

Sacramento County's Residential Green Waste Contamination Study - October 2018

The Sacramento County Department of Waste Management and Recycling (DWMR) conducted an in-house contamination study to determine the contamination level in the currently collected curbside green waste. The Department felt it was an important study to conduct prior to implementing any changes, such as instructing customers to place food waste in the green waste container due to anticipated regulations adopted pursuant to Senate Bill 1383. The DWMR Organics Team's goal is to conduct several green waste contamination studies over the next year to give a broad overview of green waste contamination, including any seasonal variability. In October 2018, DWMR staff conducted the first contamination study on over 1,600 collected green waste carts and found a 4% (by weight) average contamination rate.

Process:

For two weeks, two designated collection trucks diverted 60 randomly selected residential stops from every green waste route in both the North and South collection areas. Each truck collected an average of 4,000 pounds of raw green waste daily and tipped that material into a North Pile and a South Pile at Kiefer Landfill's green waste processing area. Wheeled equipment spread the material and a crew of seven manually removed and weighed the contaminants.

Results:

Over 38.5 tons of green waste was processed and analyzed. The largest contaminants (a car axle) and the smallest contaminants (gum wrappers) were weighed. Other memorable contaminants encountered were a dozen uncapped needles, an entire child's playroom of toys, and a destroyed office desk.

After all contaminants were removed, the remaining green waste was screened by the onsite trommel to a size of 6 inches. On average, the cleaned green material comprised 20% overs and 80% unders. The daily ratio of overs to unders can inform choices for potential uses such as biomass feedstock or alternative daily cover.

Findings:

The finding of 4% contamination was lower than anticipated. Moreover, 4% may be an overestimate because in this study the crew members were instructed to characterize all lumber (treated / painted or untreated) as contamination. Depending on the processing and end use that material may be recoverable. Lastly, this study provides compelling data that supports what collection drivers already know: high contamination is localized to specific areas. The day before the carts were collected, drivers gave reliable predictions of high or low contamination based on their experience. This can inform targeted education and outreach efforts. This study characterized only 38.5 tons of green waste compared to 80,000 tons DWMR collects annually. The DWMR Organics Team plans to conduct additional studies in various seasons to provide more comprehensive data on the curbside contamination rate in the green waste cart.