



# Tillamook County Creamery Association 2010 Solid Waste Audits

Presented June 16, 2011

Association of Oregon Recyclers Annual Conference



# Overview of Waste Audit Components

Hand sorts of landfill bound waste at two facilities.

- Columbia River Processing (**CRP**), Boardman, OR
- TCCA historic facility and visitor's center (**TC**), Tillamook, OR

Secondary data collection.

- specific materials generated
- landfill bound waste hauling frequency
- weights, both recorded and estimated

# Elements of Data Analysis

- waste composition
- recycling diversion rate
- waste per unit of production, visitor, inedible cheese
- hauling efficiency

# Variations Between Facilities

- age of facility
- waste hauler context
- types of cheese – no pepper jack peppers at TC
- ice cream at TC only
- ageing facility at TC only
- visitor center at TC only
- customer shipping at TC only
- yogurt, sour cream and butter not produced in house



## Columbia River Processing (CRP) – November 8, 2010



# CRP Landfill Bound Waste

- 22 yard open drop box
- serviced three times per week on average
- 2,887 pound load – fully sorted



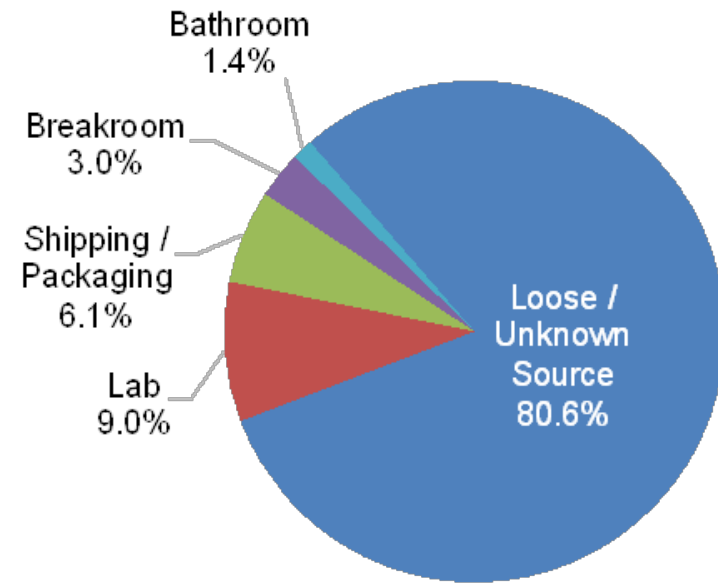
# CRP Source Areas

## loose materials

- cheese
- wood
- non-recyclables
- plastic film
- paper bags
- cardboard

## bagged materials

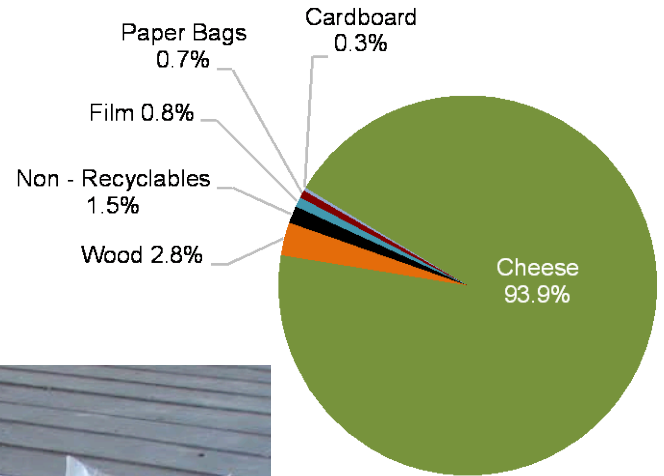
- laboratory
- packaging and shipping
- employee office and breakroom
- bathroom



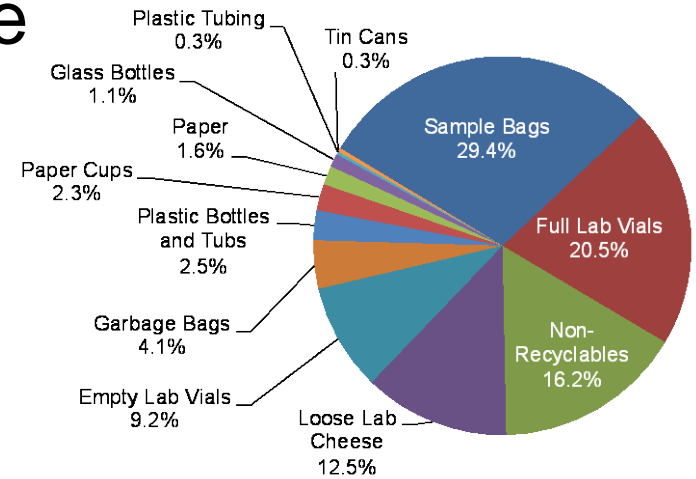


# Loose Materials

loose cheese - 2326 pounds



# CRP Bagged Laboratory Waste



# CRP Shipping and Receiving Waste





## Tillamook County Facility – November 22, 2010



# TC Landfill Bound Waste

## Retail Operations

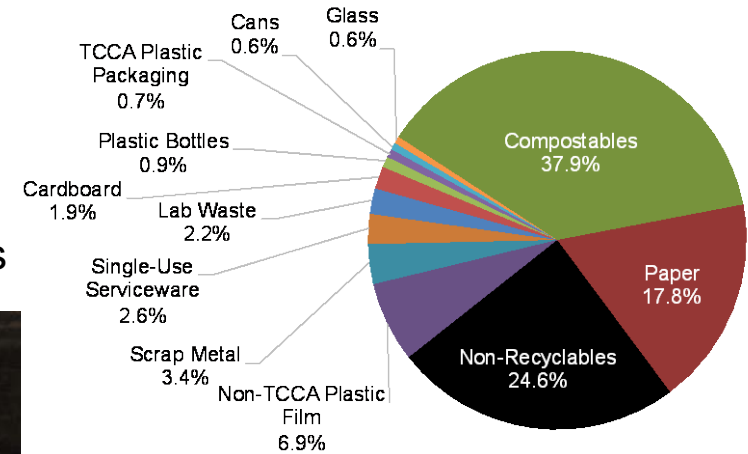
- 20 yard open drop box
- serviced two times per week on average
- 2300 pound load on average in 2009-10

## Production Operations

- 15 yard compactor
- serviced ten times per month on average
- 9200 pound load on average in 2009-10

# TC Retail Operations

- 164 pound sample
- material categories data driven
- 37.9% compostable in commercial program
- 2.6% serviceware with compostable alternatives



# TC Production Operations

- combination of volume estimates and material weights
- visual comparison of bagged waste contents with CRP findings



- 80% of the load by volume estimated to be loose and bagged film
- some shipping and receiving materials
- preponderance of 40 pound cheese block wrapping after ageing process
- tailings from TCCA retail produce plastic packaging







## TC Laboratory Materials



# CRP Hauling & Existing Data

- CRP diverts a number of materials for recycling or reuse but lacks adequate data
- inedible cheese is sent to the landfill

Materials	Actual Weights	Estimate	Neither
Landfill Bound Waste	✓		
Cardboard	✓		
Scrap Metal			✓
Pallets			✓
1-Yard Salt Totes			✓
5-Gallon Plastic Buckets		✓	
55-Gallon Plastic Drums		✓	
Motor Oil		✓	
Hazardous / Universal			✓
E-Waste			✓

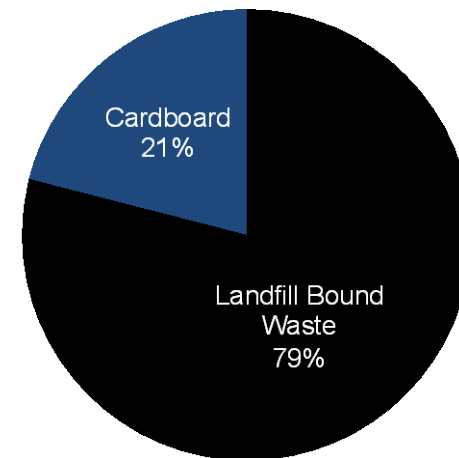
✓ = data available

Material	Disposal Method	Vendor
Landfill Bound Waste	landfill	Sanitary Disposal
Cardboard	recycling	Sanitary Disposal
Scrap Metal	recycling	self hauled to scrap yard
Pallets	re-use	credit applied by supplier
1-Yard Salt Totes	re-use	Pendleton Prison
5-Gallon Plastic Buckets	recycling	plastic recycler
55-Gallon Plastic Drums	recycling	plastic recycler
Motor Oil	n/a	no current recycler
Hazardous / Universal	recycling	recycler unknown
E-Waste	re-use	self hauled and sold to employees

# CRP Monthly Waste & Diversion Rate

- total estimated monthly waste 58,319-lbs (29 tons)
- diversion rate unknown due to insufficient data

Material	Monthly Average Waste (pounds)	Percentage of Estimated Total Monthly Waste
Landfill Bound Waste	46,064	79%
Cardboard	12,255	21%
Scrap Metal	insufficient data	n/a
Pallets	insufficient data	n/a
1-Yard Salt Totes	insufficient data	n/a
5-Gallon Plastic Buckets	insufficient data	n/a
55-Gallon Plastic Drums	insufficient data	n/a
Motor Oil	insufficient data	n/a
Hazardous / Universal	insufficient data	n/a
E-Waste	insufficient data	n/a
<b>Total Estimated Monthly Waste</b>	<b>58,319</b>	
<b>Estimated Facility Diversion Rate</b>		<b>n/a</b>



# TC Hauling & Existing Data

- TC diverts inedible cheese to animal farm
- receives a higher number of actual material weights
- self hauls or sells a number of materials

Material	Actual Weights	Estimate	Neither
Landfill Bound Waste	✓		
Cardboard	✓		
Inedible Cheese		✓	
Scrap Metal	✓		
55-Gallon Plastic Drums			✓
5-Gallon Plastic Buckets			✓
Motor Oil	✓		
Mixed Paper		✓	
Hazardous / Universal	✓		
E-Waste			✓

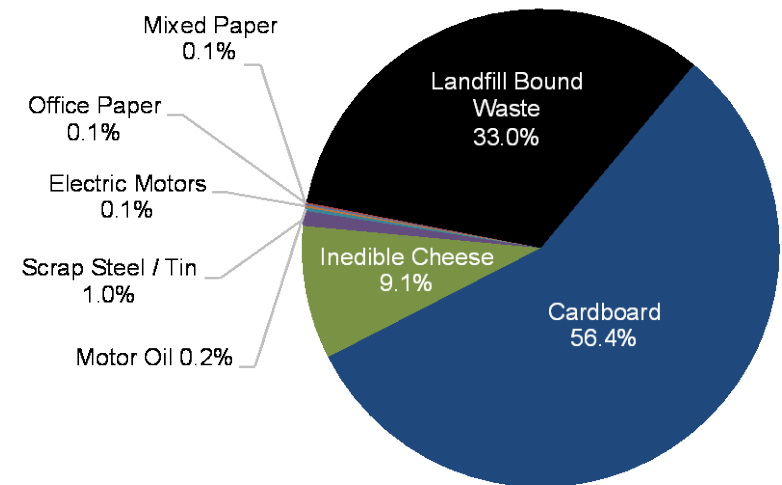
✓ = data available

Material	Disposal Method	Vendor
Landfill Bound Waste	landfill	City Sanitary Service
Cardboard	recycling	Columbia Corrugated Box
Inedible Cheese	recycling	mink farm
Scrap Metal	recycling	Strong Metals
55-Gallon Plastic Drums	recycling	Farm Store
5-Gallon Plastic Buckets	re-use	sold on-site
Motor Oil	recycling	Thermo Fuels
Mixed Paper	recycling	self hauled to Averill Recycling
Hazardous / Universal	recycling	self hauled to Averill Recycling
E-Waste	re-use	self hauled and sold to employees

# TC Monthly Waste & Diversion Rate

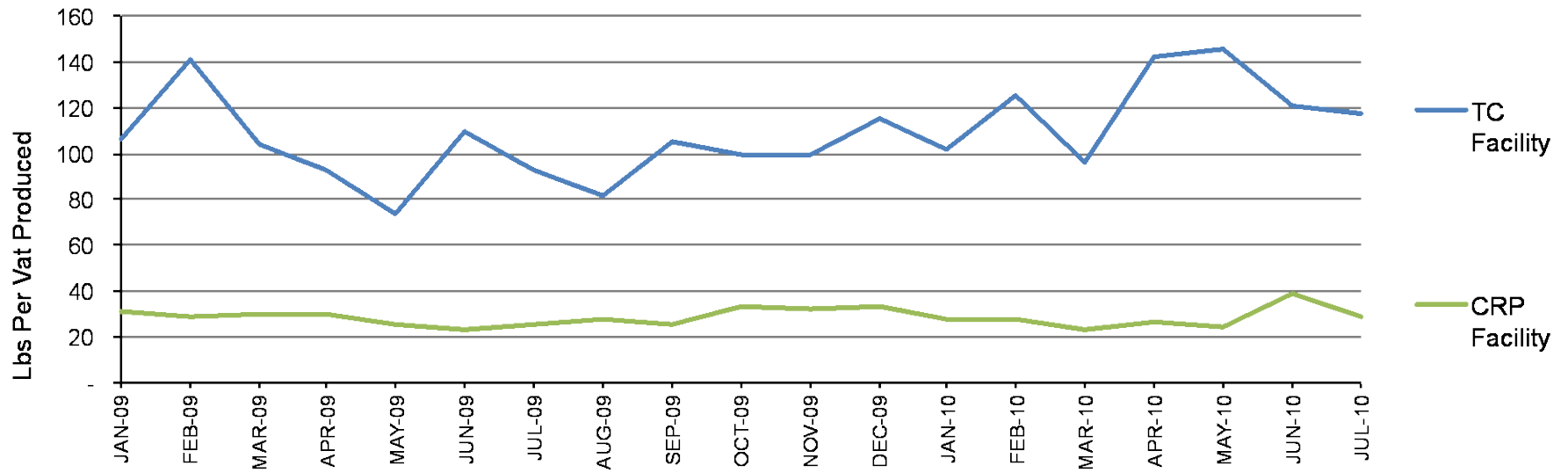
Material	Monthly Average Waste (pounds)	Percentage of Estimated Total Monthly Waste
Landfill Bound Waste	109,846	33.0%
Cardboard	187,367	56.4%
Inedible Cheese	30,000	9.0%
Scrap Steel / Tin	3,333	1.0%
Motor Oil	801	0.2%
Electric Motors	433	0.1%
Office Paper	333	0.1%
Mixed Paper	333	0.1%
55-Gallon Plastic Drums	insufficient data	n/a
5-Gallon Plastic Buckets	insufficient data	n/a
E-Waste	insufficient data	n/a
Stainless Steel	158	0.0%
COD Vials	18	0.0%
Florescent Tubes	15	0.0%
Gasket Material	5	0.0%
Light Ballasts	0.5	0.0%
Mercury Thermometer	0.1	0.0%
Solvents / Paint / Ink	32	0.0%
<b>Total Estimated Monthly Waste</b>	<b>332,675</b>	<b>100%</b>
<b>Estimated Facility Diversion Rate</b>		<b>67.0%</b>

- total estimated monthly waste 332,675-lbs (166 tons).
- estimated recycling diversion rate 67%



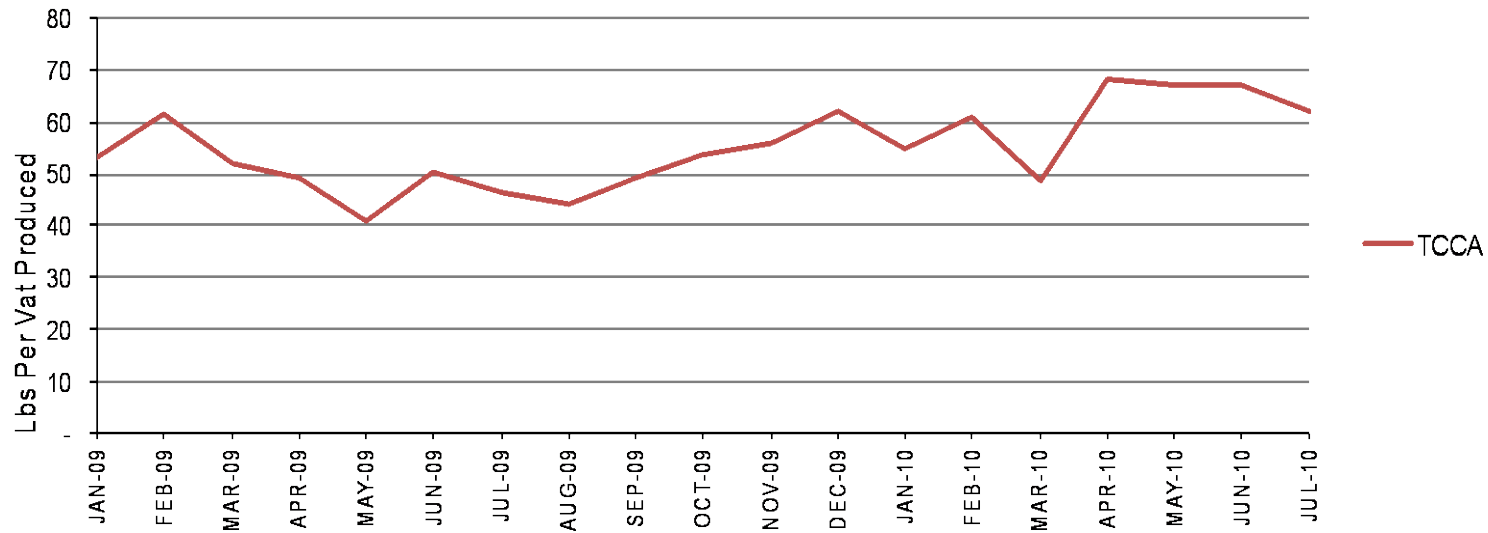
# CRP & TC Waste Per Vat Produced

Total Landfill Waste per month (lbs) / Total Vats Produced per month



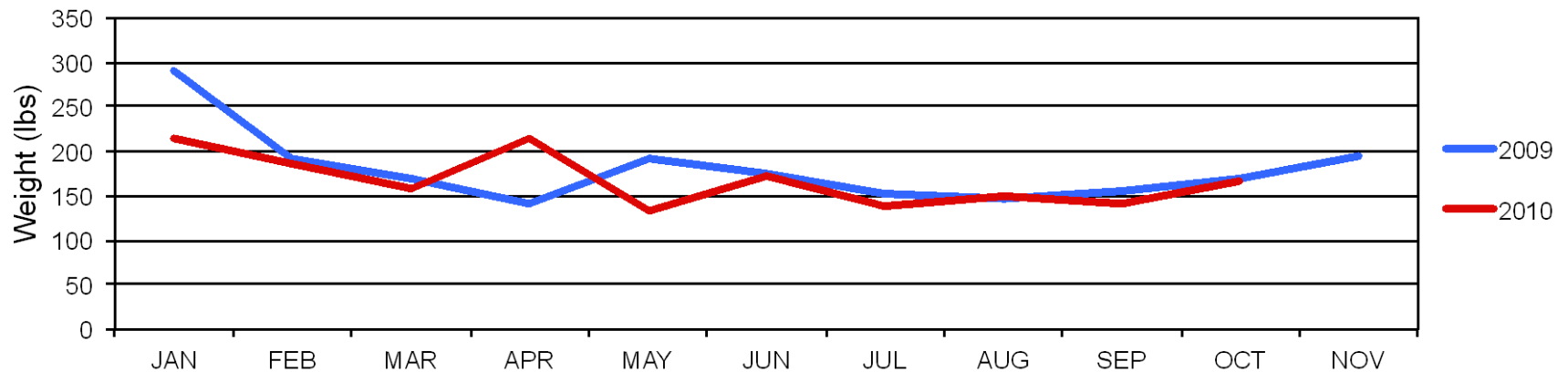
# TCCA Waste Per Vat Produced

Total Landfill Waste per month (lbs) / Total Vats Produced per month



# TC Retail Waste Per Visitor

Retail Landfill Waste per month (lbs) / (Total visitors per month / 1,000)



# Areas of Recommendations

- waste minimization and recycling
- solid waste tracking and metrics
- tell the TCCA sustainability story

