

Agricultural biotechnology is thriving in Hawaii. It's contributing to the livelihood of farmers, the health of our environment and the strength of our economy. With its year-round growing season, skilled workforce and expert knowledge base, Hawaii has become the gateway to the future of worldwide agriculture. By integrating innovative technology with local farming practices, agricultural biotechnology can continue to grow the state's agricultural sector and preserve the landscapes that define our Islands.

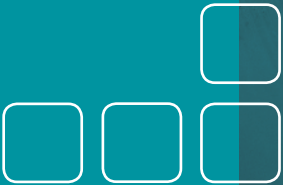


**Paul Brewbaker**  
*Economist*

*TZ Economics*

"Seed companies are actually the largest part of Hawaii agriculture today. As the seed companies grow, so will Hawaii agriculture."

The papaya ring spot virus nearly devastated commercial papaya production on Big Island in the 1990s. Papaya production plummeted from 53 million pounds to just 25 million pounds over a seven year period. Cornell researcher Dr. Dennis Gonsalves figured out a way to use the genetic portion of the virus to "inoculate" papayas against the disease. Growers embraced the technology and the industry saw an immediate turnaround. By 2003, papaya production in the region had rebounded to 40 million pounds per year.



# AGRICULTURAL BIOTECHNOLOGY

## Benefits for Hawaii



**Stephen Ferreira**  
*Plant Pathology  
Specialist*

*University of Hawaii  
College of Tropical  
Agriculture & Human  
Resources*

"Agricultural biotechnology is a powerful tool that all growers in Hawaii should be using to solve important production and quality problems."

### The Hawaii Crop Improvement

**Association (HCIA)** is a nonprofit trade association representing the agricultural seed industry in Hawaii. Now the state's largest agricultural commodity, the seed industry contributes to the economic health and diversity of the islands by providing high quality jobs in rural communities, keeping important agricultural lands in agricultural use, and serving as responsible stewards of Hawaii's natural resources.

[www.hciaonline.com](http://www.hciaonline.com)

- Hawaii is the world's leading producer of seed corn, which accounts for \$169 million – or 96% – of the state's \$176 million agricultural biotechnology industry. By supplying seed corn to the world, local farmers and scientists are also helping to build the economic future of our state.
- Hawaii's seed companies employ more than 1,800 Hawaii residents. Since 2006, the industry has experienced 73% job growth. The number of full-time jobs in this sector has increased 268.5% in the last three years.
- Biotechnology keeps agricultural lands in production. Farmers around the world are planting seed corn from Hawaii, supporting our economy while improving crop yields and helping stabilize food production.
- Agricultural biotech offers real benefits to Hawaii farmers by increasing efficiency and productivity of farms across the state. From soy beans to corn to the state's formidable papaya industry – which was nearly devastated by the ringspot virus – ag biotech is playing a major role in improving the ways that crops are grown so that Hawaii farmers are able to grow locally and feed globally.
- In tropical environments like Hawaii, there is no winter period that disrupts the cycle of pests and diseases. Problems caused by insects and diseases are difficult to control. Biotechnology can help farmers overcome these problems by providing solutions that do not rely on the application of pesticides or other agricultural chemicals that can harm the environment.
- Agricultural biotechnology helps promote responsible stewardship of the land by facilitating low-till farming, which helps prevent soil erosion and encourages water conservation.

