

KANSAS

Kansas has an employment specialization in agricultural feedstock and chemicals (location quotient of 1.46) and a highly concentrated and growing research, testing, and medical laboratories subsector (1.14). Academic bioscience research expenditures totaled \$220 million in 2006, very heavily in the biological sciences. Over the past 6 years, there were \$117 million in bioscience venture capital investments, peaking in 2007, and heavily concentrated in human biotechnology. Bioscience patents granted in the same period were mainly in surgical and medical instruments and drugs and pharmaceuticals.

Recent State Initiatives

The **Kansas Bioscience Authority (KBA)**, funded by incremental personal income-tax collections in designated bioscience industry sectors, has allocated \$1 million to planning grants for a series of university-industry **Centers of Innovation** and \$2.5 million to a **Collaborative Biosecurity Research Initiative** at Kansas State University. The latter program is aimed at attracting the proposed National Bio and Agro-Defense Facility. Overall, the KBA reached the level of \$35 million in annual R&D funding during FY 2008.

Since the last BIO report, KBA has elaborated a range of programming anticipated in the Kansas Economic Growth Act of 2004, including funding for Eminent Scholars, incentives for new investigators, matching for major federal or industry awards, and vouchers to promote university-industry collaboration. For industry, KBA offers discretionary rebates of up to 50 percent of net operating losses, industry attraction and retention packages, and pre-seed investment financing for local bioscience start-ups.

In alignment with the Kansas City area's **Animal Health Corridor** cluster initiative, the University of Kansas School of Business announced a new **MBA in Animal Health**, aimed at veterinary doctors and holders of Ph.D.'s in related sciences, in partnership with Bayer HealthCare, among others. The long-standing Veterinary Technology Program at Colby Community College is developing plans for a satellite location at Kansas State University.

Pending Proposals

In her 2008 state of the state address, Governor Kathleen Sebelius proposed creation of a **Kansas Innovation Consortium** to advise on priorities in R&D and innovation and \$1 million for **new teaching scholarships in science, technology, and mathematics**. In the past 2 years, the Governor has strengthened the State Energy Council, refocusing it on biofuels. Her FY 2009 budget proposal includes \$2 million in lottery revenues for a **Bioenergy Research Program** to be administered by the Department of Commerce.

For additional information on Kansas's bioscience policies and programs, please see <http://www.kansasbioauthority.org> and <http://www.kansasbio.org>.

Major Industry Developments and Recent Successes

- **Fort Dodge Animal Health** announced it would expand its global corporate R&D programs in KBA's **Olathe Bioscience Park**. The company will develop a \$40 million R&D facility to be staffed by more than 200.
- **CyDex Pharmaceuticals** filed with the SEC plans to raise up to \$50 million through an initial public offering of stock.
- **Edenspace Systems Corporation**, a developer of plant-based bioremediation technologies, located a new 20,000-square-foot facility in Junction City, with \$200,000 in incentives money from KBA.

Bioscience Industry Base, 2006

Industry Subsector	Kansas		United States	
	2006	2001-06 Change	2006	2001-06 Change
Agricultural Feedstock & Chemicals				
Establishments	44	13.0%	2,183	3.8%
Employment	1,483	-17.1%	105,846	-6.1%
Location Quotient	1.46		n.a.	
Direct-Effect Employment Multiplier	6.37		11.22	
Total Employment Impact	9,446		1,214,709	
Average Annual Wage	\$49,507		\$67,870	
Drugs & Pharmaceuticals				
Establishments	21	-8.7%	2,654	1.9%
Employment	1,446	42.2%	317,149	4.0%
Location Quotient	0.48		n.a.	
Direct-Effect Employment Multiplier	4.80		9.92	
Total Employment Impact	6,937		2,880,242	
Average Annual Wage	\$63,067		\$86,892	
Medical Devices & Equipment				
Establishments	119	-16.2%	15,215	0.3%
Employment	2,040	-19.7%	422,993	-0.9%
Location Quotient	0.50		n.a.	
Direct-Effect Employment Multiplier	2.34		4.85	
Total Employment Impact	4,768		1,980,128	
Average Annual Wage	\$36,721		\$59,441	
Research, Testing, & Medical Laboratories				
Establishments	241	46.2%	22,857	32.7%
Employment	4,925	23.4%	449,991	17.8%
Location Quotient	1.14		n.a.	
Direct-Effect Employment Multiplier	2.15		3.25	
Total Employment Impact	10,575		1,440,500	
Average Annual Wage	\$47,273		\$71,284	
Total Private Sector				
Establishments	79,642	5.1%	8,575,730	10.2%
Employment	1,086,488	0.3%	113,463,842	3.1%
Average Annual Wage	\$36,191		\$42,272	

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

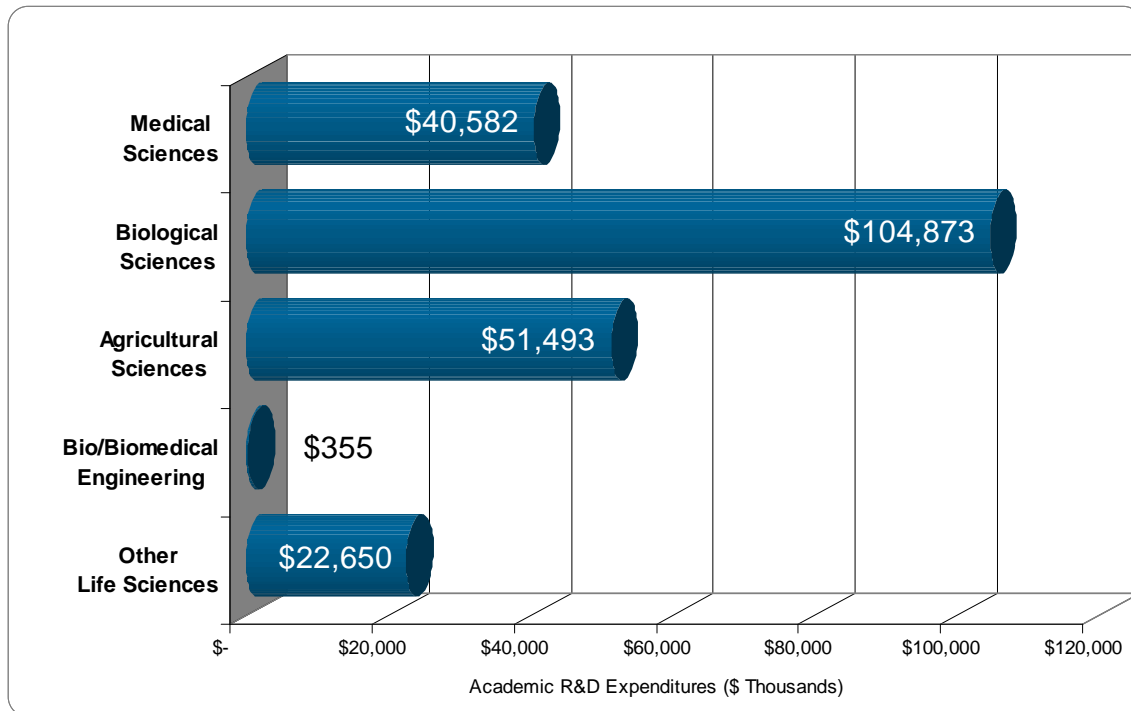
Additional Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

	Kansas	United States	Rank
Academic R&D Expenditures, FY 2006			
Total (\$ thousands)	\$355,559	\$47,760,402	34
Bioscience R&D (\$ thousands)	\$219,953	\$29,307,628	32
Bioscience Share of Total R&D	61.9%	61.4%	
Bioscience R&D Per Capita	\$79.81	\$98.10	
Change in Bioscience R&D FY 2002–2006	15.5%	36.9%	
NIH Funding, FY 2007			
Total (\$ thousands)	\$87,060	\$21,066,389	35
Per Capita Funding	\$31.36	\$69.84	
Change in Funding, FY 2002–2007	12.7%	11.2%	
Higher Education Degrees in Bioscience Fields, AY 2006	1,612	143,433	33
Employment in Bioscience-related Occupations, 2006	5,450	588,520	32
Bioscience Venture Capital Investments, 2002-2007 (\$ millions)	\$117.4	\$51,260.9	31
Bioscience and Related Patents, 2002-2007	326	121,817	40

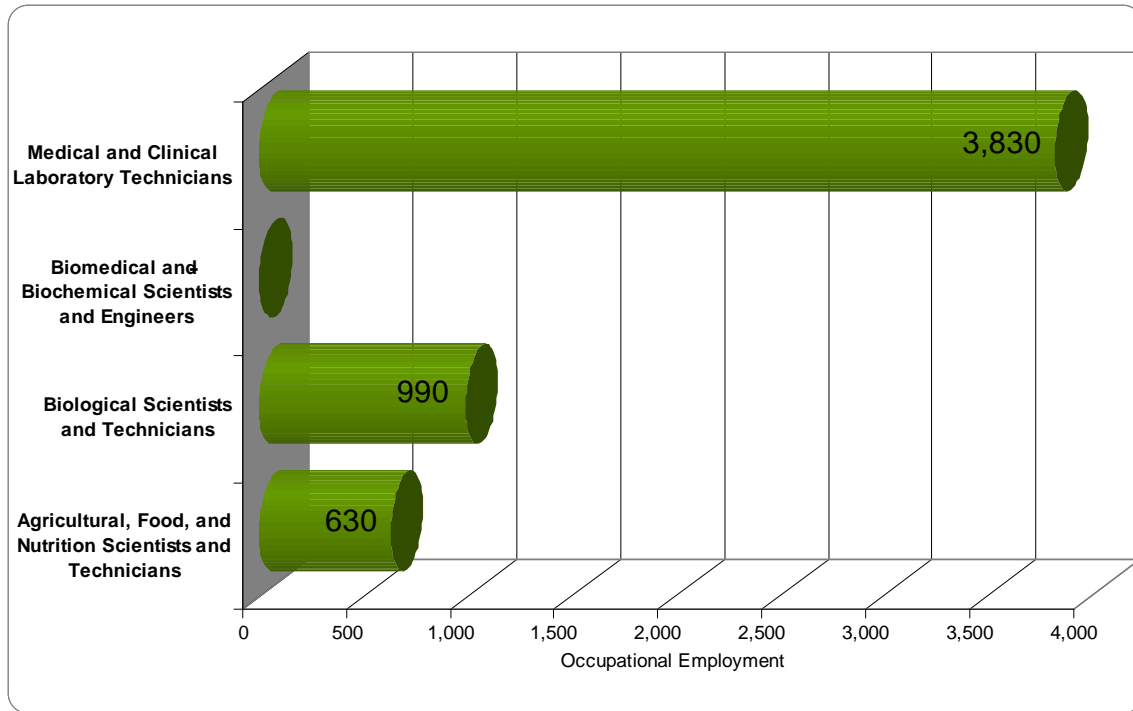
Bioscience R&D Base

Bioscience Academic R&D Expenditures in Kansas, FY 2006

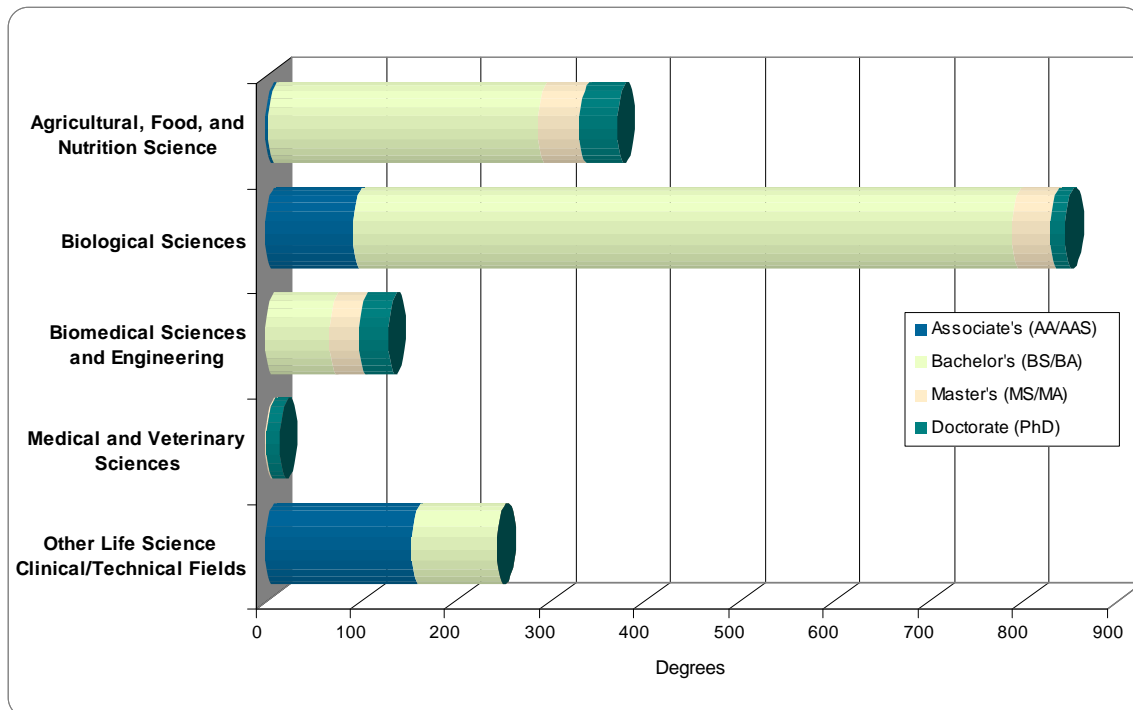


Bioscience Talent Base

Bioscience-related Occupational Employment in Kansas, 2006

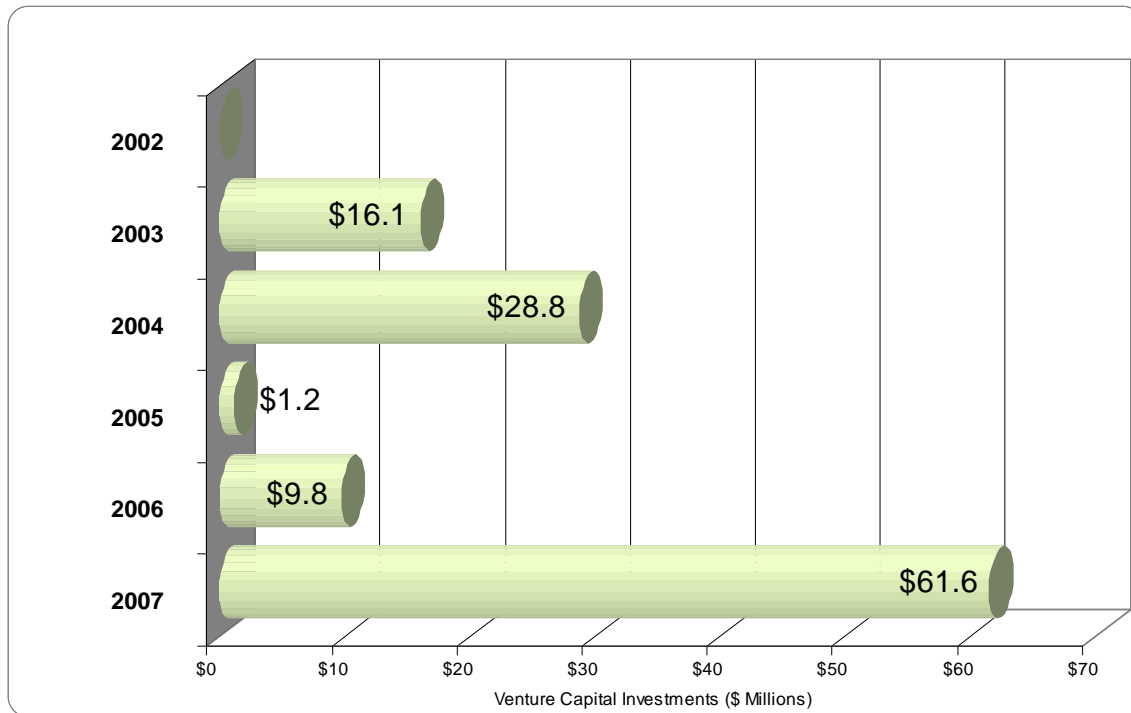


Bioscience-related Degrees in Kansas, AY 2006

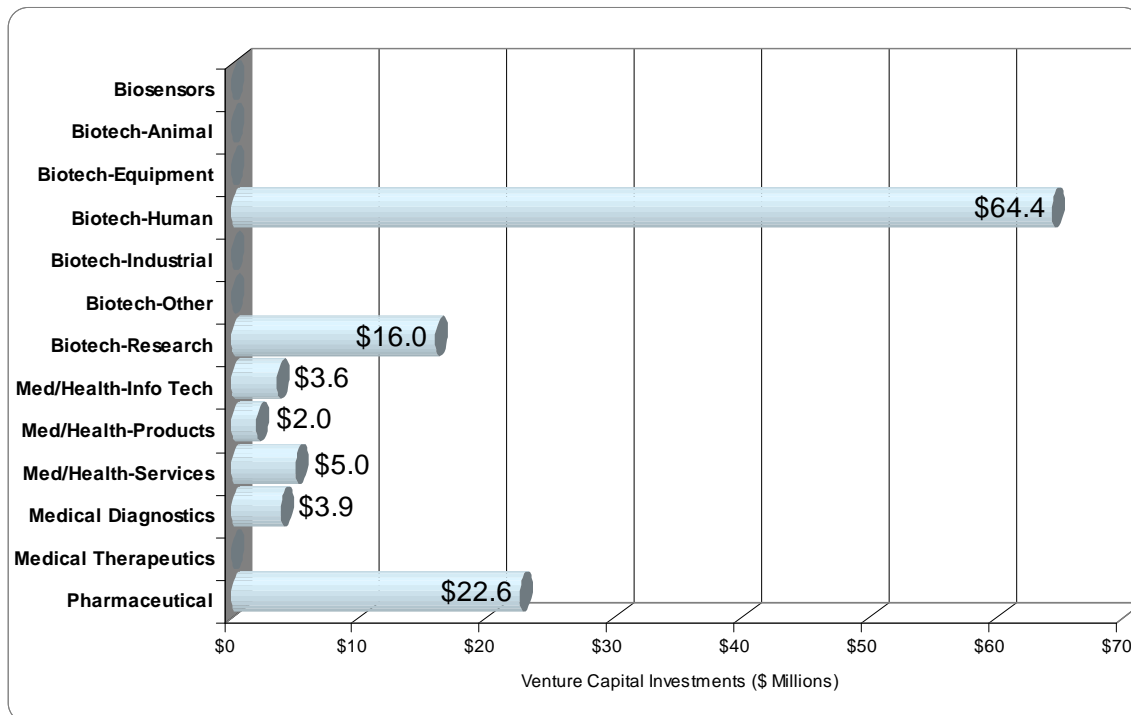


Bioscience Venture Capital

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

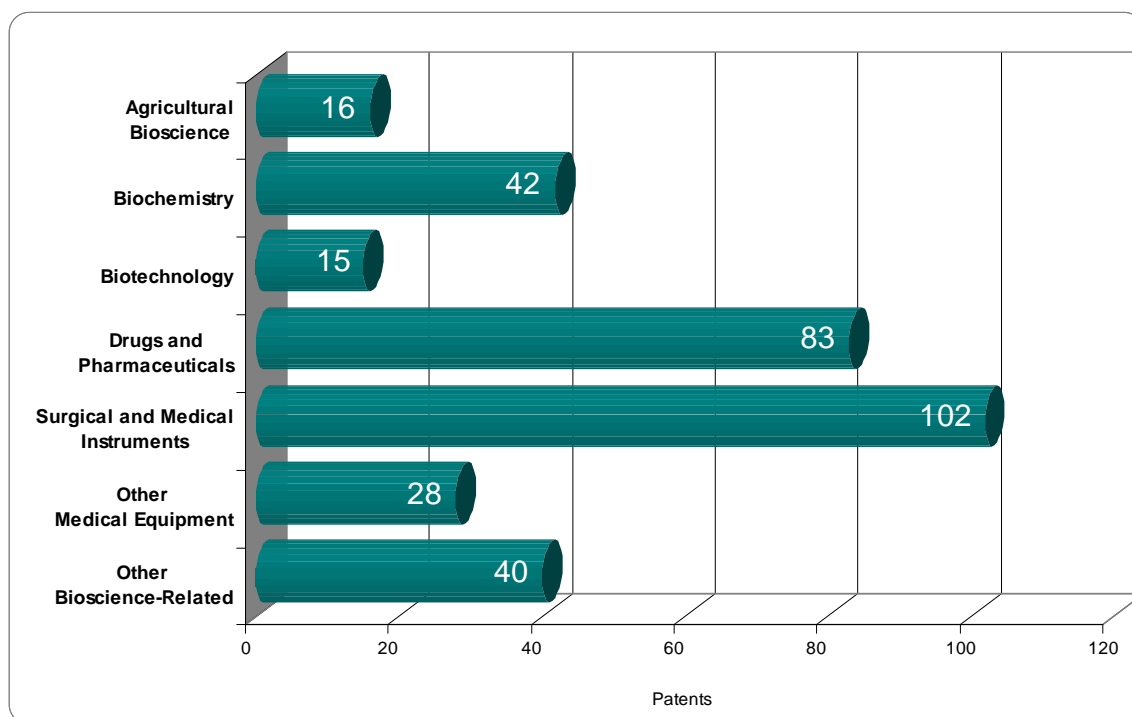


Bioscience-related Venture Capital Investments in Kansas by Segment, 2002–2007



Bioscience Patents

Bioscience-related Patents by Classification Group in Kansas, 2002–2007



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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.