



RESOURCE RECOVERY • KA'ŌHAO PROTOCOL

A partnership of Windward schools working cooperatively in the pursuit of waste reduction, soil restoration, and applied environmental education. All members participate annually in the U.S. EPA's Food Recovery Challenge and adhere to strict, safe, standardized operational procedures.

SUMMARY • APRIL 2017

LANIKAI ELEMENTARY PUBLIC CHARTER SCHOOL

Start: January 2014 • Number of students: 330 • Annual food waste: 8 tons • Food waste collection: 100% cafeteria lunch, campus-wide snacks • Other: 98% HI-5 cans and bottles, green waste, paper, cardboard, mylar • Technologies: thermal composting, vermicomposting, bokashi

Food waste recovered: 1,575 pounds. Sixth graders were key presenters at the 2nd Annual **We Grow Hawaii** Conference, held April 29 at Iolani School. Last year they described Lanikai's collection procedures, processing technologies, and products. This year they were able to demonstrate several projects explored under the banner of Ka'ohao Ag School, all designed to test the viability of Lanikai's recovered resources. On-site processed compost, vermicompost, and blended teas proved to be complete in nutrients – no outside inputs required. Extensive field trials were conducted on papaya, banana, cucumber, kale, Swiss chard, mustard cabbage, cilantro and basil. Pest control was addressed as an issue based on plant nutrition and soil quality. The hot compost hot water heating apparatus earned a Regional Science & Engineering Fair slot, finishing in the top 3 out of 4,500 projects.

The Ag School will be expanded next year to the 1/8th-acre Ka'ohao Urban MicroFarm. Everyone talks about Farm to School, but – closing the loop through Resource Recovery – Lanikai students create a real working Farm *at* School!

KA'ELEPULU ELEMENTARY

Start: August 2016 • Number of students: 201 • Annual food waste: 8 tons • Food waste collection: 100% cafeteria breakfast and lunch • Other: 100% HI-5 cans and bottles, some green waste • Technologies: thermal composting, vermicomposting

Food waste recovered: 2,481 pounds. Ka'elepulu's 2nd hot compost pile came due in April, this time harvested by Ms. Olive's 5th grade students, who overcame their fears to screen three cubic yards of beautiful compost under a tent in the pouring rain. Now they can't wait to do it again! (One more pile this year, in May).

A \$1,000 Sustainability Grant awarded from Kokua Hawaii Foundation was spent on a Pipeline worm system and related accessories to elevate three funky donated home-style worm bins to the professional equipment enjoyed by the other members of the Hui. Two pounds of worms moved in and got right down to work.

KAINALU ELEMENTARY

Start: January 2017 • Number of students: 460 • Annual food waste: 18 tons • Food waste collection: 100% cafeteria breakfast and lunch • Other: 100% HI-5 cans and bottles • Technologies: thermal composting, vermicomposting

Food waste recovered: 3,283 pounds. Kainalu's vermicomposting system was installed in October of last year, so vermicast was due for harvesting this April, a six-month cycle. All three 3rd grade classes got to help out with supervision from AINA docents. Typically, following a harvest and re-bed, the colony is culled to prevent overcrowding. Kainalu worms were so prolific that three pounds, nine ounces were culled and sold for \$356.25! Worms may only eat a small portion of overall waste, but they are endlessly productive in other ways. Good care pays off.

COMBINED APRIL 2017 TOTALS

Four-week period from April 1 through April 30, 2017. Includes 19 school days Ka'elepulu & Kainalu; 18 Lanikai

Total students participating daily: **991**

Total food waste recovered in April: **7,339 pounds**

2017 total to date: 27,593 pounds (13.8 tons)
