

Case Study Summary – Roatan, Honduras

Vector Control (Mosquitoes)

Industry:	Vector Control Industry
Application:	SCD Probiotics Technology application for mosquito control in a tropical resort environment
Customer:	Parrot Tree Plantation Resort, John Edwards, Manager Owner
Research Laboratory :	PECET - Universidad de Antioquia, Colombia, South America
Where:	Roatan, Honduras
When:	July – August 2010
Products:	SCD Probiotics Industrial Organic Acid (all-natural, probiotic liquid concentrate)

Customer Problem

Roatan is situated in the Caribbean Sea. This island is a tropical paradise that attracts many tourists with its long stretches of white sand, beautiful weather and the world's second largest barrier reef – MesoAmerican – in their backyard. However, mosquitoes and sand flies are detrimental to current, referral and return customers, negatively impacting the revenue opportunity of the resort. Customer satisfaction and profitability would increase if a solution to these pests could be found.

The resort has, in the past, used commercial pyrethroids spray to control the insect population. The chemicals, at the regulated World Health Organization (WHO) level, are no longer effective as the mosquitoes and sand flies are now resistant.

Goal

To use an all-natural, biological product that is effective in controlling mosquitoes (*Aedes aegypti*).

Methodology

Both field and lab tests were conducted to demonstrate efficacy.

Laboratory tests were conducted to determine the efficacy of the product in increasing mosquito larvae mortality rates for the following species: *Aedes aegypti*, *Anopheles albimanus* and *Culex quinquefasciatus*. Results for *Culex quinquefasciatus* are presented below in Table I.

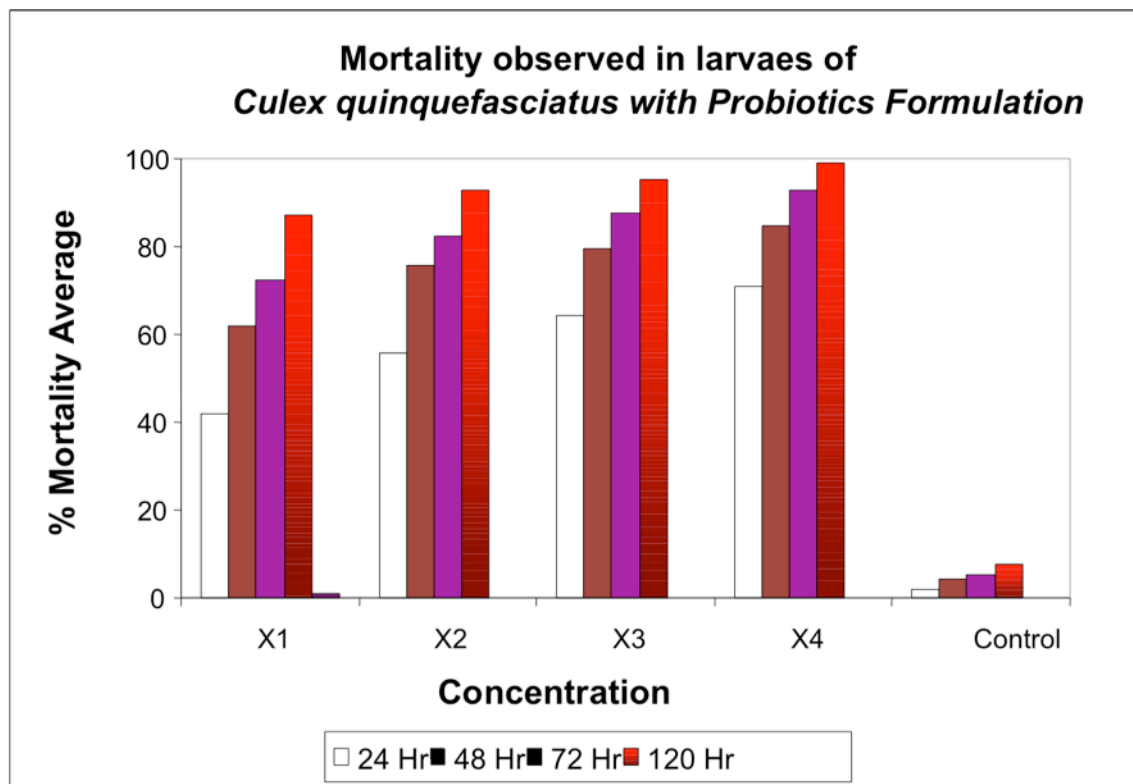
After encouraging lab test results (and previous successful field applications in India for Malaria and Chinkungunya*) - a field trial at the resort for mosquitoes (*Aedes*) was initiated. The SCD Probiotics vector control formulation was applied to areas around the property where insects typically reproduce - sand and standing water. Mangroves, beach, gardens, cisterns, fountains, small forest and water sport areas were inoculated. Approximately 4,300 liters were used (about 1,150 gallons) over the 18 acres property throughout the 42 days trial period.

Baseline samples taken July 9-14. No chemicals were used in the vicinity for four (4) weeks prior to application in order to restore the area to its natural condition. Application of the vector control formulation in all three resort locations (beach, marina and pool) began July 15 and continued daily through August 28.

Lab Results - 99% Mortality of Mosquito Larvae in 4 Days

Table I

Percentage of Average Mortality Rate of *Culex quinquefasciatus* mosquito over 120 hrs and at different concentrations of SCD Probiotics vector control formulation. Different concentrations were tested to help gauge appropriate application rates and protocols.



Source: PECET, 2009

Field Testing Results

Data was collected to verify the decrease in adult mosquitoes and mosquito larvae. Results compiled from the data showed:

- 99% reduction in mosquito larvae in fountains
- 100% reduction in mosquito larvae in cisterns and tunnels.
- 99% reduction in mosquito larvae in beach, swimming pool and forest areas
- Reduction in adult mosquitoes in three zones from 18/day to 1/ day (physical count)

General Manager Testimonial

Kester Bodden, Resort Manager of Parrot Tree Plantation Resort, reported complete satisfaction with the trial, and has subsequently integrated routine application of SCD Probiotics vector control formulation for the resort property.

“We had hundreds of mosquitoes before, and now we have almost none, says Mr. Bodden. The mangroves in our property presented a serious challenge to our resort. It’s hard to bring people to a beach and to restaurants and pools where there are so many pests. At least now at Parrot Tree, we no longer have this problem. We can now call Parrot Tree Plantation Resort a mosquito - free zone.”

For more information about this case study or other SCD Probiotics products, please contact sales@SCDProbiotics.com

*Chikungunya is an insect-borne virus transmitted to humans via Aedes mosquitoes, with disease symptoms similar to dengue fever. For more information on the lab results from these studies, contact SCD Probiotics.

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