

Revitalizing the Declining Hawai'i Banana Industry via Statewide Extension Program and Technology Transfer to Local Growers

Relevance

Bananas are a vital staple of the Hawaiian diet. According to the Census of Agriculture, there were 1,159 acres of banana production in Hawai'i in 2017 compared to 1,311 acres in 2012. For decades, the local banana industry has been suffering from severe losses caused by the banana bunchy top virus (BBTV) and Panama wilt, caused by *Fusarium oxysporum* f. sp. cubense (Foc). To rebuild this vital industry, farmers desperately needed clean planting material free of diseases, best management practices, and a strong statewide Extension education effort.



Response

The local banana industry approached the University of Hawai'i at Mānoa's College of Tropical Agriculture and Human Resources (UH CTAHR) and requested access to pathogen-free propagation materials to stop the continuous decline in production affecting bearing and non-bearing banana plantings. With the aid of the Hawai'i Department of Agriculture (HDOA) and Hawai'i Agriculture Research Center, UH CTAHR jump-started a multifaceted strategy to manage BBTV via the distribution of tissue-cultured planting materials to statewide producers.

The statewide distribution of banana propagation materials was combined with a series of workshops to advance BBTV identification, suppression, and management. Over 2,000 seedlings of a cultivar tolerant to BBTV and Panama wilt were distributed statewide. Twenty-five workshops (virtual and in-person) were conducted in conjunction with distribution to advance vector management. Advanced field trainings were held to show farmers how to collect clean young crop from their newly planted fields, test for BBTV using new technology, and establish new crop lands to promote long-term sustainability of practices.

Results

- A 2021 Statistics on Banana Report by the HDOA Market Analysis and News Branch indicates that the farm gate value for Hawai'i's 2021 fresh banana production was \$5.6 million, a 22% increase from 2020.
- The number of farms are increasing. Bananas grown in 2021 for sales on-island increased to 3.2 million pounds, 71% higher than in 2020.
- Testimonials from O'ahu farmers indicated that grade A banana production was close to zero in 2019 due to the long-standing nature of the BBTV disease cycle. A cooperating farmer who reported zero harvest in 2019 harvested 30,385 pounds in 2021 and 50,068 pounds in 2022.
- Another cooperator multiplied 90 virus-free starter seedlings to cover 10 acres of previously destroyed BBTV croplands.

Public Value Statement

Statewide testimonials support the HDOA report that local banana production is rebounding. Additional virus-free plantings will be made available to farmers in collaboration with UH CTAHR's Komohana Research and Extension Center in Hilo.

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Young banana seedlings in greenhouse.



Banana seedlings ready for distribution to local growers.



Testing kits to ensure initial materials are disease-free for tissue-culture propagation.



Banana orchard using the distributed materials.



Banana tissue culture seedlings as received from propagation.