

# Updates about Carton Recycling Recycling Association of Minnesota November 1, 2018



# Welcome!

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- Welcome
- Today's Speakers
  - Jason Pelz, Carton Council of North America
  - Mark Bond, Fox River Fibers
  - Bill Keegan, Dem-Con
- Question & Answer
- Adjourn by 12:15 pm

# The Speakers



Jason Pelz  
Carton Council



Mark Bond  
Fox River Fibers



Bill Keegan  
Dem-Con

# Thank you to our host



[www.recycleminnesota.org](http://www.recycleminnesota.org)

Special thanks to:

Brita Sailer, Executive Director

Bill Keegan, Board of Directors

Jodi Taitt, Board of Directors



# Opportunities for Carton Recycling November 2018

**Jason Pelz**  
Vice President of Recycling Projects,  
Carton Council North America and  
Circular Economy Director, Tetra Pak



# Cartons are Recyclable

- Carton recycling is a standard practice globally
- Cartons have been recycled in the U.S. for more than two decades
- Good domestic and export demand for Grade 52



# THE CURRENT STATE OF CARTON RECYCLING

62.9% HOUSEHOLD ACCESS



73,396,183 HOUSEHOLDS WITH ACCESS



13,500 COMMUNITIES WITH ACCESS



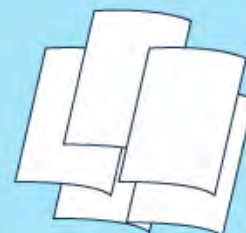
49 STATES



83 OF TOP 100 U.S. COMMUNITIES



STRONG CARTON RECYCLERS IN NORTH AMERICA



\*AS OF THE END OF SEP. 2018

# Over 60% Access = Mainstream

1. Food and beverage carton recycling is now recognized as **mainstream**
2. The standard recycling logo can be used on all food and beverage cartons (according to the FTC Green Guidelines)
3. A broad, national call to action can be communicated



RECYCLECARTONS.COM



# Cartons are Recyclable

Recognized by ISRI:  
World's Leading  
Recycling Markets  
Organization in latest  
advisory meeting  
(Wastecon)

**– A GUIDE TO –  
A BETTER BIN**  
RECOMMENDED PRACTICES BY THE RECYCLING INDUSTRY

**ACCEPTABLE/PREFERRED\***

- Corrugated Cardboard**  
(Waxy outer layer, wax paper)
- Boxboard**  
(Dry-food boxes, paper bags, egg cartons, & rolls, NO wax paper)
- Junk Mail, Periodicals, & Office Paper**  
(Envelopes, catalogs, & soft cover books, NO wax or shredded paper)
- Food & Beverage Cartons**  
(Aspirin bottles, milk, juice, both cartons) 
- Rigid Plastic Bottles & Containers**  
(#1, #2, & #5 plastics)
- Metal & Food Cans**  
(Aluminum, tin, & foil)
- Glass Bottles & Jars**  
(Food & beverage bottles & jars)

**PROHIBITED**

- BATTERIES OF ANY KIND**  
DON'T BELONG
- TANGLES**  
DON'T BELONG
- PLASTIC BAGS**  
DON'T BELONG
- BAGGED RECYCLABLES**  
DON'T BELONG
- CLOTHING/TEXTILES**  
DON'T BELONG
- FOOD WASTE/ LIQUIDS**  
DON'T BELONG
- SCRAP METAL ITEMS**  
DON'T BELONG
- ELECTRONIC WASTE ITEMS**  
DON'T BELONG
- NO Medical Waste**  
(Rubber gloves, sharps, pills, etc.)
- NO Hazardous Materials or Explosives**  
(Find safe and secure disposal near you)
- NO Toys, Hangers, or Shoes**  
(Donate gently used items)
- NO Coated Paper Items**  
(Items with a plastic lining such as instant coffee or sports cups, & waxed paper plates)
- NO Plastic Wrap, Films, or Tarps**  
(Food bags or wrappers, plastic wrap, shrink wrap, or tarps)
- NO Wood, Waste, or Tires**  
(Stump, chains, human/ pet or yard waste, or rubber)
- NO Disposable Items**  
(Styrofoam™, napkins, paper towels, tissues, plastic utensils, dirty recycling, regular tops, condiment packets, straws, stirrers, & coffee pods)
- NO Ceramics or Baking Glass**  
(Donate gently used items)

**ISRI**  
Voice of the Recycling Industry™

For more information on what makes a Better Bin, visit [ABetterBin.org](http://ABetterBin.org)

\*Source: ISRI's guidelines for inbound recyclables for Materials Recovery Facilities. Artwork provided courtesy of Cosella Waste Systems, Inc.

# Myth: China, Mixed Paper and Cartons



## Facts

- China has never been a home for US Post Consumer Aseptic and Gable top Cartons
- Carton Council has always advocated for the sorting of Grade 52 because of overall value
- PC Carton bales are worth more than mixed paper bales

# Best Way to Ensure Cartons are Recycled

Cartons (Grade #52):

- Carton pricing generally follows Sorted Office Paper (SOP) pricing – varies by location of source, fiber mix, etc.
- Good domestic and export demand for sorted cartons
- Export pricing varies based on shipping container weights and locations



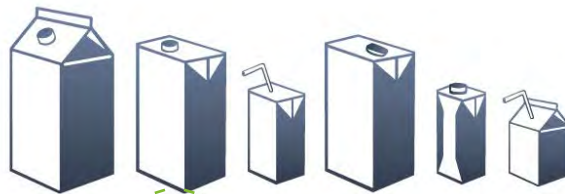
# Sorters of Grade 52 In Minnesota

- Republic-Minneapolis/Inver Grove Heights
- Eureka-St. Paul
- SRC Recycling -Wyoming
- Randy's-St. Paul Park
- Dem Con-Shakopee
- Carver County-Chaska
- Kandiyohi County-Wilmar
- McLeod County-Hutchinson
- Rice County-Dundas
- Northern MN Recycling/St. Louis County-Virginia

# Demand for Post Consumer Cartons, Grade 52

*A variety of different uses for cartons*

With 100% virgin fiber,  
cartons contain some of  
the best fiber in the  
stream



Fiber -  
Pulp



Poly/Al Mix -  
Pulp  
Byproduct

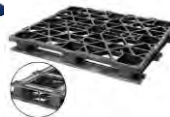


Whole Cartons



recycled  
carton

Tissue and Paper Products



Plastic Products



Building Products



# Existing Recycling Infrastructure for Grade 52

Fox River Fiber-De Pere, WI: 500 TPM capacity for Grade 52

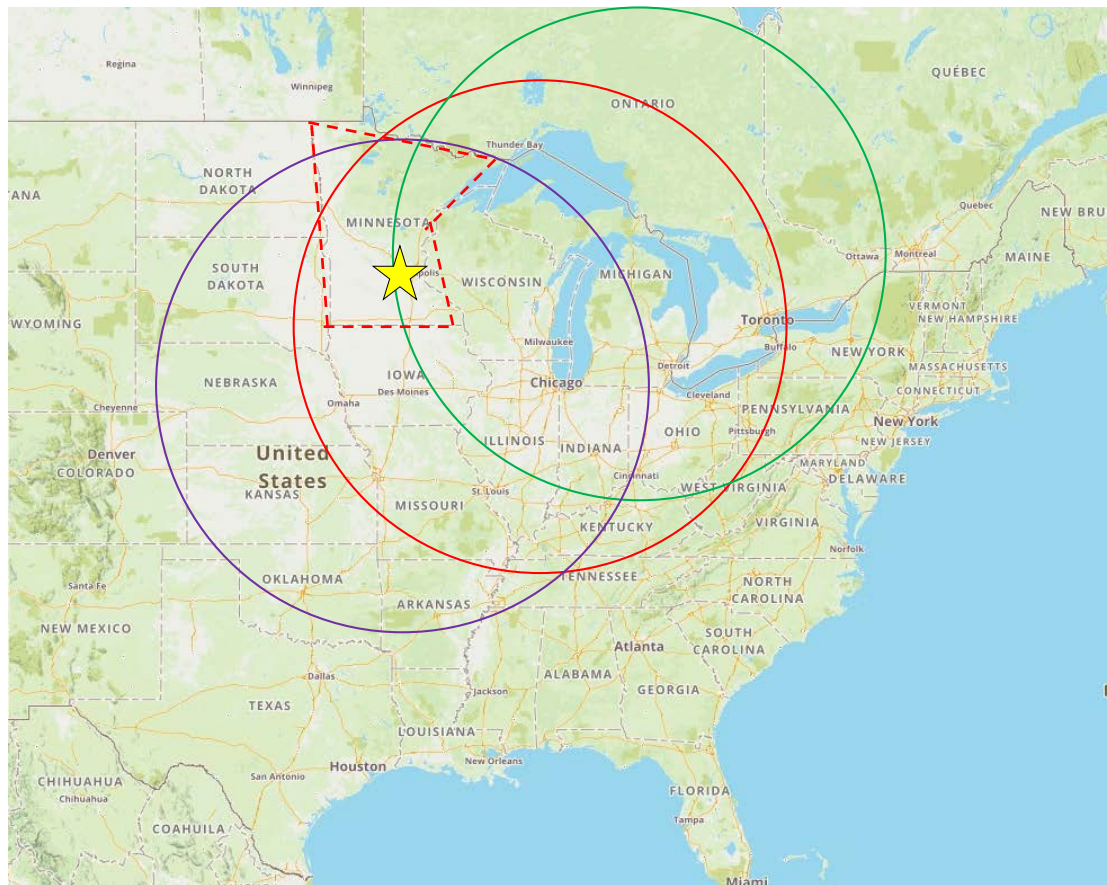
CMR/Rewall, Des Moines, IA: 600 TPM capacity for Grade 52

Great Lakes Tissue-Cheboygan, MI: 800 TPM capacity for Grade 52

KC Mexico (Ecatepec & Bajio Mill): 500-1000 TPM Capacity for Grade 52. KC Mexico's purchasing capabilities are throughout the US. They import loads via sea container, railcar and truck.

Additional recyclers in Malaysia, Thailand, Japan and South Korea

**\*\*Circles show 650 mile radius of coverage**



# New and Expanding End Markets for Grade 52

CMR/Rewall	Existing facility in Iowa. <b>New facility announced for Colorado. Start-up scheduled for May 2019</b>
Ecomelida	New facility to be built in Orangeburg County, SC. Capacity of 10,000 TPM of Grade 52. Will use both fiber and poly & poly/Al residuals for finished products.
Paper Corea	Recently installed pulping system at Gunsan, South Korea location. Capacity for North American Grade 52 is 1100 TPM. Plans to commence purchasing end Q4 of 2018.

# Expected Recycling Infrastructure for Grade 52 in NA by Q3 2019



## Export Opportunities to Recycle Cartons

- South Korea
- Japan
- India
- Thailand

-China is not an end market for Grade 52



# Active Brokers

Potential Industries

Long Beach, CA

Tony Fan

[Tony.fan@potentialindustries.com](mailto:Tony.fan@potentialindustries.com)

Storelli Recycling

Fort Lauderdale, FL

Victor Storelli

[victor@storellirecycling.com](mailto:victor@storellirecycling.com)

The Paper Tigers

Bannockburn, IL

Nick Halper

[nhalper@papertigers.com](mailto:nhalper@papertigers.com)

Omnisphere Corporation

Miami, FL

Alex Valdes

[avaldes@omnisphere.net](mailto:avaldes@omnisphere.net)

ICF Korea LTD.

South Korea

Paul Chung

[paulchung01@gmail.com](mailto:paulchung01@gmail.com)

Ace Fibers Ltd.

Ontario, Canada

Ajay Jindal

[acefiberltd@gmail.com](mailto:acefiberltd@gmail.com)

Purchasing Agent for ReWall  
Recyclables Materials Marketing  
(ReMM)

Atul Nanda

[atul@remm.ca](mailto:atul@remm.ca)

# The Value of Recycling Cartons

- Cartons represent some the highest-quality fiber in the stream.
- Programs that sort cartons as Grade 52 are moving materials for a competitive price
- Demand for higher quality of paper and containers in current market is a perfect opportunity to begin sorting Grade 52 out of other materials
- It's a win for your customers – they want to recycle as much as possible (CCNA research; 2015, 2017)

# Let's Solve the Right Problem...Contamination

- Disruption has happened before and will happen again
- Removing cartons from your recycling list will not lead to China lifting its ban on mixed paper.
- Sorting cartons into their own grade will create a valuable and marketable commodity
- Resources and time to communicate/re-educate consumers; just as a “rising tide lifts all boats” when it comes to adding materials, it can have an opposite “negative” effect when removing materials





# Company Overview

## **Recycled Fibers**





## SUSTANA

Committed to **industry-leading product quality, continuous improvement and environmental stewardship**, Sustana promotes and applies sustainable manufacturing and business practices to deliver premium, eco-friendly recycled fibers to customers across North America.

# Overview

1. Who we are
2. Product information
3. Sustainability
4. Life cycle assessment



## FOX RIVER FIBER

De Pere, Wisconsin, USA



- Startup: **1992**
- Capacity: **150,000 short tons/year**
- Sourcing: **US, primarily the Midwest**

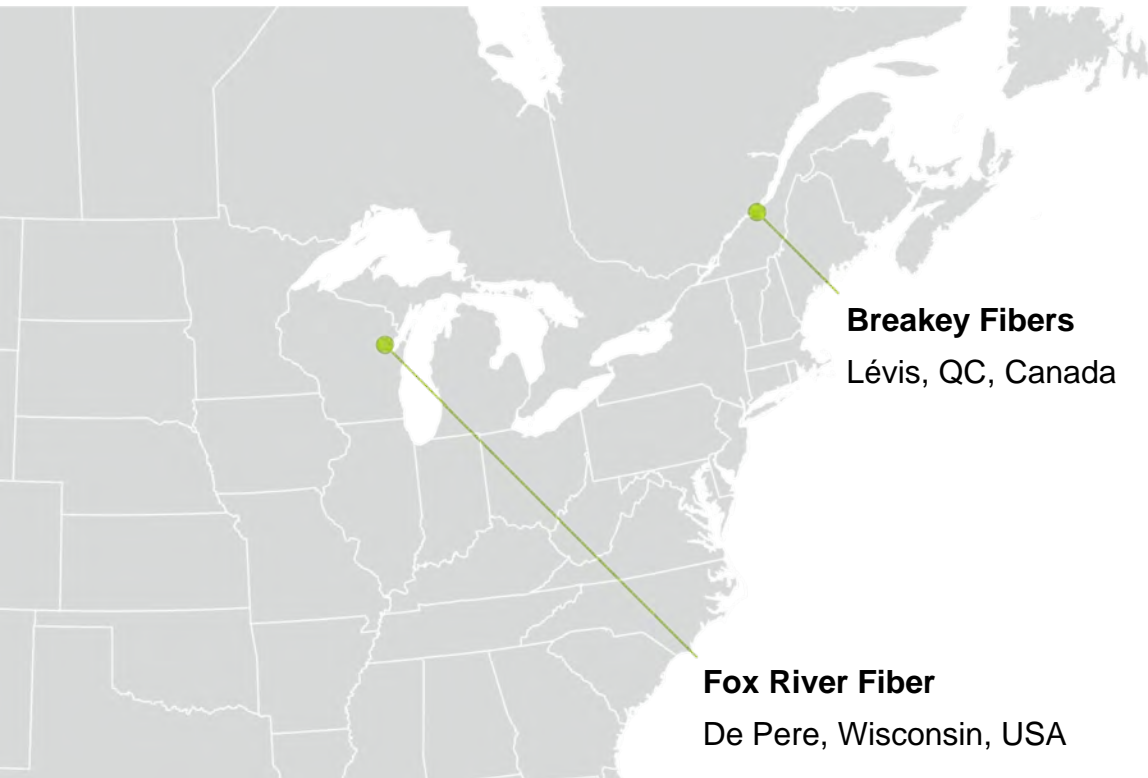
**The only mill in the United States that produces FDA-compliant recycled fibers for direct food contact under all conditions of use.**

## BREAKEY FIBERS

Lévis, QC, Canada



- Startup: **1985**
- Capacity: **93,000 short tons/year**
- Sourcing: **Northeastern US, Eastern Canada**



## FACILITIES

- Strategic locations
- Automated systems (quality and consistency)
- Commitment to sustainable manufacturing:
  - Energy efficiency
  - Water conservation
  - Advanced wastewater treatment technology owned and operated by the mills

# Product information

We strike a responsible balance between minimizing our environmental impact and maximizing product performance.

2

# Products



## Printing & Writing Fiber

- 100% Post Consumer Fiber
- UV Dead to 88.5 brightness
- All types of Printing papers



## FDA Food & Packaging Fiber

- 100% Post Consumer Fiber
- FDA No Objection
- Zero fluorescence



## Tissue Fiber

- High freeness
- Low ash
- 84 brightness

# EnviroBright™



## Applications

- Commercial papers
- Book publishing
- Printing & writing
- Ink-jet



100%



The mark of  
responsible forestry

**100% POST-CONSUMER FIBER**

**UV DEAD TO 88.5 BRIGHTNESS**

**ALL TYPES OF PRINTING PAPER**



Manufactured exclusively at the Fox River Fiber facility in De Pere, WI.

**Unmatched purity.  
Unlimited potential**

### Applications

- Food service packaging
- Paper coffee cups
- Warming bags



100%



The mark of  
responsible forestry

**100% POST-CONSUMER FIBER**

**FDA-COMPLIANT**

**GUARANTEED ZERO FLUORESCENCE**

# EnviroLife™

No Objection Letter (NOL) from the U.S. Food and Drug Administration (FDA) states the fiber “is of a purity suitable for food-contact use.”

- Can comprise 100% of food and beverage packaging without a barrier
- FDA-compliant for contact with all types of food under all conditions
- Zero fluorescence, a growing demand in the food packaging industry

Manufactured exclusively at the Fox River Fiber facility in De Pere, WI.



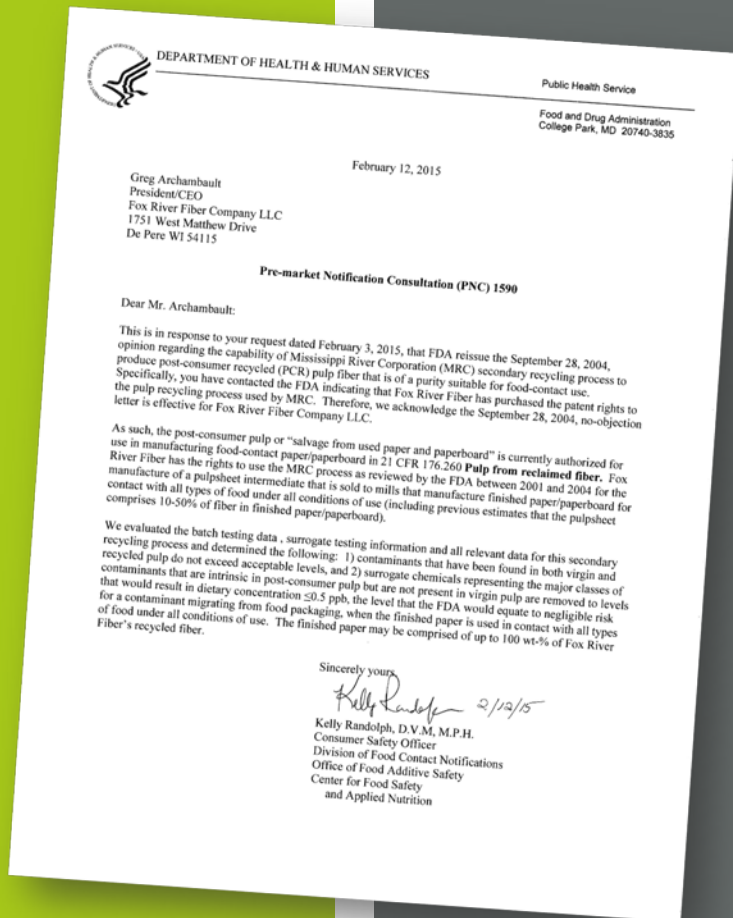


# Unmatched Purity. Unlimited Potential.

FDA Certified,

## No-Objections Letter

- No Exceptions
- No Barrier
- 100% Inclusion
- Zero Fluorescence
- Under ALL Conditions.





# EnviroTouch™



## Applications

- Tissue
- Technical and specialty
- White top liner



**HIGH FREENESS**

**LOW ASH**

**LOW STICKIES**

# EnviroBond™



## Applications

- Molded fiber packaging
- Egg cartons
- Specialty products



100%



The mark of  
responsible forestry

**STRENGTH**

**DURABILITY**

**CONSISTENT FORMATION**

# Sustainability

Sustana's model leverages state-of-the-art technology to deliver high-quality products without sacrificing performance or the environment.

3



Did you know that coffee cups, used juice and food containers, and polyethylene-coated packaging papers can be recycled?

**Every year Sustana recycles enough paper to:**

- Fill over **4,700 50' rail cars** – end to end this would be **over 45 miles long**
- Reduce landfill space by **over 1 million cubic yards**
- Save over **4 million trees**

# Life cycle assessment (LCA)

We measure our success by the impact our processes and products have on wildlife, people and the planet.

4





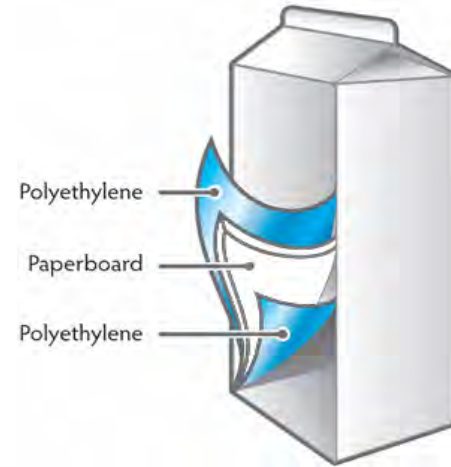


# “Yes – Polycoated Cartons and Cups Can be Recycled

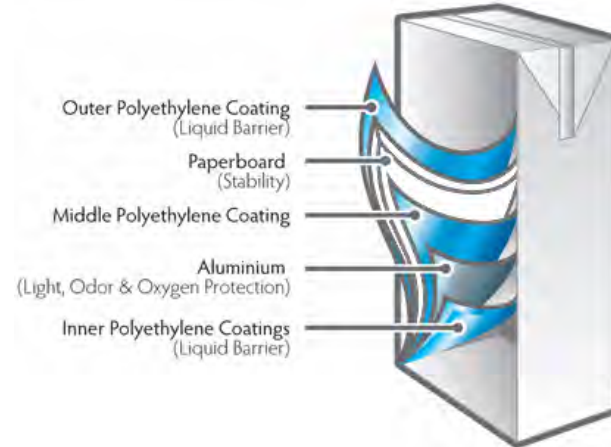


# Cartons

- Gable Top cartons



- Aseptic Packaging





















[Sustanagroup.com](https://www.sustanagroup.com)

## CONTACTS – INFORMATION

- Steve Minor: [sminor@sustanagroup.com](mailto:sminor@sustanagroup.com)
  - Fiber Procurement 920 347 4439
  - Brian Watermolen: [bwatermolen@sustanagroup.com](mailto:bwatermolen@sustanagroup.com)
  - Supply Chain Director 920 347 4420
  - Mark Bond: [mbond@sustanagroup.com](mailto:mbond@sustanagroup.com)
  - Sales, Mkt, Closed Loop 908 578 7979
- 
- Closed Loop – Starbucks
  - <https://m.youtube.com/watch?v=HdpoCO1Qjig>

[www.sustanagroup.com](http://www.sustanagroup.com)





Carton Recycling:

A MRF Perspective

The logo for the Recycling Association of Minnesota features a stylized map of the state of Minnesota in dark blue. A thick, light green brushstroke forms a circular arrow around the map, symbolizing the recycling process.

RECYCLING  
ASSOCIATION  
of Minnesota

The logo for the Carton Council shows a grey illustration of a carton being recycled into a circular arrow.

CARTON  
COUNCIL

# The Benefits

- Increased diversion from landfills
- Capture high-value, long grain fiber
- Recycling cartons supports a beneficial package
  - Portable & light container
  - Food safety – protected from harmful bacteria
  - No refrigeration required (aseptic)
  - Low packaging to product ratio
  - Storage efficiency due to shape
  - Less energy to heat and sterilize product & container
  - Protection of nutritional content (less heat, no preservatives)



# The MRF Challenge

- Currently small fraction of inbound products
- Dedicating real estate for capture
- Labor shortages
- Lower commodity value than most other packages
- Storage and associated product quality impacts





# Customer Waste Sorts Exa

	Sort 1	Sort 2	Sort 3	Sort 4	Sort 5
idity	7/3/2017	7/6/2017	11/20/2017	12/1/2017	3/8/2018
		16.11%	11.89%	9.35%	11.84%
					0.00%
		42.76%	50.14%	46.72%	47.76%
d				0.07%	0.08%
				2.19%	2.14%
		0.28%	0.20%	0.48%	0.64%
				0.26%	0.31%
		2.18%	2.54%	3.22%	2.64%
		3.86%	4.45%	5.43%	5.45%
				1.79%	1.84%
				1.32%	1.30%
		0.00%	0.00%	0.00%	0.00%
		0.87%	0.79%	0.92%	1.15%
		0.30%	0.30%	0.45%	0.22%
		24.77%	19.33%	23.38%	19.18%
		0.07%	0.14%	0.12%	0.36%
		3.39%	3.23%	2.97%	3.32%
		1.30%	1.53%	1.14%	1.78%
	0.00%	100.00%	100.00%	100.00%	100.00%
					0.00%
					0.00%
					0.00%

## Inbound Quantity

- 2015 – 0.1% of inbound stream
  - 70 tons/year (3.5 truckloads)
- 2018 – 0.2% of inbound stream
  - 140 tons/year (7 truckloads)





# Labor

- Labor shortage
  - 3.7% - September 2018 – lowest rate in 49 years!
  - 3.5% - December 1969
- Cannot find labor, regardless of competitive wages



# Automation

- Reduce reliance on manual labor - #1 challenge for MRFs
- Improved processing efficiency – uptime, processing hours, etc.
- Repurpose manual sortation jobs to oversight and maintenance of system



# Optical Sorters

- Can be used to capture and sort cartons
- Tried and true technology & rapidly improving
- Substantial capital investment
- Augment with AI to improve capture efficiency







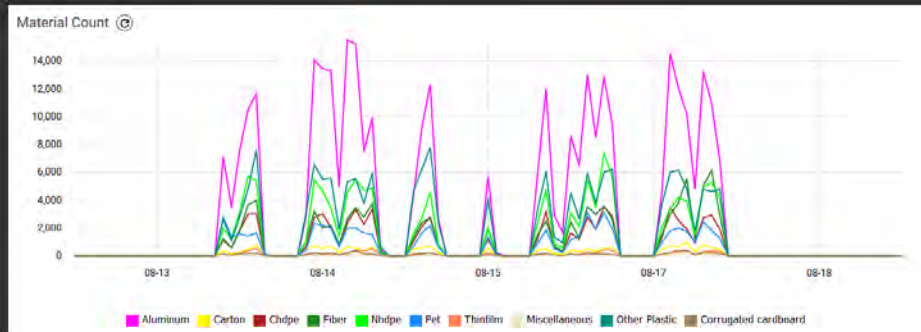
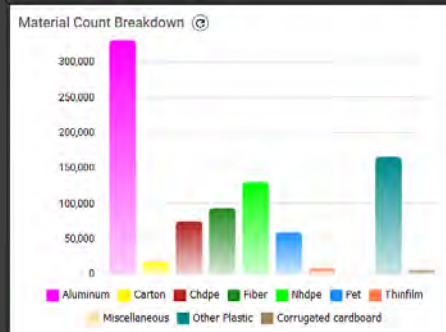
- Emerging technology – less capital investment than optics
- Mechanical & material recognition advancements
- Goal: Provide work of one FTE
- Enables automated capture of cartons/aseptics

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## Robotics

# Artificial Intelligence (AI)

- Material recognition in optical spectrum
- Can be used to efficiently capture cartons
- Can also be used for material mass, material count, product identification, conveyor utilization, & other processing metrics to improve efficiency







# Educational Outreach

- Recyclability & access
- Benefits of cartons/aseptic
- Proper preparation (especially at schools)
- Dem-Con Green Grades Program
  - Education center built onto MRF
  - Facility tours
  - Mobile education trailer (schools, community events, etc.)
  - Curriculum modules for schools
  - Classroom presentations



# In Summary

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- Economic, physical, & logistical challenges exist for capturing cartons/aseptic
- Automation, community outreach, and education can help
- Cartons are worth recycling





# QUESTIONS?

[www.dcmrf.com](http://www.dcmrf.com)

**Bill Keegan 612-845-5075**

[billkeegan@dem-con.com](mailto:billkeegan@dem-con.com)





# Questions?

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- Please use the “chat” feature to type your question.
- Questions and answered will be compiled and shared with attendees.

**Thank you!**

