

FEEDING THE FUTURE WITH CANADIAN TECHNOLOGY

Case Study Summary - California

California is an agricultural powerhouse in the United States, producing over 400 crops and generating over \$100 billion US worth of economic activity. It produces one-third of the vegetables consumed in the US, and three-quarters of the fruit and nuts, while Canada is also reliant on importing Californian products.

California's agricultural sector struggles with climate-related extreme weather events, limited water resources and pest outbreaks. The sector is also looking to reduce agricultural climate emissions, which have stayed relatively stable since 2000, despite decreases in the overall emissions from the state. Technology development and adoption has been identified as a key strategic priority for California to manage these challenges.

Access to Capital and Talent

In 2021, California received \$5.5 billion US in venture capital funding – almost triple the investment in the next closest state. The ag-tech innovation ecosystem in the region benefits from the presence of Silicon Valley, a hub of innovation and technology in the region. A number of emerging food manufacturing and bioprocessing companies, including cellular agriculture firms, are headquartered near Silicon Valley, and benefit from access to capital with high risk tolerance, press availability, local talent and commercial lab space. Despite these benefits, however, agri-food companies often still experience difficulties scaling and securing investment – seeing more success securing investment in software or data systems.

California also benefits from the presence of the Stanford Research Park, a business park that provides links between Stanford University and industry – including jobs for graduates, income for the university, strong networks, and a stream of talent for businesses. A key part of Silicon Valley, this integration between industry and academia allows the business park to become a hub of innovation.

Funding Support for Farmers and Entrepreneurs

A variety of state-run programs and regional incubators and accelerators also shape the ag-tech innovation ecosystem. Government programs often focus on supporting on-farm or midstream adoption of technology, especially related to sustainability and water resource conservation, pairing financial incentives with extension programs such as the Climate Smart Agriculture Technical Assistance Program to support uptake and adoption of technologies.

Federally, major grants from the US Department of Agriculture and its National Institute of Food and Agriculture support ag-tech research, and there are five ag-tech incubator-accelerators and three university R&D hubs located in California.

Conclusion

California is a hub for startups and investors in food and agriculture. It has benefitted from the combination of academia (for talent), local government (for land) and business (for capital and employment), coming together as part of the Silicon Valley ecosystem alongside incubators and accelerators that can support entrepreneurs, government funding to support on-farm technology adoption and private investment in start-ups.

Lessons Canada can learn include:

- The presence of robust agricultural industry and worldclass innovation is critical to success; Canada should consider the location of a robust innovation hub with access to both agriculture and technology.
- Pairing talent from universities with government incentives and business resources can facilitate the diffusion of ideas and access to venture capital.
- Government can play a key role in providing funding for farmers to adopt technologies and spur adoption; there may be a role for provincial governments in promoting regionally-appropriate technologies.
- Federal funds and venture capital can be leveraged for research and development success.

Relevant Policies

[State Water Efficiency & Enhancement Program](#)

[Climate Smart Agriculture Technical Assistance program](#)

[Resilient Food Systems Infrastructure Program](#)

[Food Production Investment Program](#)

For more information:

[Feeding the Future with Canadian Technology Final Report](#)

