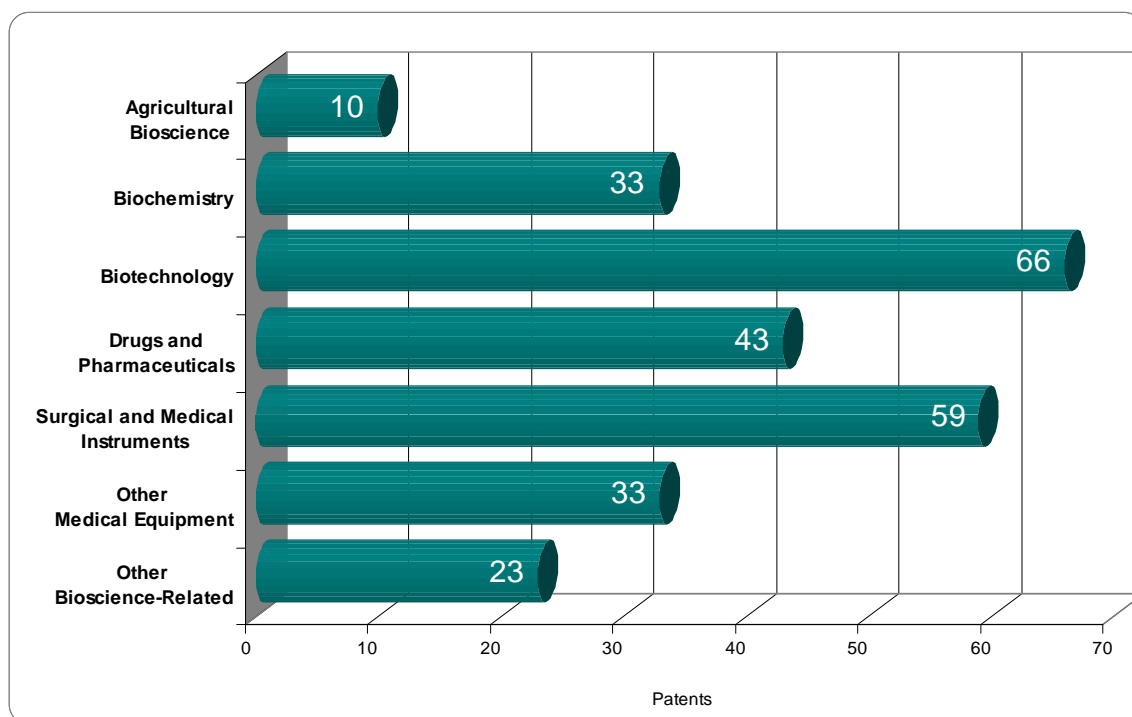


Bioscience-related Venture Capital Investments in Mississippi by Segment, 2002–2007



Bioscience Patents

Bioscience-related Patents by Classification Group in Mississippi, 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.