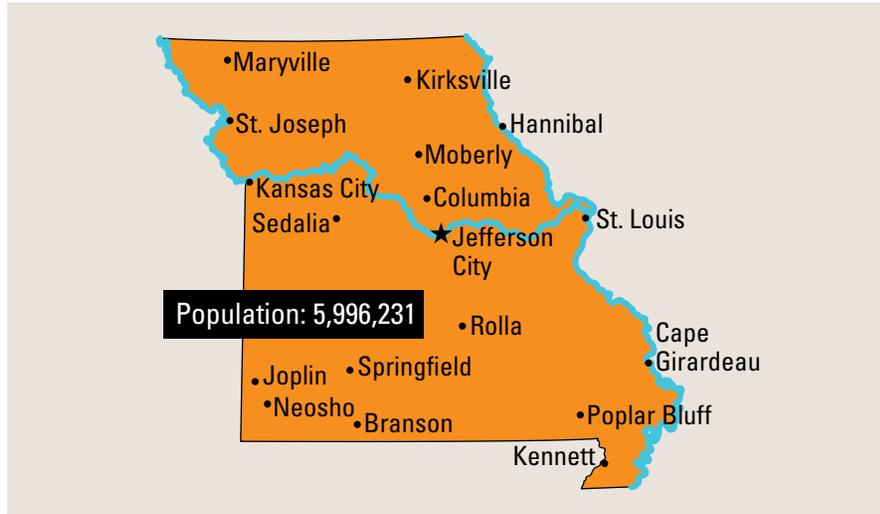




Missouri's Advantages for the Plant Science Industry



Missouri is right for your plant science project. Here are the top five reasons why...

- Missouri has the right business environment for bioscience companies to thrive. (see below)
- Missouri’s state of the art research centers and incubator facilities, along with ample funding resources, help bring discoveries from laboratory to market. ([more on page 3 — click here](#))
- Missouri has a first-rate workforce in the bioscience industry. ([page 10](#))
- Missouri’s top-ranked educational institutions draw unparalleled talent. ([page 10](#))
- Missouri can get your product to market faster and cheaper. ([page 12](#))

Business Environment: Missouri is in the top 10 states of the U.S. for pro-business rankings

- A top 10 state for low taxes including property tax, corporate income tax, and unemployment insurance tax indices (*Tax Foundation, 2013*)

PROPERTY TAX INDEX RANKING



TAX FOUNDATION, 2013

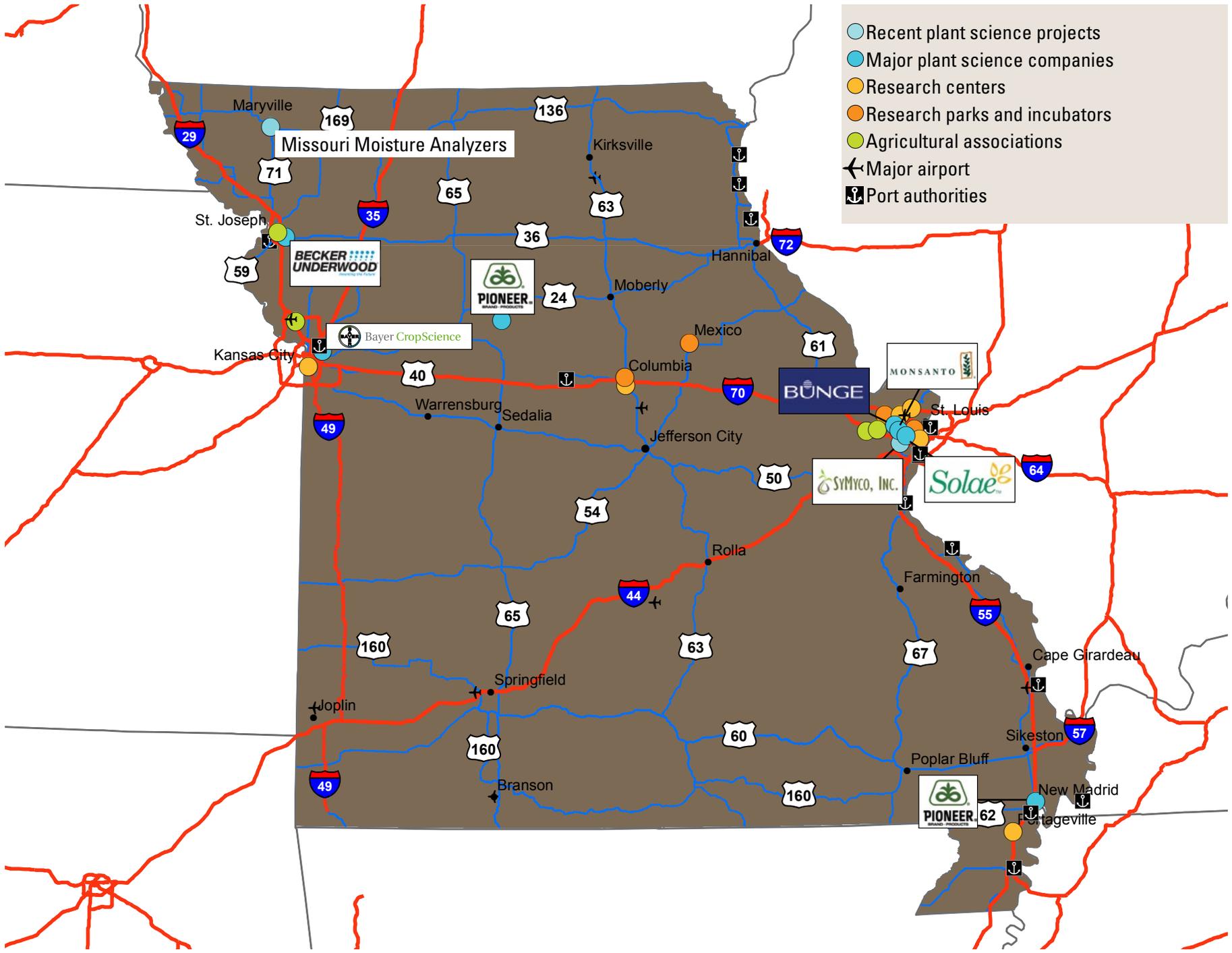
- A top 10 pro-business state for the third year in a row (*Pollina Corporate Real Estate, 2012*)
- A top 10 state for economic competitiveness (*American Legislative Exchange Council, 2012*)
- A top 10 state for low business energy costs (*Small Business and Entrepreneurship Council, 2012*)
- A top 10 location for research—the Kansas City region is fifth per capita in clinical trials conducted (*Missouri Biotechnology Association*)

Missouri’s commitment to scientific advancement and large, turn-key labor pool have helped make it the top destination for plant science facility development. In addition to being home to some of the most prestigious bioscience development companies in the world—including Monsanto and Sigma-Aldrich—Missouri boasts a low-cost business climate and easy access to research and commercialization facilities that plant science companies need to thrive.”

—Governor Jeremiah W. “Jay” Nixon

Text that appears in orange can be clicked to link to another page in the document or to a website.

MISSOURI PLANT SCIENCE COMPANIES





Missouri's state of the art research centers and incubator facilities, along with ample funding resources, help bring discoveries from laboratory to market.

Recent Projects

2012:

- Missouri Moisture Analyzers (Maryville) operates out of the Center for Innovation and Entrepreneurship (CIE) at Northwest Missouri State University, where it produces and calibrates moisture control analyzers for agriculture production and grain storage. Missouri Moisture Analyzers, a subsidiary of the Brazil-based Motomco Group, plans to market its products and maintain service contracts in the United States, Mexico and Central America, creating seven to nine new jobs in its first year. [\(more\)](#)

2011:

- SyMyCo (St. Louis) an international bioscience company, announced its location at the Danforth Plant Science Center in St. Louis County, creating

80 new jobs. SyMyCo is a subsidiary of Symbiotic Sciences Ltd., based in India. [\(more\)](#)

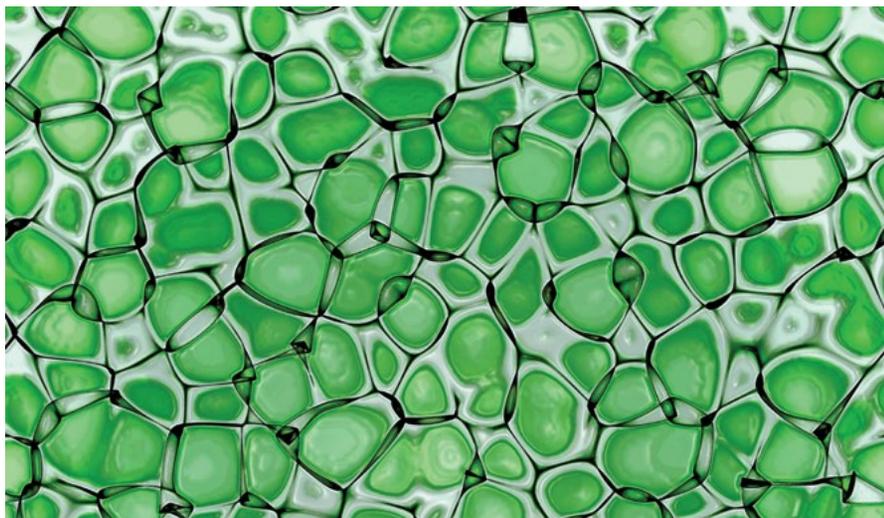
Missouri's Major Plant Science Companies

- Bayer CropScience's Core Technologies Center (Kansas City) oversees manufacturing, formulation operations, and R&D activities for its parent company. Created through the acquisition of Aventis CropScience in 2001, the Kansas City facility also serves as the U.S. sales office for Bayer CropScience. [\(more\)](#)
- Becker Underwood (St. Joseph) is the global leader in the development and commercialization of yield-improving and value-creating seed-applied biological products for the agricultural sector. Their St. Joseph facility produces inoculants. The company was recently acquired by BASF. [\(more\)](#)
- Bunge North America (HQ St. Louis) is a leading exporter and domestic supplier of soybeans, corn, wheat, sorghum, canola, and rice in the United States. The company also produces edible oils and shortenings, dry corn milling, animal feed, breakfast cereals, snack foods, and breads. [\(more\)](#)

- DuPont Pioneer (New Madrid and Miami) opened a \$60 million soybean production plant in 2011 to serve soybean growers in the southern United States. The 65-person plant joins DuPont's research facility in Miami, Missouri, to sell corn, soybeans, sorghum, and wheat seed throughout the state. ([more](#))
- Monsanto (HQ St. Louis) is a Fortune 500 company that helps farmers grow more crops by applying biotechnology and genomics to seeds and herbicides. In addition to the world's top herbicide (Roundup), the company also produces seeds resistant to Roundup. Monsanto recently acquired Divergence, a St. Louis research company that develops genes and molecules for the control of nematodes. ([more](#))
- Sigma-Aldrich (HQ St. Louis), a Fortune 1000 company, produces chemical and biochemical products for scientific research, biotechnology, pharmaceutical development, and the diagnosis of disease. The company's products are also used as key components in high technology manufacturing. ([more](#))
- The Solae Co. (HQ St. Louis) was formed as a joint venture between DuPont and Bunge in 2003 to develop, produce, and market soy-based food ingredients. In 2012, DuPont took full ownership of the company. With more than 3,500 customers in 80 countries across the globe, Solae manufactures soy protein for beverages and meatless foods as well as soy-based polymers for use in the paper industry. ([more](#))

Missouri Agricultural Associations

- [American Soybean Association](#) (St. Louis)
- [American Angus Association](#) (St. Joseph)
- [Dairy Farmers of America](#) (Kansas City)
- [Missouri Soybean Association](#) (Jefferson City)
- [National Corn Growers Association](#) (St. Louis)



Research Parks and Incubators: Missouri's facilities support companies in bringing their discoveries from the laboratory to the market

- Bio-Research and Development Growth (BRDG) Park (St. Louis) is adjacent to the Donald Danforth Plant Science Center and houses a variety of tenants in the bioscience industry, including Nidus Investment Partners and Novus International. ([more](#))
- Helix Center (St. Louis) is a new small business incubator providing startups in plant and life sciences affordable office and laboratory space, access to expertise, and facilities near the Donald Danforth Plant Science Center and the Bio-Research and Development Growth (BRDG) Park. ([more](#))
- Missouri Plant Science Center (MPSC) (Mexico) is a collaborative hub for scientists and entrepreneurs to move biotech research into functional, real-world business applications and consumable products. MPSC's facilities include state-of-the-art analytical and research instrumentation, shared pilot processing equipment, and a small-scale milling plant. ([more](#))



University of Missouri:

- Discovery Ridge (Columbia) leverages the University of Missouri's resources in agriculture, health, veterinary medicine, bioengineering, nutrition, biology, and environmental services. ([more](#))
- Life Science Business Incubator at Monsanto Place (Columbia) is home to more than 20 companies in biomedicine, animal health, food, agriculture, energy, and information technology. The incubator was designed to establish a technology cluster in mid-Missouri. ([more](#))

Plant Science Research Centers

- Donald Danforth Plant Science Center (St. Louis) conducts research aimed at increasing crop yields and the nutritional value of plants, while decreasing the need to pesticides and fertilizers. The Danforth Center is also involved in developing sustainable sources of energy from plants. ([more](#))

- MRIGlobal (Kansas City), known formerly as the Midwest Research Institute, has earned international recognition for its health research services supporting the pharmaceutical, biotechnology, veterinary, and agrochemical industries. MRI develops and evaluates seed coating and pelletizing processes using chemical or biological treatments. ([more](#))
- Missouri Botanical Garden (St. Louis) conducts the most productive and diverse botanical research in the world, employing nearly 50 Ph.D. botanists. The Garden's Herbarium is one of the world's best resources for information on bryophytes and vascular plants, with over 6 million specimens. ([more](#))

University of Missouri:

- MU has a comprehensive plant sciences research and development pipeline, that covers basic plant biology studies, to plant transformation and breeding, to field testing at research farms of the Missouri Agricultural Experiment Stations located around the State.
- The Bradford Research and Extension Center (Columbia), is a 591-acre farm near the University of Missouri, providing land, equipment, and facilities to MU and USDA scientists for research in crops, soils, entomology, pathology, turf, and related disciplines. ([more](#))
- Christopher S. Bond Science and Technology Incubator (St. Joseph) is home to the Institute for Industrial and Applied Life Sciences, which offers training and wet lab space. The 25,000 square feet incubator is operated in conjunction with Missouri Western University. ([more](#))
- Interdisciplinary Plant Group is an internationally recognized community of nearly 60 MU plant scientists that transcends traditional departmental boundaries to facilitate the sharing of ideas and resources and to create opportunities for collaboration through interdisciplinary meetings, seminars, and an annual symposium. ([more](#))
- National Center for Soybean Biotechnology (NCSB) (Columbia) uses an innovative molecular approach to soybean improvement. Selected by the

U.S. Congress to host the NCSB, MU conducts interdisciplinary research on soybean genetics, genomics, and related sciences. ([more](#))

- Plant Transformation Core (Columbia) is a public institution for the enhancement of both basic and applied research in plant biology. ([more](#))
- T.E. Fischer Delta Research Center (Portageville) is a crop production and management facility focused on cotton and rice production. Scientists at the 1,024-acre center also research soybean cropping systems, weed, insect and disease control, and variety evaluations. The Delta Center has gained recognition for the development of improved soybean varieties, especially those with soybean cyst nematode resistance. ([more](#))
- The Whitney R. Harris World Ecology Center (St. Louis) was founded almost 20 years ago by University of Missouri-St. Louis (UMSL) in cooperation with the Missouri Botanical Garden. The facility has grown into one of the world's preeminent centers for education and research in tropical biology. UMSL is one of the country's leading universities in this area of study, drawing students from 24 countries. ([more](#))

Other Plant Science Organizations

- The Botanical Society of America (HQ St. Louis) is a membership society which promotes botany—the study of the form, function, development, diversity, reproduction, evolution, and uses of plants and interactions between plants within the biosphere. The Botanical Society of America relocated to St. Louis in 2003. ([more](#))
- The World Agricultural Forum (WAF) (St. Louis) is focused on sustaining the world's population by meeting its growing need for food, fuel, and fiber. On a global stage, the WAF hosts one of the largest biennial gatherings of agricultural leaders to implement positive changes in both developed and developing nations. ([more](#))



Missouri Venture Capital Funds and Resources: Supporting and growing plant science companies

- BioGenerator (St. Louis) is a privately funded, not-for-profit organization that works with researchers, inventors, and entrepreneurs to build successful, sustainable life science companies. The BioGenerator provides assistance—including pre-seed and seed investments, access to no-cost shared labs and equipment, and management support—at the earliest stages of company formation. ([more](#))
- BioSTL (evolved from the Coalition for Plant and Life Sciences) announced in 2011 a \$30 million commitment over five years, from Washington University in St. Louis, BJC HealthCare, and the St. Louis Life Sciences Project for the purposes of bioscience company creation and economic growth. These funds will increase the region's capacity to support entrepreneurs and launch BioSTL itself, the next step in a 10-year-old regional effort to increase economic activity in the medical and plant biosciences. A majority of these new funds will be dedicated to pre-seed and seed investments and associated support for newly created enterprises. ([more](#))



- Helix Fund (St. Louis) supports entrepreneurship in the plant and life sciences sector through early stage capital and other financial support. ([more](#))
- Nidus Partners (St. Louis) is a unique collaboration between experienced entrepreneurs and strategic corporations for the purpose of identifying and commercializing technologies in the energy market. The partnership provides seed funding, entrepreneurial experience, and market input to advance early technology toward commercialization. ([more](#))
- Prolog Ventures (St. Louis) specializes in early-stage life science and animal health companies. ([more](#))

Angel Networks

- Arch Angels (St. Louis) is a part of the region's seed to later-stage equity capital continuum, targeting an investment range generally underserved by institutional venture capital firms. ([more](#))

- Billiken Angels (St. Louis) provides capital to firms in all industries and at all stages, not just start-ups. To be considered, a company must be in the St. Louis region, or the company must be owned by current or former Saint Louis University students, faculty, or staff, or use intellectual property licensed from Saint Louis University. ([more](#))
- Centennial Investor Angel Investor Network (Columbia) is a network of accredited investors devoted to funding technology-based start-ups and early-stage companies. ([more](#))
- Show-Me Angels (Lee's Summit) is a membership organization of accredited investors committed to early-stage companies in the Kansas City region. ([more](#))
- Springfield Angel Network (Springfield) is a nonprofit corporation introducing start-up and existing entrepreneurs from southwest Missouri (although not exclusively) to individuals capable of investing financially. ([more](#))

State Funding Resources

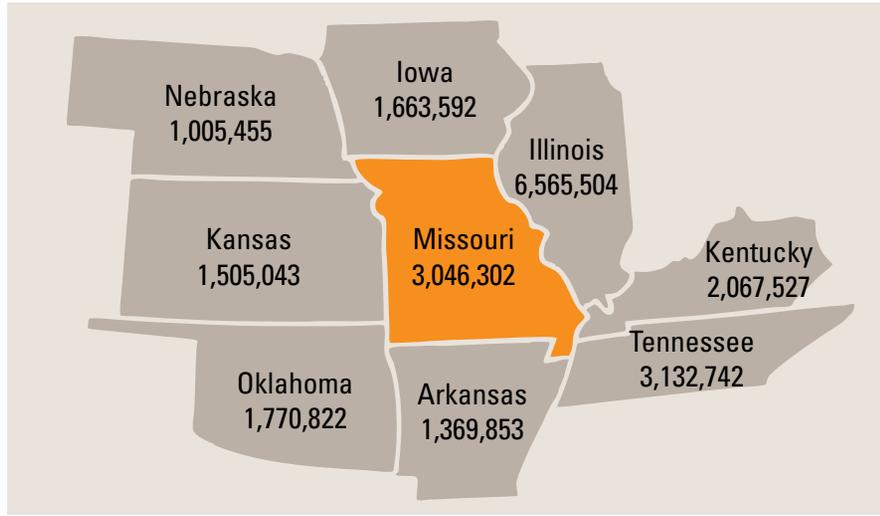
- Missouri Technology Corporation (MTC) was established by the Missouri Legislature in 1994 as a private not-for-profit charged with attracting research funding and technology companies to Missouri. MTC has various funding and grant programs aimed at growing the state's bioscience sector, including the Missouri IDEA (Innovation, Development, and Entrepreneurship Advancement) Funds. The IDEA Funds support the transfer of science and technology into job creation and provide financing to eligible businesses through four stages of growth: pre-seed capital-stage financing, seed capital-stage financing, venture capital-stage financing, and expansion-stage debt. ([more](#))
- Life Sciences Research Trust Fund was established in 2007 to enhance and transform research into commercial life science technology. The fund's focuses include agriculture, animal science, plant science, medical devices, biomaterials, and composite research. The trust fund also supports

nanotechnology related to drug development and delivery, diagnostics, clinical imaging, and information technology for human health.

Investment Capital Conferences

- Ag Innovation Showcase is the leading annual global event for agricultural technology industry leaders, entrepreneurs, venture capitalists, and investors. Held in St. Louis at the Danforth Plant Science Center, the showcase features innovative approaches to productivity and sustainability in the agricultural sector, with emphasis on ag-biotech, food and nutrition, alternative energy, informatics, animal health, and sustainable materials. ([more](#))
- Invest Midwest facilitates investment in the region's top life science, technology and alternative energy companies. This annual conference has consistently drawn more than 300 attendees and has helped generate more than \$1 billion in investment capital over the past thirteen years. ([more](#))
- Missouri Technology Expo (Columbia) is a networking forum for researchers, entrepreneurs, investors and business development professionals. The expo features leading state speakers and pitching opportunities for new products and technologies. ([more](#))

WORKFORCE BY STATE



BLS, QUARTERLY CENSUS OF EMPLOYMENT AND WAGES, 2011

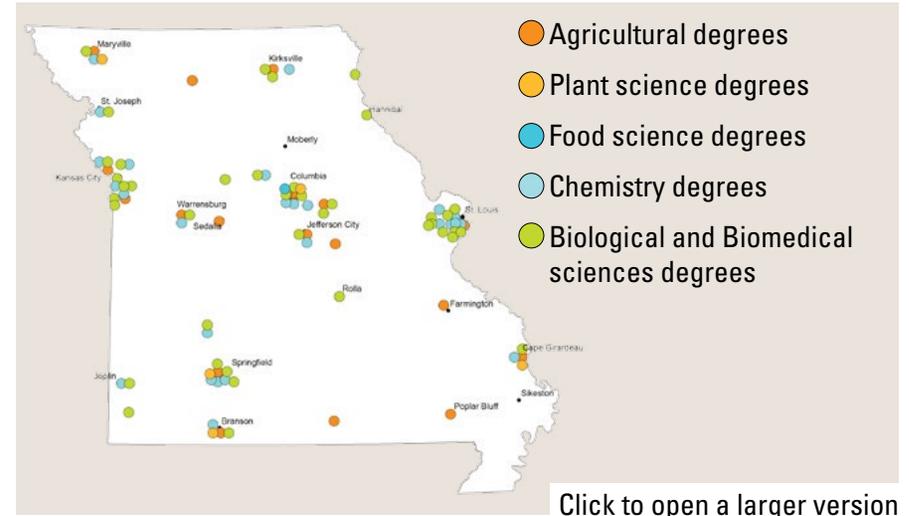
Missouri has a first-rate workforce in the bioscience industry.

- The Bioscience Industry in Missouri is comprised of nearly 3,500 companies employing over 51,000 Missourians (*U.S. Bureau of Labor Statistics, 2012*).

Missouri's top-ranked educational institutions draw unparalleled talent.

- 40 Missouri colleges and universities offer bachelor's degrees or higher in Biological or Biomedical Sciences.
- 86.8 percent of Missouri's population has attained a high school diploma or higher, exceeding the national average of 85.4 percent (*American Community Survey, 5-year estimates, 2007-2011*).
- Over one million Missourians hold a Bachelor's degree or higher (*American Community Survey, 5-year estimates, 2007-2011*).
- In 2011, 96,953 post-secondary degrees/certificates were awarded in the state. Of those, 41,648 were bachelor's degrees, 20,679 were master's degrees and 4,656 were doctor's.

PLANT SCIENCE-RELATED DEGREE PROGRAMS



Missouri Schools

- St. Louis Community College's Center for Plant and Life Sciences bio-technician training program at BRDG Park offers programs in biotechnology, chemical technology, clinical lab technology and horticulture.

OCCUPATIONS AND WAGES

Occupation code	Occupation title	Missouri median hourly wage	U.S. median hourly wage
00-0000	All Occupations	\$14.99	\$16.57
19-0000	Life, Physical, and Social Science Occupations	\$24.46	\$28.52
19-1031	Conservation Scientists	\$22.82	\$28.34
19-4099	Life, Physical, and Social Science Technicians, All Other	\$18.65	\$20.73
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	\$19.24	\$20.48
45-2011	Agricultural Inspectors	\$19.27	\$19.90
45-2091	Agricultural Equipment Operators	\$11.21	\$12.13

SOURCE: BLS, OCCUPATIONAL EMPLOYMENT AND WAGE ESTIMATES, MAY 2011

DEGREES GRANTED IN MISSOURI IN 2011

	Associate's degree	Bachelor's degree	Master's degree	Doctor's degree	Total
Agriculture, General	4	77	6	0	87
Biology/Biological Sciences	0	1,524	104	21	1,649
Chemistry	0	272	51	42	365
Food Science and Technology	0	15	7	0	22
Plant Sciences, General	0	66	9	8	83
Total	4	1,954	177	71	2,206

SOURCE: NATIONAL CENTER FOR EDUCATION STATISTICS, 2011

MISSOURI'S TRANSPORTATION ASSETS



Missouri can get your product to market faster and cheaper.

Airports

- Missouri travelers can reach most cities in the United States and Canada in less than three hours by air.
- The airport system in Missouri consists of 130 public airports, with two providing international service: Lambert-St. Louis International and Kansas City International.
- Springfield, Branson, Joplin, Columbia, Cape Girardeau, Kirksville and Waynesville (Fort Leonard Wood) also have commercial service.

Foreign Trade Zones

- Missouri has foreign trade zones in Kansas City, Saint Louis, and Springfield.
- The FTZ at Lambert-St. Louis International Airport was recently expanded to include all of St. Louis City and St. Louis County under the Alternative Site Framework.

- The KCI Intermodal BusinessCentre includes 8,000 acres of multi-use land for development on the airfield designated FTZ and enhanced enterprise zone.

Rail

- Missouri provides efficient, low-cost shipping across the country via all Class I carriers: Burlington Northern Santa Fe (BNSF), Kansas City Southern (KCS), Norfolk Southern (NS), Union Pacific (UP), CSX, Canadian National Railway (CN), and Canadian Pacific (CP). It is one of the few states that can provide access to both east and west coasts.
- Missouri is ranked in the top ten for U.S. railroad mileage with 4,019 miles (*Association of American Railroads, 2010*).
- Missouri is ranked fourth in tons and third in rail carloads carried by state (*Association of American Railroads*).

- The 1,340 acre CenterPoint KCS Intermodal center includes a thousand acre industrial park located directly adjacent to the new Kansas City Southern Intermodal Facility. With infrastructure in place, these sites are shovel-ready for facilities up to one million square feet. KCS will offer direct rail service to CIC-KC from the natural deepwater port of Lazaro Cardenas, Mexico.

Roads

- Missouri has the sixth largest public road and highway system in the nation with 33,667 miles (*Federal Highway Administration, 2009*).
- Major interstates include I-64, I-44, I-70, I-55, I-35, I-29, and the newly designated I-49, which connects Kansas City to Joplin.
- I-70, which bisects Missouri, is over 2,000 miles long and passes through 10 states.
- Interstates 29 and 35 are located within the NAFTA corridor, providing easy access to Canada and Mexico.
- Missouri ranked in the top 10 states for Federal highway funding in 2011, with \$1.11 billion (*State Rankings, Federal Highway Administration, 2010*).
- There are more than 110,000 commercial trailers registered in Missouri (*Bureau of Transportation Statistics, 2011*).

Waterways

- Missouri is ranked tenth for inland waterway mileage (1,000 miles), moving an average of \$4.1 billion in cargo annually.
- Twenty-nine industrial centers, with a combined population of 90 million, can be reached from St. Louis by barge. St. Louis is the northern-most point on the Mississippi river that normally remains ice-free and open throughout the year. The city is also the location of the southernmost lock and dam on the Mississippi (*Missouri Port Authorities*).

- Missouri has 14 strategically located public port authorities (*Missouri Port Authorities*).
- Nearly 4,500 acres are available for development adjacent to Missouri's port authorities.

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