

Challenges Faced When Designing and Developing A Container Recycling Program



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What is Recycling?



A resource recovery method involving the collection, separation, and processing of scrap materials

and

their use as raw materials for manufacture into new products.

The Recycling Equation



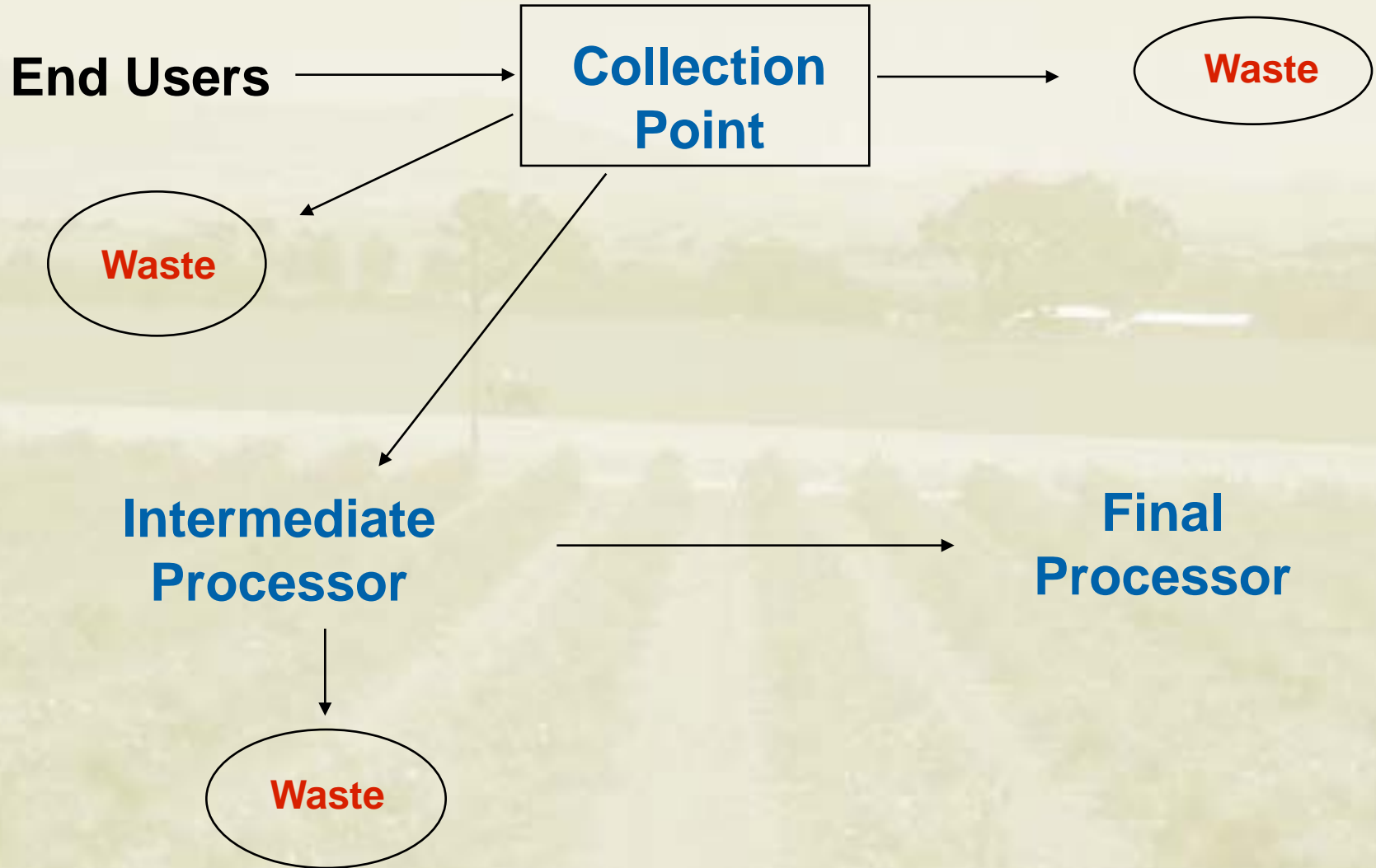
Collection * Separation * Processing =
Recycling Rate

For example:

If there are 1 million pounds of plastic and 20% (200k) is collected, 80% (160k) of that may be suitable for processing. Of that, say that 80% (128k) is actually processed into another product. The recycling rate is

$$.20 * .80 * .80 = 12.8\%$$

Materials Flow Path



Collection Site Issues

Accepting Empty Containers

- Containers must be inspected when received unless there is a plan to triple rinse dirty containers and manage the rinsate appropriately.
- ▶ Staffed vs. unstaffed locations
- ▶ Continuous collection vs. collection days
- ▶ Willingness to reject containers
- ▶ Ability to rinse containers
- ▶ Ability to manage rinsate

Collection Site Issues

Managing Rejected Containers

- There will always be some rejected containers at a collection site.
- ▶ If they are sent home with the end user, what will they do with them?
- ▶ If they are left at the collection site, the options include:
 - washing, or
 - disposal as waste

Collection Site Issues

Storing Containers until Pre-Processing

- Plastic containers are mainly air and they take up a lot of volume.
- ▶ Triple rinsed pesticide residue may still cause exceedances of soil cleanup standards
- ▶ Uncompacted containers can take up too much room in a warehouse
- ▶ Chippers are expensive for low volume. Bailing may be an economical method of volume reduction.
- ▶ Storage in bags or empty trailers may minimize storage needs

Transportation Logistics

- Dedicated hauling of uncompacted empty containers is cost prohibitive
 - ▶ The most common scenario is to have dedicated collection days and have a chipper on site for volume reduction.
 - ▶ ACRC pilot projects have explored other collection scenarios
 - ▶ Agriliance and UAP have collected from customers

Summary



- Containers must be inspected when received unless there is a plan to triple rinse dirty containers and manage the rinsate appropriately.
- There will always be some rejected containers at a collection site.
- Plastic containers are mainly air and they take up a lot of volume.
- Dedicated hauling of uncompacted empty containers is cost prohibitive

Questions



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