



**DOLLAR GENERAL®**  
**INTERNSHIP PROGRAM**

# Milk Crate Tracking and Reconciliation

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VP: Riley Seals

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# Group Introductions

## Jonathan Hundley

University of Tennessee  
Supply Chain Management  
Business Analytics  
Orlando Fresh



## Mitchell Carberry

Western Kentucky University  
Business Management  
Bowling Green Fresh



## Steven Liao

Wake Forest University  
Applied Mathematics  
German  
Clayton Fresh



## Matthew Whittemore

Auburn University  
Supply Chain Management  
Montgomery Fresh



## Mugunthvenkat Karthikeyan

Virginia Commonwealth University  
MS Information Systems  
Blair Fresh





# Agenda

CURRENT STATE & GOALS

FINDINGS

RECOMMENDATIONS

RECAP



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# Current State



Serving customers via self-distribution since 2019



2023 missing crates: approx. 1.2 million crates  $\approx$  \$3 million



Ad hoc asset pickup processes, lack of data visibility



Unstandardized existing asset-tracking method & supply chain-wide spreadsheets



# Goals



Observe and analyze



Identify and investigate



Strategize and execute



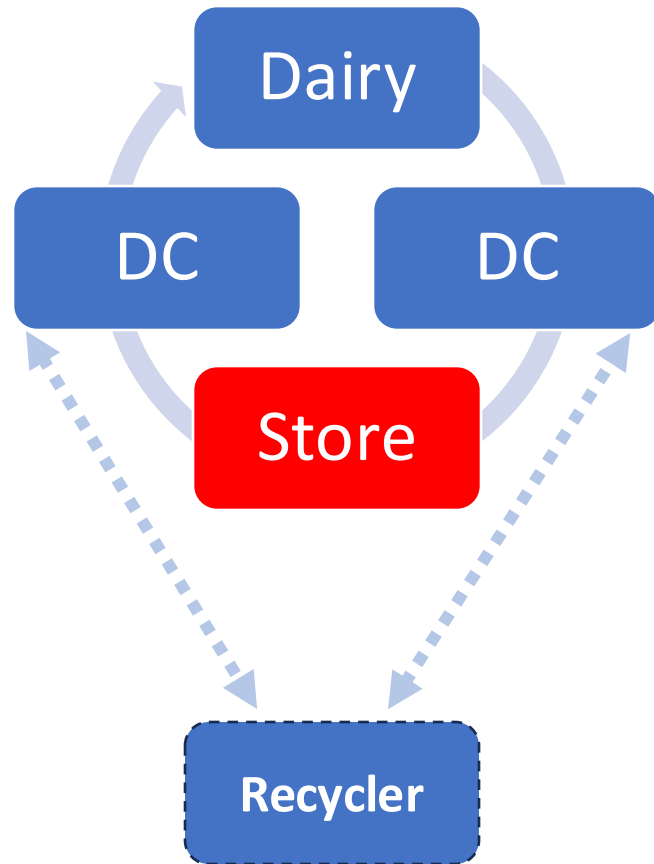
Address and Reduce



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# Findings



- Untracked and Unaccounted Milk Crates
- Unsecured Assets at Stores
- Inconsistent Tracking System
- Miscommunication between DCs
- Unpredictable Pickup System



# DG Distribution Center Recommendations

## Data

- IB to DCs through week 13: 6,826,463
- OB to Dairy through week 13: 6,738,541
- Difference through week 13: -159,384 crates

## Insights

- Inconsistent and inaccurate tracking of cycling audit form
- Milk Crate Tracking sheets are too inconsistent across each variation of them

## Actions

- New accountability and incentive schemes for accurately filling out audit form
- Consistency between employees and Distribution Centers

## Outcome

- Standardize the tracking process across each tracker to reduce the possibility of misinformation
- Create a SOP for the process of returning milk crates from Dry DCs to Fresh DCs



**DOLLAR  
GENERAL**

DOLLAR GENERAL CORPORATION - PROOF OF DELIVERY  
Westville Distribution Center (96430) Load #:  
6500 A US 421 Westville, IN 46391

Run #

BOL:

7-8-24

Ready Date:

Carrier Assigned:

Batch Number:

Tractor #:

Trailer #:  
G99

Trailer Size:

Trailer Dock:

Temp Seal:

Backhaul Seal:

Empty Seal:

Tour Notes: Drivers routed through a pool point for either a backhaul or dunnage return load must consolidate dunnage and provide a yard check. Drivers should always take a 53' empty trailer for backhaul pickups. If a 53' is unavailable, please notify dispatch and take a 48' trailer. Never take a 45' trailer to a backhaul vendor. Drivers must pick up all available rolltainers at each delivery stop. If all will not physically fit on the trailer, then pick up what will fit using the following priority: 1-All Rolltainers with Empty Totes, 2-Nested Empty Rolltainers, and 3-Cardboard Rolltainers.

DC Comments: In case of a trailer breakdown, please contact DG Trailer Maintenance Facility prior to calling Werner Breakdown. 434-517-2018.

LOAD TYPE - Outbound Load

Stop # 1

270 crates  
1 Blue Bin

Activity: DROP

Est. Cartons:

Est. Weight:

Reference Numbers:

EDI ID:

Seal Number:

Activity Remarks:

Rolltainers Delivered:

Rolltainers Picked up:

Description:

Property Damage: YES | NO

Date/Time

MANAGER'S SIGNATURE

All Product Verified Unloaded

Store Manager:

Driver

**THIS SHIPPING ORDER** must be legibly filled in, in ink, in Indelible Pencil, or in Carbon, and retained by the Agent.

Shipper's No. 07102024

Carrier 101 Transport

SCAC

Carrier's No.

at DG DC Clayton

date 7-10-24

from

Consigned to 101 Transport

NC

Destination

State

County

Zip

Delivery Address

Route

Delivering Carrier

Vehicle Number

Number of Packages

Description of Articles

Weight (sub. to correction)

Class or Rate

22

Pallets

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:  
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

FREIGHT CHARGES:

Prepaid ☐

Collect ☐

COD AMT:

\$

TOTAL CHARGES:

Collect On Delivery and remit to

\$

COD FEE:

\$

Prepaid ☐

Collect ☐

\$

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ per

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

Shipper: DG DC Clayton

Carrier:

Per:

Date: 7-10-24

Per:

Date:

9 (Rev. 3/17)

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Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading.



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	A	B	C	D	E	F	G	H	I	J	
1	DC Nam	We	Date	Inbound Trail	PO'S	Inbound Crate Q	Pallets receiv	Return BOL	Return Crate Q	Differen	
87	Atlanta	24	7/14/2024	20363	20Z2R0	1080		18454	0		
88	Atlanta	24	7/14/2024	16922	20Z2Q9	1080		16849	1872		
89	Atlanta	24	7/14/2024	12691	20Z2J2	1035		22120	0		
90	Atlanta	24	7/15/2024	97339	20Z2S2	1080		15053	1872		
91	Atlanta	24	7/15/2024	27701	20Z2R3	990		67564	1872		
92	Atlanta	24	7/15/2024	12780	20Z2S1	1080		14526	1872		
93	Atlanta	24	7/15/2024	69186	20Z2R2	1080		69186	0		
94	Atlanta	24	7/15/2024	27693	20Z2R1	1080		27693	1872		
95	Atlanta	24	7/16/2024	15053	20Z2S3	1080		14519	0		
96	Atlanta	24	7/16/2024	67564	20Z2S6	945		27701	0		
97	Atlanta	24	7/16/2024	20927	20Z2S4	1080		W97341	1872		
98	Atlanta	24	7/16/2024	20902	20Z2S5	1035		27691	1872		
99	Atlanta	24	7/17/2024	16916	2106M8	1080		W97339	2160		
00	Atlanta	24	7/17/2024	69333	2106M9	1080		80309	0		
01	Atlanta	24	7/17/2024	12687	2106N0	1080		12780	1872		
02	Atlanta	24	7/17/2024	27701	2106N1	1080		69186	1872		
03	Atlanta	24	7/17/2024	27691	2106N2	1080		20927	0		
04	Atlanta	24	7/17/2024	18474	2106N3	990		12778	0		
05	Atlanta	24	7/17/2024	822198	2106N4	945		68785	1872		
06	Atlanta										

Atlanta

1	Week	Date	Inbound Trail	Inbound BOL	bound Crate QTY	Outbound Da	Return BOL	Return Crate QTY	Differen	Shift	Recycler Dat	Recycler BOL# OI	Recycler QTY OI	Recycler Return
140	WEEK 22	6/30/2024	3241	20N1M4	972	7/1/2024	13958	1260	288					
141	WEEK 22	6/30/2024	3244	20RV58	984	7/1/2024	13959	1386	402					
142	WEEK 22	6/30/2024	3028	20RV59	977	7/1/2024	13960	0	-977					
143	WEEK 22	6/30/2024	29767	20RV69	1080	6/30/2024	13961	0	-1080					
144	WEEK 22	6/30/2024	29047	20RV70	1080	7/1/2024	13962	0	-1080					
145	WEEK 22	6/30/2024	3460	20RV71	1080	6/30/2024	13963	1512	432					
146	WEEK 22	6/30/2024	3405	20RV72	1080	6/30/2024	13964	0	-1080					
147	WEEK 22	6/30/2024	3410	20RV73	1080	7/1/2024	13965	1512	432					
148	WEEK 22	6/30/2024	3429	20RV74	1080	6/30/2024	13966	1512	432					
149	WEEK 22	6/30/2024	3425	20RV75	1080	7/1/2024	13967	1512	432					
150	WEEK 22	6/30/2024	29388	20RV76	1080	7/2/2024	13968	1638	558					
151	WEEK 22	6/30/2024	3464	20RV77	972	7/1/2024	13969	1512	540					
152	WEEK 22	6/30/2024	3430	20RV62	972	7/1/2024	13970	0	-972					
153	WEEK 22	6/30/2024	3246	20RV63	986	7/1/2024	13971	1260	274					
154	WEEK 22	6/30/2024	3424	20RV88	1026	7/7/2024	13972	0	-1026					
155	WEEK 22	6/30/2024	3461	20RV81	1080	7/2/2024	13973	0	-1080					
156	WEEK 22	7/1/2024	29214	20RV78	918	7/1/2024	13974	1512	594					
157	WEEK 22	7/1/2024	3409	20RV80	1080	7/1/2024	13975	1512	432					
158	WEEK 22	7/1/2024	29324	20RV82	1080	7/1/2024	13976	1512	432					
159	WEEK 22	7/1/2024	3428	20RV83	1080	7/1/2024	13977	1512	432					
160	WEEK 22	7/1/2024	3462	20RV84	1080	7/2/2024	13978	1512	432					
161	WEEK 22	7/1/2024	29652	20RV85	1080	7/1/2024	13979	0	-1080					

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Bowling Green

Clayton

Montgomery

Orlando

Pottsville

Sacramento

San Antonio

Wes ...

⊕

⏪ ⏩

Pottsville

Row Labels	Sum of Return Difference	Sum of Recycler Difference
⊕ Ardmore	-90478	0
⊕ Atlanta	4537	0
⊕ Berkeley	-17748	0
⊕ Clayton	-31446	0
⊕ Montgomery	-38603	0
⊕ Orlando	-35667	0
⊕ Pottsville	7099	0
⊕ Sacramento	0	0
⊕ San Antonio	-36716	0
⊕ Westville	-2961	216
⊕ Zanesville	-8960	13
Grand Total	-250943	229

Weekly Tracker

Row Labels	Sum of Return Difference	Sum of Recycler Difference
1	-131972	-9068
2	-121923	-302
Grand Total	-253895	-9370

Quarterly Tracker

DC Name	Week	Date	Inbound Trail	Inbound BOL #	Inbound Crate Q	Outbound Da	Return BOL	Return Crate Q	Difference	Week	Recycler Dat	Recycler BOL# Ot	Recycler QTY Out	Recycler Return Da
Bowling Green	20	6/18/2024	17110	20KJT7	1080	6/23/2024	0008311	1512	432					
Bowling Green	20	6/18/2024	319018	20KJT6	1080	6/18/2024	0008312	1512	432					
Bowling Green	20	6/18/2024	823202	20KJV4	1080	6/19/2024	0008313	0	-1080					
Bowling Green	20	6/18/2024	319017	20KJT9	1080	6/20/2024	0008314	1512	432					
Bowling Green	20	6/18/2024	26183	20KJV1	1080	6/23/2024	0008315	1512	432					
Bowling Green	20	6/18/2024	319023	20KJT8	1080	6/19/2024	0008316	1512	432					
Bowling Green	20	6/18/2024	10222	20KJV2	972	6/19/2024	0008317	1512	540					
Bowling Green	20	6/18/2024	319016	20KJV0	1080	6/19/2024	0008318	1512	432					
Bowling Green	20	6/18/2024	389006	20KJV5	1080	6/19/2024	0008319	0	-1080					
Bowling Green	20	6/18/2024	319030	20KJV6	1026	6/19/2024	0008320	1512	486					
Bowling Green	20	6/19/2024	319031	20LLW3	1080	6/23/2024	0008321	0	-1080					
Bowling Green	20	6/19/2024	319027	20LLW4	1080	6/23/2024	0008322	1512	432					
Bowling Green	20	6/19/2024	27241	20LLW6	1026	6/23/2024	0008323	1512	486					
Bowling Green	20	6/19/2024	319026	20LLW7	972	6/20/2024	0008324	1512	540					
Bowling Green	20	6/19/2024	319019	20LLW1	1080	6/20/2024	0008325	0	-1080					
Bowling Green	20	6/19/2024	389015	20LLW5	1080	6/20/2024	0008326	1512	432					
Bowling Green	20	6/19/2024	823199	20LLW0	1080	6/20/2024	0008330	1512	432					
Bowling Green	20	6/19/2024	823209	20LLW2	1080	6/20/2024	0008328	0	-1080		9072			
Bowling Green	20	6/19/2024	16976	20LLW8	972	6/20/2024	0008329	1512	540					
Bowling Green	20	6/20/2024	101						0	20	6/20/2024	06202024	1161	
Bowling Green	20	6/20/2024	27236	20M4T8	1080	6/20/2024	0008331	1512	432					
Bowling Green	20	6/20/2024	319022	20M4T6	1080	6/23/2024	0008332	1512	432					
Bowling Green	20	6/20/2024	823205	20M4T5	972	6/23/2024	0008333	1512	540					
Bowling Green	20	6/20/2024	823208	20M4T7	1080	6/23/2024	0008334	1512	432					
Bowling Green	20	6/20/2024	18115	20M4V3	1026	6/23/2024	0008335	0	-1026					
Bowling Green	20	6/20/2024	823206	20M4V2	1080	6/23/2024	0008336	1512	432					
Bowling Green	20	6/20/2024	822060	20M4T9	1080	6/23/2024	0008337	1512	432					
Bowling Green	20	6/20/2024	389006	20M4V4	972	6/23/2024	0008338	1512	540					
Bowling Green	20	6/20/2024	823202	20M4V0	1080	6/23/2024	0008339	1512	432					
Bowling Green	20	6/20/2024	22119	20M4V1	1080	6/23/2024	0008340	0	-1080	52866/58716	Inbound 52866	Outbound 58716	Weekly Variance 5850	YTD Variance 97369

Bowling  
Green before  
recommendations

Inbound Crate Q	Outbound Da	Return BOL	Return Crate Q	Difference	In Total	Out Total	Variance	Agree on Reconciliation	Runing Tot	Week	Recycler Dat	Recycler BOL# Ot
1080	7/10/2024	0008484	1512	432			0		40535			
1080	7/11/2024	0008485	1512	432			0		40535			
1080	7/10/2024	0008486	1512	432			0		40535			
972	7/11/2024	0008487	0	-972			0		40535			
1080	7/10/2024	0008488	1512	432			0		40535			
1026	7/10/2024	0008489	1512	486			0		40535			
1080	7/10/2024	0008490	1512	432			0		40535			
1080	7/10/2024	0008491	1512	432			0		40535			
1080	7/10/2024	0008492	1512	432			0		40535			
1080	7/10/2024	0008493	1512	432			0		40535			
1080	7/10/2024	0008494	1512	432			0		40535			
1080	7/11/2024	0008495	0	-1080			0		40535			
972	7/11/2024	0008496	0	-972			0		40535			
1080	7/10/2024	0008497	1512	432			0		40535			
1080	7/11/2024	0008498	1512	432			0		40535			
1080	7/11/2024	0008499	1512	432			0		40535			
864	7/11/2024	0008500	1512	648			0		40535			
1080	7/11/2024	0008501	0	-1080			0		40535			
972	7/11/2024	0008502	1512	540			0		40535			
1026	7/11/2024	0008503	1512	486			0		40535			
				0			0		40535	23	07/11/2024	07112024
1080	7/11/2024	0008504	1512	432			0		40535			
1080	7/11/2024	0008505	1512	432			0		40535			
1080	7/11/2024	0008506	1512	432			0		40535			
1080	7/11/2024	0008507	1512	432			0		40535			
1080	7/11/2024	0008508	1512	432			0		40535			
972	7/11/2024	0008509	0	-972			0		40535			

Bowling  
Green after  
recommendations



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## Actions

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## Outcome

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- Create a SOP for the process of returning milk crates from Dry DCs to Fresh DCs

# DG Transportation Recommendations

## Data

- SIF (Shipping Integrity Form), HHD (Hand-Held Device): No system in place currently to account for crates though Transportation
- Store response tickets (“sweeps”): DC asset pick up from stores does not always match expected returns

## Insights

- SIF currently includes a count of RTs delivered and picked up during deliveries; Drivers Tablets currently include questions on RTs picked up, and remaining at store
- Crate return SOP
- Lack of consistency in execution of asset pickup

## Actions

- Add crate tracking column for milk crates to current SIF
- Add crate counts to drivers tablets in digitized form
- Return route can be adjusted to include asset pickups
- Ensure drivers communicate with Guard Shack obtain BOLs

## Outcome

- Digitalize SIF or count tracking of assets through driver's tablets
- Adjusting drivers routes to include sweeps on return to Fresh DC as Trad DCs currently do

# SIF including Milk Crate tracking

**DG fresh**

Driver Name \_\_\_\_\_ Blair, NE Fresh DC Loader Name \_\_\_\_\_

**Shipment Integrity Form (SIF)**

Run Date	BOL	Dock	Cube %	Trl Size	Trailer #	Date Loaded
07/06/2024	FBL72940394	2340	28.31	53	67997	7/4/24

Stop	Store	Location	Tie In	Cooler Y/N	Freezer Y/N	RTs Loaded	RTs BO/OW	RTs Divr	Freezer Divr	Crates Divr	Crates Return	RTs Return	Driver Initial	Store Initial
1	09835	WOODBINE,IA		Yes	Yes									
2	22012	DUNLAP,IA		Yes	Yes									
3	05884	SIoux CITY,IA		Yes	Yes									
4	02900	SIoux CITY,IA		Yes	Yes									
5	23665	NORTH SIoux CITY,SD		Yes	Yes									
6	18515	COLTON,SD		Yes	Yes									
7	10937	MADISON,SD		Yes	Yes									

**DG fresh**

Driver Name \_\_\_\_\_ Blair, NE Fresh DC Loader Name \_\_\_\_\_

**Shipment Integrity Form (SIF)**

Run Date	BOL	Dock	Cube %	Trl Size	Trailer #	Date Loaded
07/02/2024	FBL72934890	211A	65.52	53		

Stop	Store	Location	Tie In	Cooler Y/N	Freezer Y/N	RTs Loaded	RTs BO/OW	RTs Divr	Freezer Divr	Crates Divr	Crates Return	RTs Return	Driver Initial	Store Initial
1	09835	WOODBINE,IA		Yes	Yes									
2	22012	DUNLAP,IA		Yes	Yes									
3	05884	SIoux CITY,IA		Yes	Yes									
4	02900	SIoux CITY,IA		Yes	Yes									
5	23665	NORTH SIoux CITY,SD		Yes	Yes									
6	18515	COLTON,SD		Yes	Yes									
7	10937	MADISON,SD		Yes	Yes									

BULK HEAD		



# DG Store Recommendations

## Data

- Currently no system for crates counts at a store level
- Delivery data collected through HHD as RT count into RTS-PROD DB

## Insights

- No count of crates received & sent back to DC
- Lack of adequate space to keep assets secured in back rooms
- Crates left in parking lot and near dumpsters - leading to theft

## Actions

- Stores to verify crates received & sent back to DC through HHD
- Include crates count in receiving & provide access for RTS-PROD to DC's
- Crates stored inside building & physical barriers
- Always full load RTs with 6ti x 5hi for expedient tracking data input

## Outcome

- Pinpoint accurate crate count at store level
- Reduce stolen crates & DC count variances





## Milk crates

\$2

 Send seller a message

Hi Rick, is this still available?

Send



Alerts



Send offer



Share



Save

## Description

They are 12x12 . I do get some every week so be patient if I don't answer right away thx.



**DOLLAR GENERAL**  
INTERNSHIP PROGRAM

# Recommendations Recap

- Distribution Centers
  - Formulate a standardized tracking process
- Transportation
  - Clear communication of asset pickup expectations; systematize regular asset pickup, aim to reduce sweeps
- Dollar General Stores
  - Incorporate milk crate tracking at store level
- Data Integration
  - Collect and sort the tracking of crates across the supply chain

# Questions/Comments