

## Iowa



Iowa’s bioscience industry is sizable, specialized in its employment concentration, and has grown slightly since 2007. The state’s bioscience firms employed more than 23,000 in 2012 across 1,253 business establishments. Iowa is a national leader in the agricultural feedstock and chemicals subsector where the state accounts for nearly 10 percent of U.S. employment, has a very high and specialized concentration relative to the national average (location quotient is 8.65), and has grown rapidly since 2007 (up 9 percent). Iowa also has a specialized employment concentration in bioscience-related distribution. The state’s research, testing, and medical lab subsector is emerging with nearly 32 percent job growth since 2007. Academic R&D in the biosciences is highly concentrated in Iowa both relative to all university R&D and on a per capita basis where Iowa has \$154 in R&D per resident compared with \$119 for the U.S. Iowa’s 1,789 bioscience patents since 2009 are concentrated in biotechnology which includes genetic seed advancements and improvements in a classification for multicellular living organisms (which also includes human biotech) and thus overlaps with and highlights key agbioscience innovation.

### Bioscience Performance Metrics

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

Metric	Iowa	United States	Quintile
<b>Bioscience Industry, 2012</b>			
Bioscience Industry Employment	23,152	1,619,746	III
Bioscience Industry Location Quotient	1.28	n/a	II
Bioscience Industry Establishments	1,253	73,088	III
<b>Academic Bioscience R&amp;D Expenditures, FY 2012</b>			
Bioscience R&D (\$ thousands)	\$476,634	\$38,139,876	III
Bioscience Share of Total R&D	68%	61%	II
Bioscience R&D Per Capita	\$154	\$119	II
<b>NIH Funding, FY 2013</b>			
Funding (\$ thousands)	\$167,301	\$22,293,255	III
Funding Per Capita	\$54	\$70	III
<b>Bioscience Venture Capital Investments, 2009–13 (\$ millions)</b>	\$104.3	\$49,401.7	III
<b>Bioscience and Related Patents, 2009–13</b>	1,789	100,238	III

State ranking figures for bioscience performance metrics are calculated as quintiles, where I = top quintile, III = middle quintile, and V = bottom quintile.

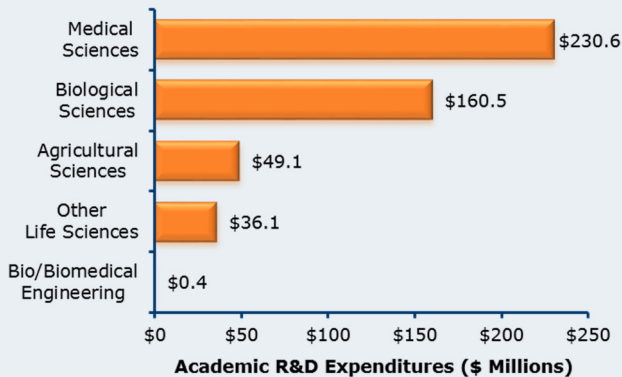
For source notes, see end of State Profile.

Industry Subsector	Iowa		United States	
	2012	2007-2012 Change	2012	2007-2012 Change
<b>Agricultural Feedstock &amp; Chemicals</b>				
Establishments	131	17.0%	1,772	5.2%
Employment	7,379	9.1%	76,404	-1.0%
Location Quotient	8.65		n/a	
Direct-Effect Employment Multiplier	19.6		18.1	
Total Employment Impact	144,303		1,382,637	
Average Annual Wage	\$67,176	9.7%	\$75,828	14.2%
<b>Bioscience-Related Distribution</b>				
Establishments	844	-7.9%	36,793	1.4%
Employment	9,911	-5.1%	442,016	-3.9%
Location Quotient	2.13		n/a	
Direct-Effect Employment Multiplier	2.5		2.7	
Total Employment Impact	24,699		1,199,015	
Average Annual Wage	\$66,462	12.0%	\$85,188	11.5%
<b>Drugs and Pharmaceuticals</b>				
Establishments	39	-2.5%	3,057	12.0%
Employment	2,500	-11.5%	284,331	-10.9%
Location Quotient	0.79		n/a	
Direct-Effect Employment Multiplier	6.3		9.9	
Total Employment Impact	15,725		2,673,265	
Average Annual Wage	\$64,189	20.4%	\$106,576	13.9%
<b>Medical Devices and Equipment</b>				
Establishments	48	-14.3%	7,235	12.0%
Employment	1,282	-6.5%	349,432	1.4%
Location Quotient	0.33		n/a	
Direct-Effect Employment Multiplier	2.9		3.9	
Total Employment Impact	3,772		1,318,459	
Average Annual Wage	\$43,187	-70.6%	\$75,695	10.7%
<b>Research, Testing, and Medical Laboratories</b>				
Establishments	191	25.5%	24,231	31.0%
Employment	2,080	31.6%	467,563	9.7%
Location Quotient	0.40		n/a	
Direct-Effect Employment Multiplier	2.4		2.7	
Total Employment Impact	4,971		1,284,196	
Average Annual Wage	\$61,717	24.6%	\$91,248	15.9%
<b>Total Bioscience Industry</b>				
Establishments	1,253	-1.9%	73,088	11.4%
Employment	23,152	0.8%	1,619,746	-0.4%
Location Quotient	1.28		n/a	
Direct-Effect Employment Multiplier	6.4		4.9	
Total Employment Impact	148,353		7,857,572	
Average Annual Wage	\$64,729	1.6%	\$88,202	12.8%
<b>Total Private Sector</b>				
Establishments	89,237	1.8%	8,699,564	-0.5%
Employment	1,240,664	-0.9%	111,137,206	-3.1%
Average Annual Wage	\$39,761	12.8%	\$49,130	11.1%

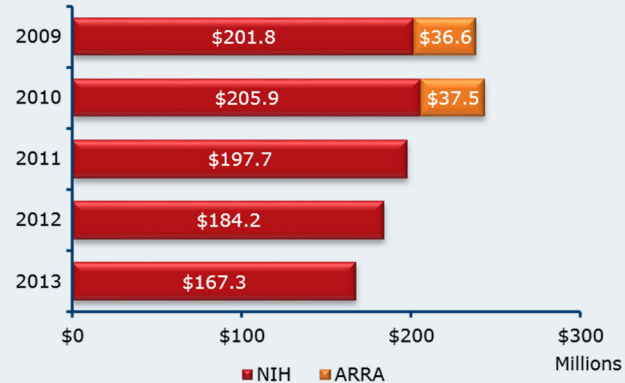
Note: U.S. employment metrics include Puerto Rico. Estimates of total impacts do not include Puerto Rico.

## Bioscience Research in Iowa

**Bioscience Academic R&D Expenditures, FY 2012**



**NIH Awards, 2009–2013**

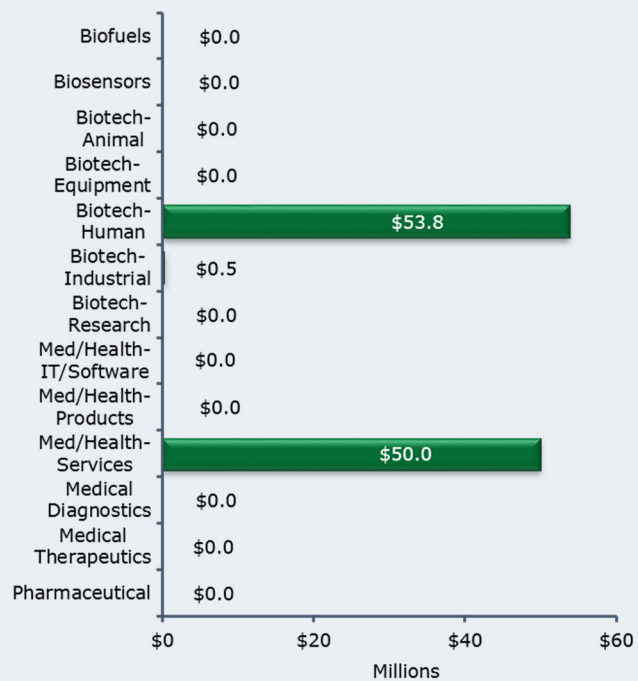


## Bioscience Venture Capital in Iowa

**Bioscience-Related Venture Capital Investments, 2009–2013**

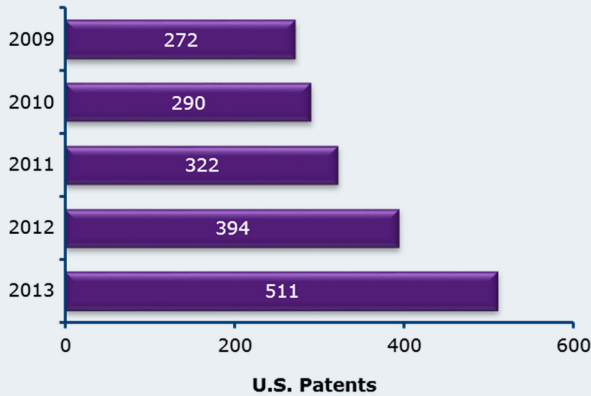


**Bioscience-Related Venture Capital Investments by Segment, 2009–2013**

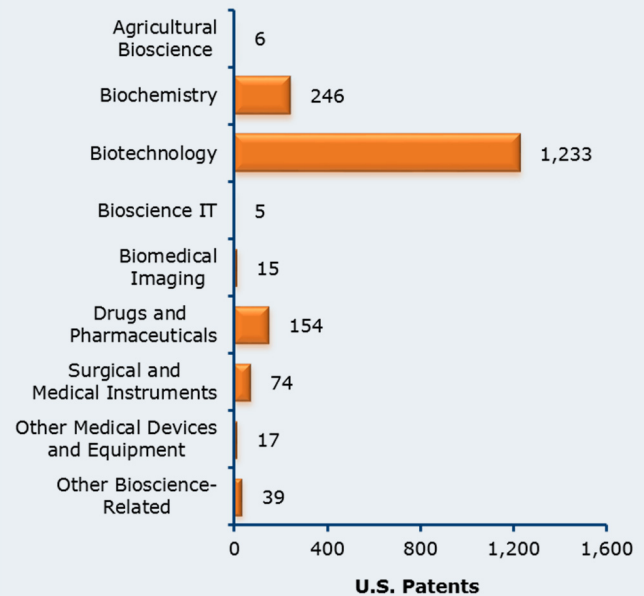


## Bioscience Patents in Iowa

### Bioscience-Related Patents, 2009–2013



### Bioscience-Related Patents by Segment, 2009–2013



## 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), and NIH-managed funding for FY 2009 and FY 2010 from the American Recovery and Reinvestment Act (ARRA) website.

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

**Patents:** U.S. Patent & Trademark Office data from Thomson Reuters Delphion Patent Analysis Database.

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