

Case Study

Pre-Crusher: Bakery Waste Facility

Client Overview:

- Bakery waste handling facility
- Seeking a solution for volume reduction of waste contents

Objective:

To develop an effective, volume reduction solution and maximize payload by eliminating air out of the waste contents for the facility.

Solution:

- Sebright Products utilized one of their pre-crusher models with a 25.5" ram to run the facility's chips and puffed snacks through a snack manufacturer through it from a super sack.
- The tests were run a total of 3 times.
- Each test had $\frac{1}{3}$ of the super sack containing the chips and puffed snacks into the pre-crusher.
- The first test had the ram cycle two times.
- The second test had the ram cycle three times.
- The final test had the ram cycle four times.

Results:

The pre-crusher significantly reduced the content of the chips and puffed snacks. The observations of each test included the following:

- **Test 1:** During the first test, the ram was pushed forward, and upon the first cycle, some product spilled up on to the top of the ram. This was cleared by running the ram all the way back.
- The next second cycle was crushing the product and the bottom appeared to be most dense, leading to some uncompacted product near the top of the ram, or sometimes above the top of the ram. This resulted in a couple un-popped bags in the first test.

Results Cont.

- **Test 2:** The second test was done the same as the first, but with an additional cycle of the ram. The additional cycle was still popping bags and allowing for more compaction. The product that was above the ram would occasionally settle and fall the bottom of the chamber and be then compacted on the next cycle. When the wall was retracted, the compacted product stood on its own, and then was easily pushed out loosely stuck together.
- **Test 3:** The final test had four cycles of the ram, and the final cycle was still popping bags. This insight concludes that additional cycles of the ram are beneficial, but the point of diminishing returns is unclear.
- **Volume Reduction:** The compacted product was shoveled back into the Super Sack and the level was measured. The super sack product level of the snacks prior to the pre-crusher was 55", and after the compaction process, the level was 32", resulting in a compacted product with a volume reduction of 42%.

Conclusion:

Sebright Products' pre-crusher addressed the complex needs of the bakery waste facility by significantly reducing volume and air content from the client's waste handling. Using this technology allowed the facility to maximize payloads for the long-term.



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