



TEconomy/BIO

The Value of Bioscience Innovation in Growing Jobs and Improving Quality of Life 2016

## South Dakota

South Dakota has a diverse and growing bioscience industry that employed nearly 5,800 in 2014 across 420 business establishments. The state has a specialized concentration of bioscience jobs in its economy relative to the national average, its location quotient is 1.20. South Dakota’s specializations span three of the five major industry subsectors—agricultural feedstock and chemicals; bioscience-related distribution; and medical devices and equipment. The state’s bioscience companies have increased employment by nearly 12 percent since 2012 with four of the five subsectors contributing job gains during this 2-year period. Since 2012, South Dakota inventors have been issued 254 patents in bioscience-related classifications primarily in agbioscience technologies and in medical and surgical devices.

### Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	South Dakota	United States	Quintile
<b>Bioscience Industry, 2014</b>			
Bioscience Industry Employment	5,787	1,655,680	IV
Bioscience Industry Location Quotient	1.20	n/a	II
Bioscience Industry Establishments	420	77,283	IV
<b>Academic Bioscience R&amp;D Expenditures, FY 2014</b>			
Bioscience R&D (\$ thousands)	\$59,744	\$38,873,926	V
Bioscience Share of Total R&D	60%	61%	III
Bioscience R&D Per Capita	\$70	\$122	IV
<b>NIH Funding, FY 2015</b>			
Funding (\$ thousands)	\$20,553	\$22,869,746	V
Funding Per Capita	\$24	\$71	IV
<b>Bioscience Venture Capital Investments, 2012–15 (\$ millions)</b>	\$20.9	\$48,742.10	IV
<b>Bioscience and Related Patents, 2012–15</b>	254	101,026	IV

State ranking figures for bioscience performance metrics are calculated as quintiles, where:

top quintile – I II III IV V – bottom quintile

For source notes, see end of State Profile.



**South Dakota**

Industry Subsector	South Dakota		United States	
	2014	2012–2014 Change	2014	2012–2014 Change
<b>Agricultural Feedstock and Chemicals</b>				
Establishments	25	-3.8%	1,811	2.2%
Employment	810	-3.4%	77,545	1.5%
Location Quotient	3.57		n/a	
Direct-Effect Employment Multiplier	18.2		18.4	
Total Employment Impact	14,767		1,432,125	
Average Annual Wage	\$61,149	-19.1%	\$80,640	6.3%
<b>Bioscience-Related Distribution</b>				
Establishments	330	16.4%	37,833	2.8%
Employment	2,666	17.5%	452,325	2.3%
Location Quotient	2.02		n/a	
Direct-Effect Employment Multiplier	2.7		3.0	
Total Employment Impact	7,315		1,358,820	
Average Annual Wage	\$61,311	5.6%	\$90,458	6.2%
<b>Drugs and Pharmaceuticals</b>				
Establishments	2	100.0%	3,301	8.0%
Employment	26	87.9%	293,353	3.2%
Location Quotient	0.03		n/a	
Direct-Effect Employment Multiplier	10.3		11.0	
Total Employment Impact	266		3,242,627	
Average Annual Wage	\$25,203	-39.7%	\$117,524	10.3%
<b>Medical Devices and Equipment</b>				
Establishments	14	7.7%	7,636	5.5%
Employment	1,774	8.7%	349,045	-0.1%
Location Quotient	1.74		n/a	
Direct-Effect Employment Multiplier	4.2		4.6	
Total Employment Impact	7,384		1,596,802	
Average Annual Wage	\$60,269	8.2%	\$79,537	5.1%
<b>Research, Testing, and Medical Laboratories</b>				
Establishments	48	-3.9%	26,702	10.2%
Employment	512	21.3%	483,412	3.4%
Location Quotient	0.36		n/a	
Direct-Effect Employment Multiplier	2.8		3.1	
Total Employment Impact	1,434		1,554,719	
Average Annual Wage	\$65,066	-24.1%	\$97,485	6.8%
<b>Total Bioscience Industry</b>				
Establishments	420	12.2%	77,283	5.7%
Employment	5,787	11.8%	1,655,680	2.2%
Location Quotient	1.20		n/a	
Direct-Effect Employment Multiplier	5.1		5.5	
Total Employment Impact	29,320		9,185,094	
Average Annual Wage	\$61,141	-2.0%	\$94,543	7.2%
<b>Total Private Sector</b>				
Establishments	29,641	2.1%	8,937,672	2.7%
Employment	339,148	3.0%	116,018,300	4.4%
Average Annual Wage	\$38,622	6.4%	\$51,148	4.3%

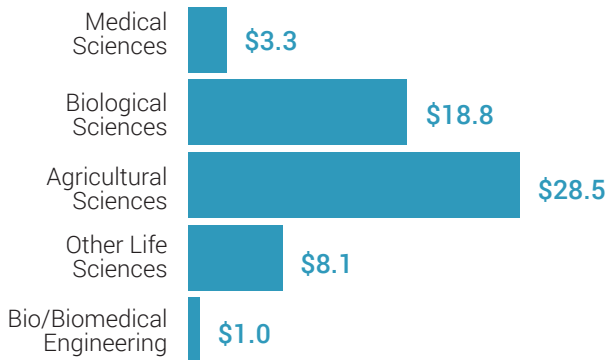
Note: U.S. employment metrics include Puerto Rico.



### South Dakota

## Bioscience Research in South Dakota

Bioscience Academic R&D Expenditures  
\$ Millions  
FY 2014

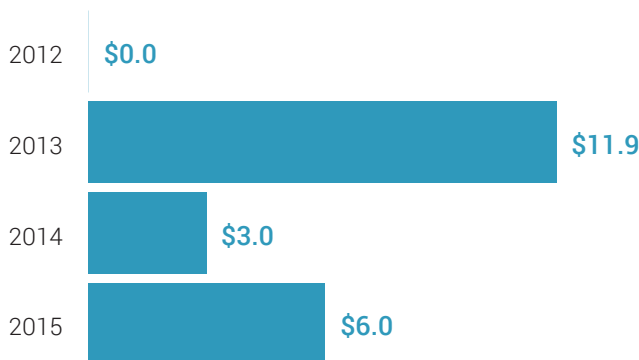


NIH Awards  
\$ Millions  
FY 2012-2015

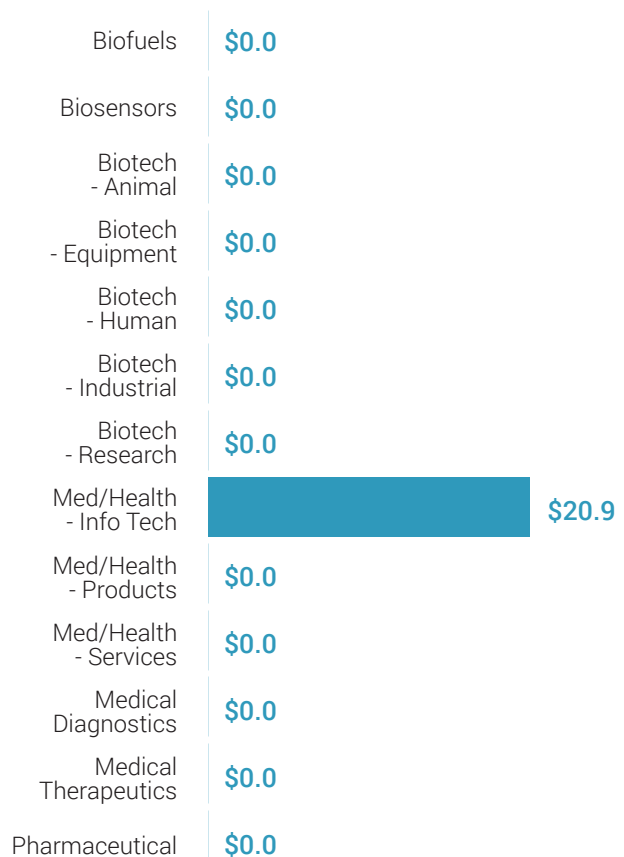


## Bioscience Venture Capital in South Dakota

Bioscience-Related Venture Capital Investments  
\$ Millions  
2012-2015



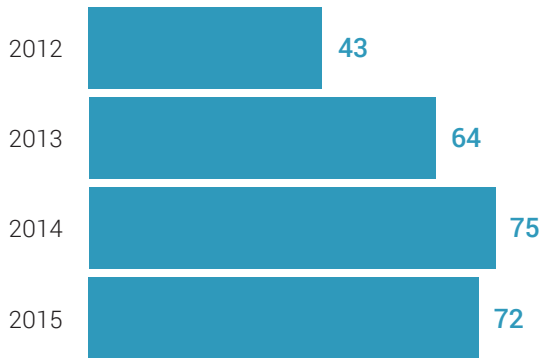
Bioscience-Related Venture Capital Investments by Segment  
\$ Millions  
2012-2015



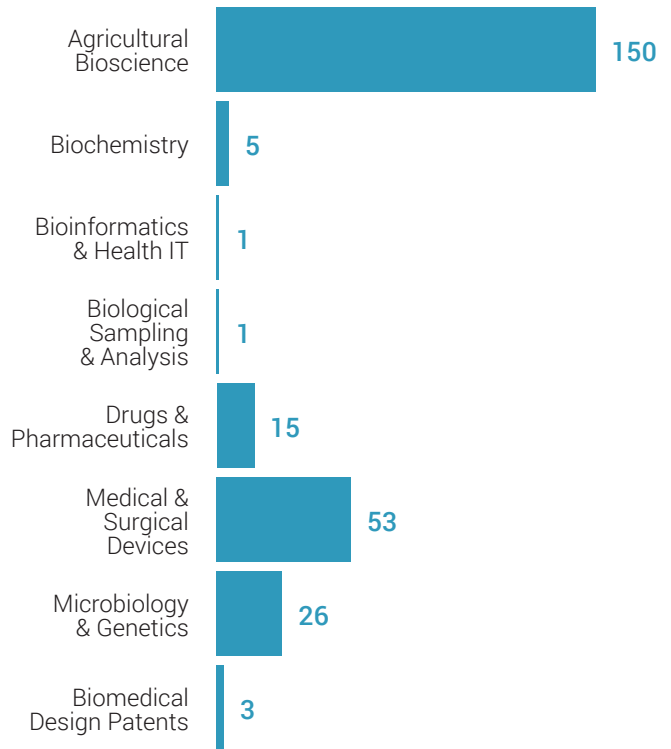


Bioscience Patents in South Dakota

Bioscience-Related U.S. Patents 2012-2015



Bioscience-Related U.S. Patents by Segment 2012-2015



Source Notes

**Employment, Establishments, and Wages:** U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), enhanced file from the IMPLAN Group, LLC.

**Employment Multipliers:** IMPLAN Group, LLC state-level Input/Output models.

**Academic R&D Expenditures:** National Science Foundation (NSF) Higher Education Research and Development (HERD) Survey.

**NIH Funding:** National Institutes of Health, NIH Awards by Location & Organization (summary information within RePORT database).

**Venture Capital:** Thomson Reuters Thomson ONE venture capital database.

**Patents:** U.S. Patent & Trademark Office data from Thomson Reuters Thomson Innovation patent analysis database.

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

