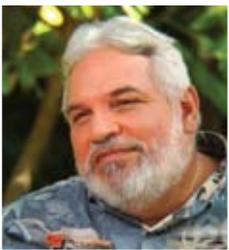


Environmental Stewardship and Sustainable Agriculture

Agricultural biotechnology makes safe, significant contributions to sustainable agriculture in Hawaii, promoting responsible stewardship of the 'aina, keeping agricultural lands in production and creating fulfilling jobs in rural communities.



Stephen Ferreira
Plant Pathology Specialist

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

"It's not a biotechnology agenda. It's a farming agenda. We're all impacted and we all play a role in assuring that there will be farming in Hawaii for a long time."

In addition to its significant applications for developing cures and treatments for some of the world's most intractable diseases, biotechnology research is widely seen as the most promising science for addressing the pressing agricultural and environmental challenges, including the development of renewable resources.



AGRICULTURAL BIOTECHNOLOGY

Environmental Stewardship and Sustainable Agriculture



**Adolph Helm
President**

HCIA

"Not only does the seed industry provide jobs but it also helps other businesses in Hawaii sustain themselves."

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

- Agricultural biotechnology helps safeguard the environment by arming crops with genetic protection against insects and disease. This allows them to be grown using fewer applications of pesticides and agricultural chemicals.
- Use of agricultural biotechnology facilitates the use of low-till farming practices, an agricultural method that actively reduces soil erosion and encourages water conservation for Hawaii's growers.
- The cumulative reduction of pesticide applications due to biotech crops from 1996-2008 is estimated to be 356 million kilograms (785 million pounds) of active ingredient. Reduced pesticide applications also mean farmers use less fuel.
- In 2008, carbon emissions savings from biotech crops was equivalent to removing 7 million cars from the road. This savings is due to improved carbon containment in the soil and less tractor fuel expended – both of which are results of the low-till farming that biotech crops enable.
- Agricultural biotechnology enables farmers to produce higher yields on less land. In 1950, the world's grain output was 692 million tons. With the aid of biotech agriculture, the world's farmers harvested 1.9 billion tons on the same amount of acreage over a 40-year period – an increase of 170%.
- New corn seeds being developed in Hawaii will help meet demand for increased ethanol production that is expected to reduce our nation's dependence on foreign oil.

