**Table 1:** Total solids (TS), volatile solids (VS), and estimated methane potential parameters for each category of organic waste collected at Crones’ Cradle Conserve. Methane potential derived from ranges reported in literature. (Mean ± 1 standard deviation).

|  |  |  |  |
| --- | --- | --- | --- |
|  | TS (%) | VS (% TS) | Methane potential (L/g VS) |
| Row clearing | 17 ± 6 | 65 ± 15 | 0.19-0.41b |
| Weeds | 27 ± 10 | 54 ± 19 | 0.16-0.39c |
| Greenhouse waste | 38 ± 13 | 61 ± 6 | 0.19-0.41b |
| Culls | 6 ± 2 | 81 ± 9 | 0.19-0.41b |
| Processing waste | 12 ± 3 | 84 ± 10 | 0.19-0.41b |
| Harvest waste | 33 ± 29a | 87 ± 6 | 0.19-0.41b |
| Rabbit manure | 61 ± 1 | 87 ± 1 | 0.23d |
| Pig manure | 55 ± 7 | 48 ± 15 | 0.2-0.4e |

a: high variability due to the variety of wastes included in this category (e.g. dry onion tops and corn husks)

b: from Gunaseelan (2004) range for “vegetable wastes”

c: from Chynoweth et al. (1993) range for “all grasses”

d: from Masse et al. (2011) range for “swine manure”

e: from Aubart and Bully (1984) for “rabbit manure”

**Table 2:** Categorized wet weightv(WW), total solids (TS), and volatile solids (VS) of organic waste collected at Crones’ Cradle Conserve. Methane potential derived from ranges reported in literature. (Mean ± 1 standard deviation).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | WW (kg) | TS (kg) | VS (kg) | Methane potential (m3)a |
| **Week1** |  |  |  |  |
| Row clearing | 156.5 | 34.3 ± 2.1 | 21.6 ± 1.3 | 4.1 - 8.9 |
| Weeds | 122.0 | 34.6 ± 1.6 | 17.3 ± 0.7 | 2.8 - 6.8 |
| Greenhouse waste | 29.0 | 11.1 ± 0.2 | 7.01 ± 0.13 | 1.3 - 2.9 |
| Culls | 21.7 | 1.75 ± 0.01 | 1.51 ± 0.01 | 0.3 - 0.6 |
| Processing waste | 20.1 | 2.27 ± 0.03 | 2.02 ± 0.03 | 0.4 - 0.8 |
| Harvest waste | 14.4 | 3.66 ± 0.08 | 3.12 ± 0.07 | 0.6 - 1.3 |
| Rabbit manurea | 11.2 | 6.85 ± 0.08 | 5.95 ± 0.07 | 1.4 |
| Pig manure | 4.54 | 2.79 ± 0.10 | 1.08 ± 0.04 | 0.2 - 0.4 |
| **Total** | **379.4** | **97.4 ± 4.2** | **59.7 ± 2.4** | **11.1 - 23.0** |
|  |  |  |  |  |
| **Week 2** |  |  |  |  |
| Row clearing | 274.9 | 46.7 ± 1.1 | 26.4 ± 0.6 | 5.02 - 10.8 |
| Weeds | 224.1 | 48.9 ± 2.0 | 32.2 ± 1.3 | 5.16 - 12.6 |
| Greenhouse waste | 29.9 | 11.3 ± 3.8 | 7.08 ± 2.99 | 1.35 - 2.90 |
| Processing waste | 14.5 | 1.90 ± 0.03 | 1.45 ± 0.03 | 0.28 - 0.60 |
| Pig manure | 1.8 | 0.84 ± 0.05 | 0.57 ± 0.03 | 0.11 - 0.23 |
| **Total** | **545.2** | **109.6 ± 6.9** | **67.7 ± 5.0** | **11.9 - 27.1** |
|  |  |  |  |  |
| **Week 3** |  |  |  |  |
| Row clearing | 373.0 | 55.4 ± 3.3 | 39.2 ± 2.3 | 7.44 - 16.1 |
| Culls | 87.5 | 5.14 ± 0.09 | 4.13 ± 0.08 | 0.79 - 1.69 |
| Weeds | 36.0 | 11.3 ± 0.4 | 3.60 ± 0.13 | 0.58 - 1.40 |
| Harvest waste | 11.5 | 2.36 ± 0.09 | 2.25 ± 0.08 | 0.43 - 0.92 |
| Processing waste | 9.4 | 1.35 ± 0.05 | 1.10 ± 0.05 | 0.21 - 0.45 |
| Pig manure | 7.2 | 4.14 ± 0.04 | 1.55 ± 0.01 | 0.31 - 0.62 |
| **Total** | **524.5** | **79.7 ± 3.9** | **51.8 ± 2.6** | **9.75 - 21.1** |

a: Calculated using ranges reported in literature (Table 1)

b: Rabbit manure is collected on a monthly basis at the farm. This measurement represents rabbit manure generated over 1 month and was not collected in Weeks 2 or 3.

**Table 3:** Chemical oxygen demand and estimated methane production of glycerol and washwater collected from the biodiesel production unitb at the Alachua County Hazardous Waste Collection Center. (Mean ± 1 standard deviation).

|  |  |  |
| --- | --- | --- |
|  | COD (g/L) | Methane potential (L CH4/L)a |
| Glycerol | 1678 ± 59 | 529 ± 19 |
| Washwater | 55.5 ± 11.7 | 17.5 ± 3.7 |

a: Assuming 90% COD conversion to methane

b: Unit is a BioPro 190, which produces 190 L of biodiesel from 190 L of vegetable oil

**Table 4:** Weekly generation of glycerin and washwater on a volumetric and chemical oxygen demand (COD) basis and the estimated methane potential from the biodiesel production unitb at the Alachua County Hazardous Waste Collection Center. (Mean ± 1 standard deviation).

|  |  |  |  |
| --- | --- | --- | --- |
|  | Volume (L) | COD(kg) | Methane potential (m3) a |
| Glycerin | 35.5 ± 1.4 | 59.3 ± 2.9 | 18.7 ± 0.9 |
| Washwater | 198.9 ± 7.9 | 2.0 ± 0.5 | 2.3 ± 0.1 |

a: Assuming 90% COD conversion to methane

b: Unit is a Biopro 190, which produces 190 L of biodiesel from 190 L of vegetable oil

**Table 5:** Total solids (TS), volatile solids (VS), chemical oxygen demand (COD), estimated methane potential, total nitrogen (TN), and total phosphorus (TP) parameters of food waste collected from school cafeterias. (Mean ± 1 standard deviation).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | TS (%) | VS (%TS) | COD (g/kg) | CH4 potential (L CH4/kg) | | TN (%TS) | TP (%TS) |
| Oak Hall | 44.6 ± 3.7 | 83.7 ± 2.6 | 522.2 ± 57.0 | 164.5 ± 18.0 | 2.78 ± 0.26 | | 0.38 ± 0.06 |
| J.J. Finley | 28.4 ± 3.0 | 91.6 ± 4.7 | 375.6 ± 38.8 | 118.3 ± 12.2 | 3.06 ± 0.37 | | 0.51 ± 0.10 |
| Lofton | 32.4 ± 6.9 | 90.9 ± 4.8 | 423.2 ± 86.2 | 133.3 ± 27.2 | 2.98 ± 0.87 | | 0.59 ± 0.26 |
| **All schools** | **33.4 ± 7.7** | **89.9 ± 5.2** | **427.0 ± 85.0** | **134.5 ± 26.8** | **2.97 ± 0.67** | | **0.53 ± 0.22** |

**Table 6:** Weeklya wet weight (WW), volatile solids (VS), chemical oxygen demand (COD), estimated methane potential, total nitrogen (TN), and total phosphorus (TP) of food waste generated from each school during the school audit. (Mean ± 1 standard deviation).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | WW (kg/week) | VS (kg/week) | COD (kg/week) | CH4 potential (m3/week)b | | TN (kg/week) | TP (kg/week) |
| Oak Hall | 41.1 ± 4.1 | 15.4 ± 2.4 | 21.4 ± 2.8 | 6.8 ± 0.9 | 0.51 ± 0.07 | | 0.07 ± 0.02 |
| J.J. Finley | 184.2 ± 28.3 | 47.3 ± 4.7 | 68.4 ± 6.5 | 21.5 ± 2.0 | 1.58 ± 0.23 | | 0.26 ± 0.05 |
| Lofton | 65.8 ± 11.3 | 19.0 ± 4.2 | 27.6 ± 4.7 | 8.7 ± 1.5 | 0.58 ± 0.14 | | 0.11 ± 0.03 |

a: 5 schools days per week

b: Assuming 90% COD conversion to methane

**Table 7:** Per student weeklya wet weight (WW), volatile solids (VS), and chemical oxygen demand (COD) basis, estimated methane potential, total nitrogen (TN), and total phosphorus (TP) of food waste generated from each school during the school audit.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | WW (g/week/ student) | VS (g/week/ student) | COD (g/week/ student) | CH4 potential (L /week/ student)c | TN (g/week/ student) | TP (g/week/ student) |
| Oak Hallb | 123.5 ± 11.5 | 46.2 ± 6.9 | 64.3 ± 8.0 | 20.3 ± 2.5 | 1.52 ± 0.19 | 0.21 ± 0.06 |
| J.J. Finleyc | 451.8 ± 66.4 | 116.1 ± 1.1 | 167.7 ± 15.1 | 52.8 ± 4.8 | 3.88 ± 0.56 | 0.64 ± 0.12 |
| Loftond | 300.5 ± 46.7 | 87.1 ± 19.2 | 126.0 ± 20.3 | 39.7 ± 6.4 | 2.68 ± 0.65 | 0.52 ± 0.13 |

a: 5 school days per week

b: Oak hall had 355 students, J.J. Finley had 436 students, Lofton 247 students

c: Assuming 90% COD conversion to methane

**Table 8:** Total solids (TS), volatile solids (VS), chemical oxygen demand (COD), estimated methane potential, total nitrogen (TN), and total phosphorus (TP) parameters of food waste collected from restaurants. (Mean ± 1 standard deviation).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | TS (%) | VS (%TS) | COD (g/kg) | CH4 (L/kg) | TN (%TS) | TP (%TS) |
| Satchels - dining | 53.4 ± 2.8 | 92.1 ± 6.0 | 715.7 ± 53.9 | 225.5 ± 17.0 | 2.88 ± 0.18 | 0.29 ± .10 |
| The Top -dining | 27.1 ± 3.8 | 93.0 ± 3.2 | 423.9 ± 52.3 | 133.5 ± 16.5 | 2.81 ± 0.39 | 0.32 ± 0.12 |
| **All Dining** | **41.7 ± 13.8** | **92.5 ± 4.9** | **586.0 ± 157.9** | **184.6 ± 49.7** | **2.85 ± 0.29** | **0.30 ± 0.11** |
| Rolls 'n Bowls | 22.3 ± 5.7 | 95.4 ± 1.4 | 271.7 ± 76.9 | 85.6 ± 24.2 | 3.04 ± 1.04 | 0.32 ± 0.10 |
| Satchels - kitchen | 9.1 ± 1.2 | 90.7 ± 1.8 | 100.1 ± 12.7 | 31.5 ± 4.0 | 2.71 ± 0.55 | 0.37 ± 0.07 |
| The Top - kitchen | 18.7 ± 3.9 | 84.5 ± 10.0 | 248.3 ± 89.1 | 78.2 ± 28.1 | 3.98 ± 1.29 | 0.40 ± 0.10 |
| **All Kitchen** | **17.3 ± 7.2** | **91.2 ± 6.7** | **212.2 ± 101.5** | **66.9 ± 32.0** | **3.17 ± 1.08** | **0.36 ± 0.10** |

**Table 9:** Weeklya wet weight (WW), volatile solids (VS), chemical oxygen demand (COD), estimated methane potential, total nitrogen (TN), and total phosphorus (TP) of food waste generated from each restaurant during the restaurant audit. (Mean ± 1 standard deviation).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | WW (kg/week) | VS (kg/week) | COD (kg/week) | CH4 potential (m3/week)b | | TN (kg/week) | TP (kg/week) |
| **Rolls ‘n Bowls** | **142.0 ± 41.5** | **31.4 ± 15.4** | **39.8 ± 19.9** | | **12.6 ± 6.3** | **0.97 ± 0.55** | **0.10 ± 0.04** |
| Satchel’s - dining | 77.3 ± 24.0 | 38.0 ± 11.5 | 55.6 ± 18.6 | | 17.5 ± 5.9 | 1.20 ± 0.43 | 0.11 ± 0.04 |
| Satchel’s -kitchen | 104.7 ± 42.2 | 8.7 ± 3.6 | 10.4 ± 4.0 | | 3.3 ± 1.3 | 0.25 ± 0.10 | 0.03 ± 0.01 |
| **Satchel's - total** | **182.0 ± 57.1** | **46.6 ± 13.8** | **66.0 ± 20.4** | | **20.8 ± 6.4** | **1.45 ± 0.48** | **0.15 ± 0.05** |
| The Top - dining | 159.8 ± 90.5 | 38.0 ± 16.5 | 65.1 ± 30.2 | | 20.5 ± 9.5 | 1.15 ± 0.55 | 0.14 ± 0.10 |
| The Top - kitchen | 176.1 ± 81.2 | 29.0 ± 17.3 | 46.7 ± 31.9 | | 14.7 ± 10.0 | 1.49 ± 1.32 | 0.14 ± 0.11 |
| **The Top - total** | **335.9 ± 91.0** | **67.0 ± 22.6** | **111.8 ± 42.7** | | **35.2 ± 13.4** | **2.65 ± 1.44** | **0.28 ± 0.13** |

a: Rolls ‘n Bowls was opened for 7 days/week, Satchel’s was opened for 5 days/week, The Top was opened for 6 days/week

b: Assuming 90% COD conversion to methane

**Table 10:** Weeklya per customerb wet weight (WW), volatile solids (VS), and chemical oxygen demand (COD) basis, estimated methane potential, total nitrogen (TN), and total phosphorus (TP) of food waste generated from each restaurant during the restaurant audit.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | WW (g/week/ customer) | VS (g/week/ customer) | COD (g/week/ customer) | CH4 potential (L /week/customer)c | TN (g/week/ customer) | TP (g/week/ customer) |
| **Rolls ‘n Bowls** | **525.0 ± 151.1** | **116.8 ± 60.1** | **148.6 ± 78.5** | **46.8 ± 24.7** | **3.61 ± 2.08** | **0.37 ± 0.18** |
| Satchel’s - dining | 174.1 ± 35.4 | 85.5 ± 17.6 | 124.6 ± 27.1 | 39.2 ± 8.6 | 2.69 ± 0.64 | 0.25 ± 0.06 |
| Satchel’s -kitchen | 237.1 ± 92.5 | 19.4 ± 6.9 | 23.3 ± 8.2 | 7.4 ± 2.6 | 0.57 ± 0.23 | 0.08 ± 0.03 |
| **Satchel's - total** | **411.1 ± 99.7** | **104.9 ± 18.1** | **147.9 ± 25.3** | **46.6 ± 8.0** | **3.26 ± 0.69** | **0.33 ± 0.08** |
| The Top - dining | 504.0 ± 205.5 | 122.1 ± 36.8 | 208.7 ± 71.8 | 65.7 ± 22.6 | 3.70 ± 1.26 | 0.45 ± 0.29 |
| The Top - kitchen | 617.3 ± 332.8 | 101.0 ± 66.2 | 163.4 ± 121.2 | 51.5 ± 38.2 | 5.30 ± 5.06 | 0.50 ± 0.42 |
| **The Top - total** | **1121.3 ± 282.6** | **223.1 ± 72.8** | **372.1 ± 141.1** | **117.2 ± 44.4** | **9.00 ± 5.50** | **0.95 ± 0.46** |

a: Rolls ‘n Bowls, Satchel’s, and The Top were opened for 7, 5, and 6 days/week, respectively.

b: Mean customer count at Rolls ‘n Bowls, Satchel’s, and The Top was 273, 442, and 303 customers/day, respectively.

c: Assuming 90% COD conversion to methane