

The Milling Industry Confronts Allergen Cross-Contact in the Wheat Supply Chain

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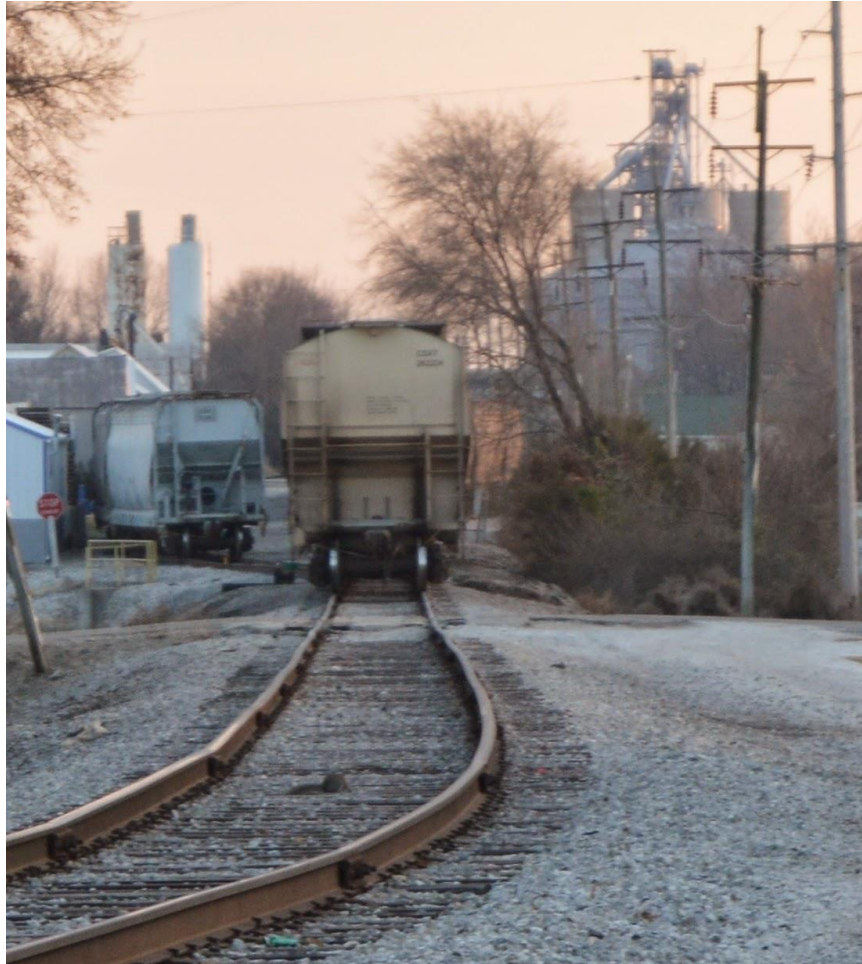
North American Millers' Association

The link between grain & goodness

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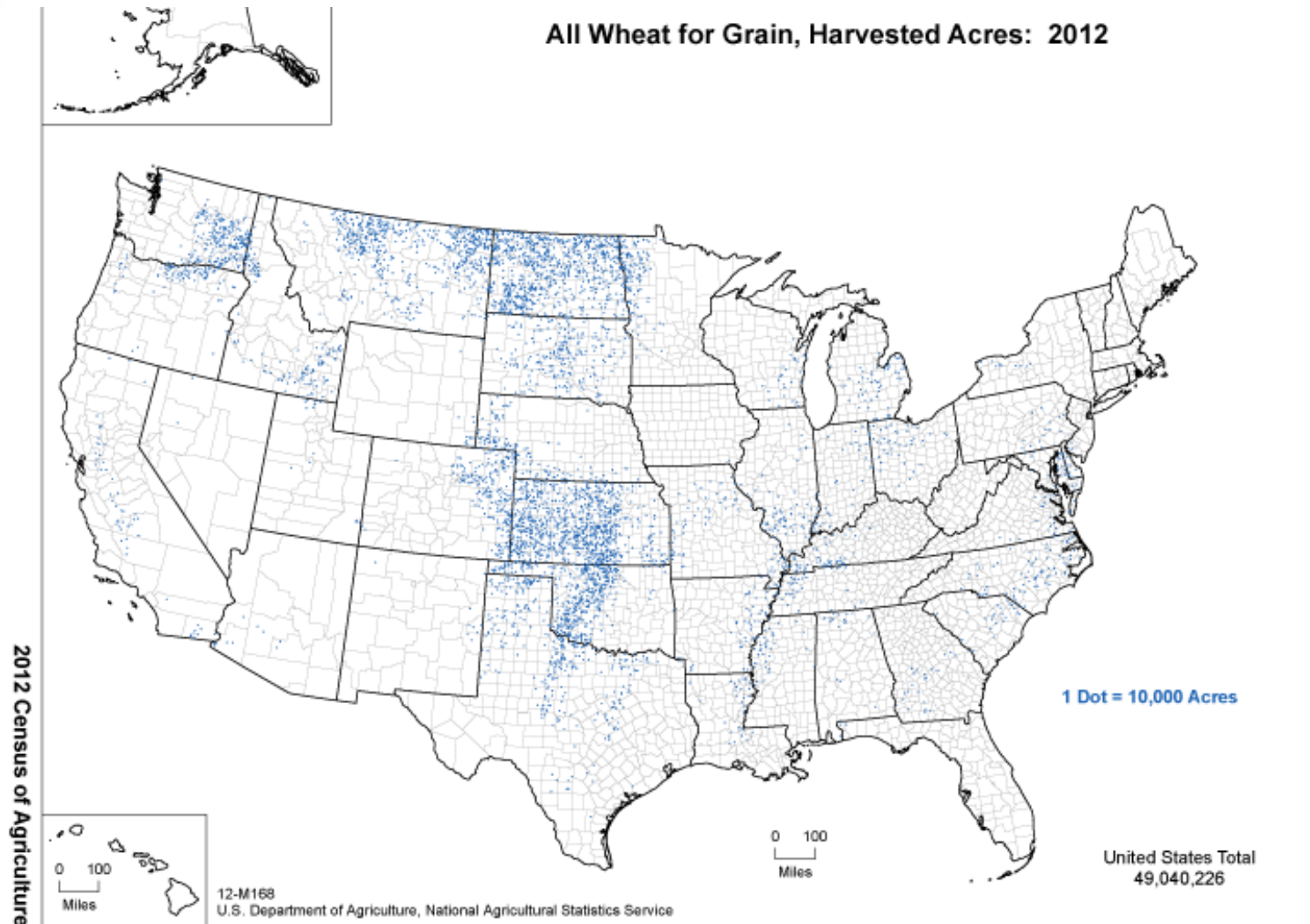
Milling Industry Efforts to Reduce Supply Chain Risk

REDUCING THE RISK OF CONTAMINATION

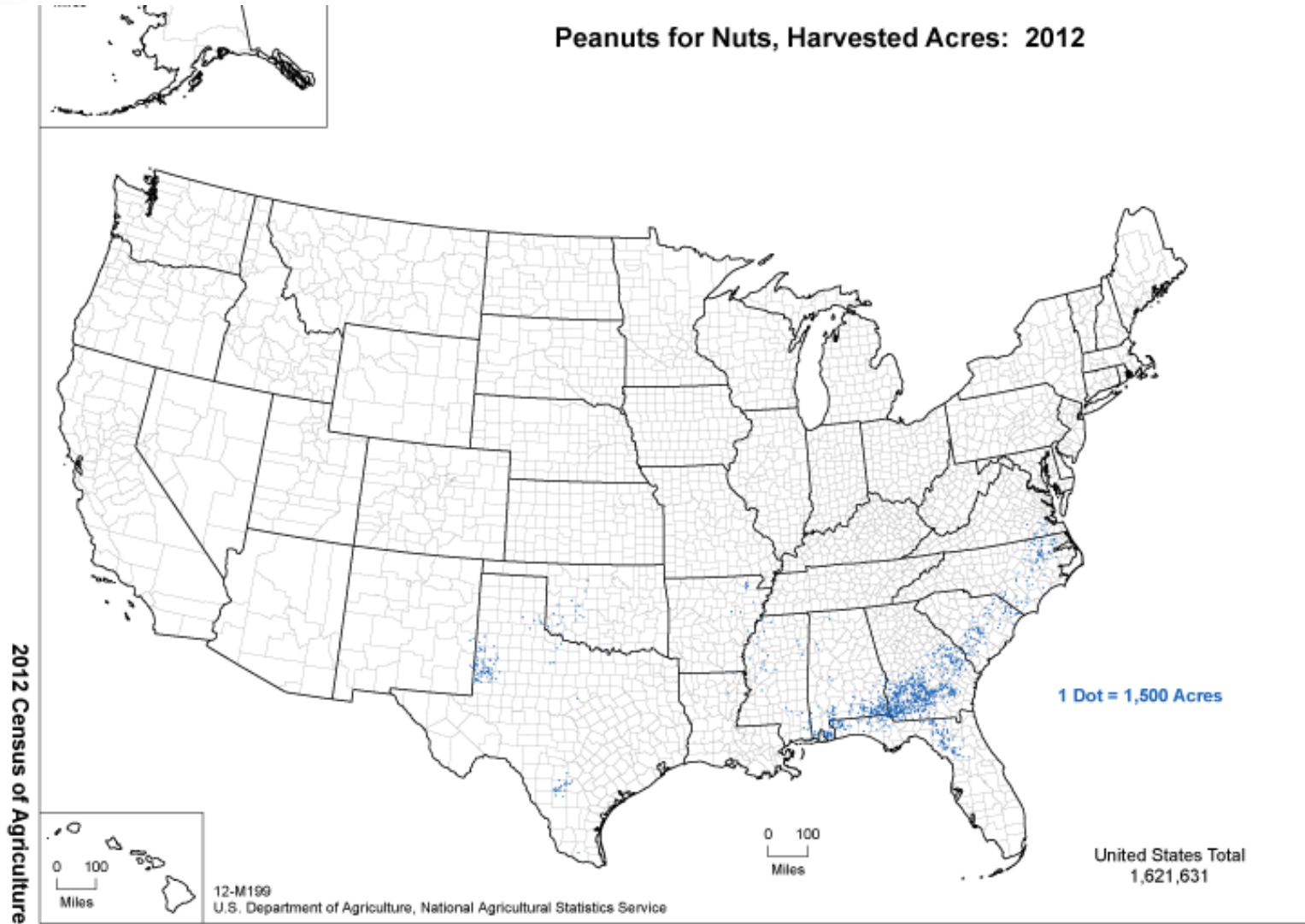
Why hasn't this been a problem before?

- Little physical overlap between main peanut and wheat growing regions
- Distinct supply chain for food grade peanuts (less so for byproducts).
- Positive test results sometimes interpreted as cross contact in a manufacturing facility rather a transportation linked issue.

Why hasn't this been a problem before?



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- Drying truck for taking peanuts to buying point.



Why hasn't this been a problem before?

- Semi-truck trailer to haul wheat to elevator or mill.



Wheat Production and Logistics

Winter Wheat (HRW or SRW) NASS 1997

State	Planting Range	Harvest
Georgia	Nov 15 – Dec 5	June 1-15
Texas	Sept 16 – Oct 21	June 10-20
Virginia	Oct 20 – Nov 15	June 20-July 15
Kansas	Sept 20 – Oct 10	June 20– July 10
Ohio	Oct 1 – Oct 20	July 5 – July 28

-> Fall Planting -> Winter Dormancy -> Summer Harvest -> Transfer to Elevator or Mill -> Transfer to Miller -> Storage and Cleaning -> Processing -> Consumers & Feed

Peanut Production and Logistics Cycle

Peanuts - NASS 1997

State	Planting Range	Harvest
Georgia	April 25 – May 20	Sept 10 – Oct 15
Texas	May 30 – June 30	Oct 10 – Nov 22
Virginia	May 5 – May 20	Oct 5 – Oct 25

- >Planting
- > Harvest (Digging and threshing)
- > Transfer & Drying to Buying Point
- > Transfer to Sheller
- > Warehousing & Cleaning
- > Processing
- > Consumers & Feed



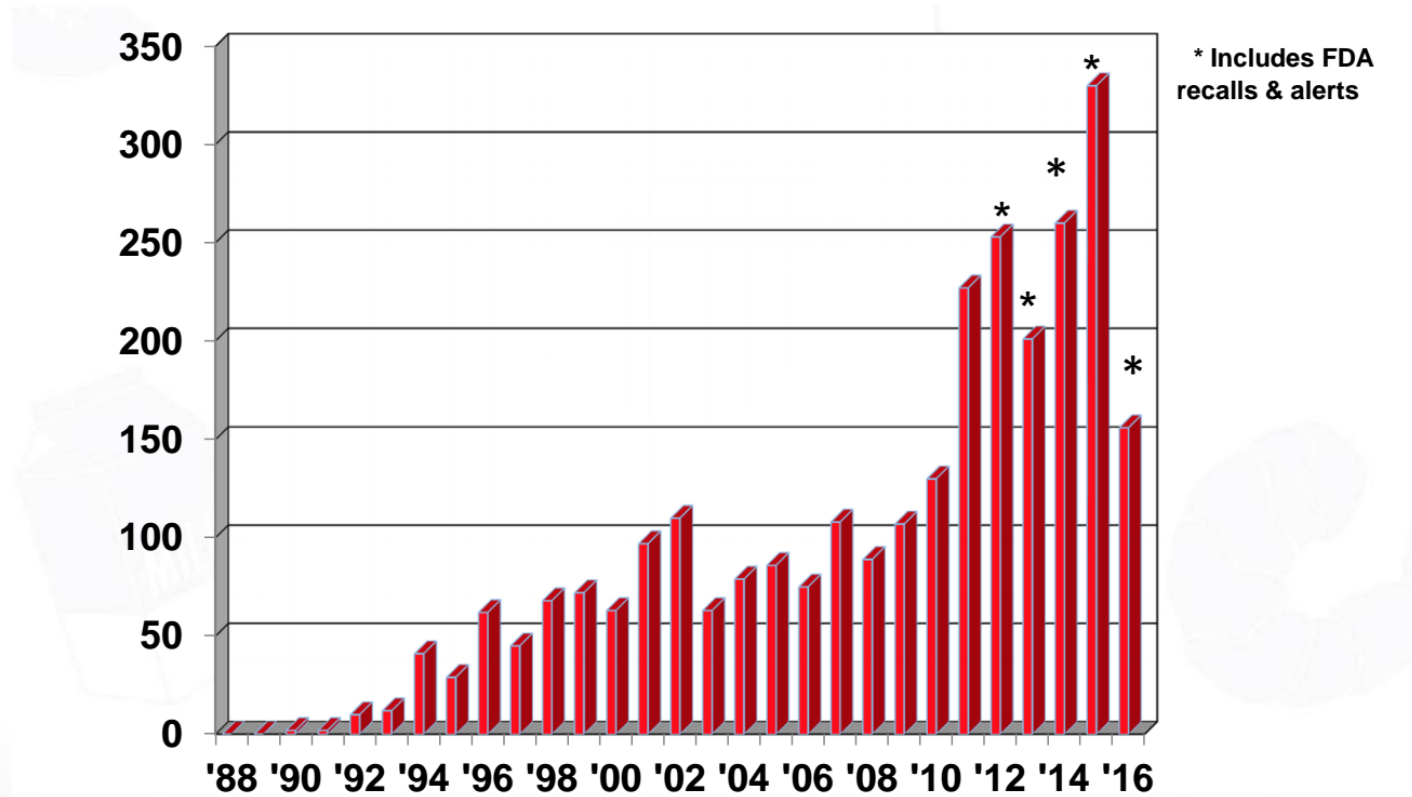
Shared Infrastructure for peanut byproducts



Why is this problem emerging now?

- Increasing focus by FDA on reducing risk posed by allergens.

FDA Food Allergen Recall Incidents 1988-2016



Why is this problem emerging now?

- More intensive private sector testing. Less tolerance for contamination by brand owners.
- Effects of 2014 Farm Bill
 - Long term trend has been higher yields on fewer acres
 - 2014 Farm Bill provided for higher payments for peanuts on “Generic Base Acres” eligible for peanut.
 - Peanuts returning to areas with less familiarity
- NAMA members believe that the risk of cross contact can be reduced dramatically by preventing contamination of grain by peanut and tree nut in the U.S. transportation system.

Supply Chain Controls

- Awareness and Training
 - Employees are on alert to notice peanuts and peanut residue as wheat is being delivered to the mill and as wheat is being cleaned.
 - Clear lines of communication for frontline employees to contact management so that mill can reject contaminated loads.
- Mills ensure that bulk vessels for shipping flour to customers are in good sanitary condition.
 - Millers are communicating with upstream suppliers about the need for proper bulk vessel inspection prior to load out.

Supply Chain Controls

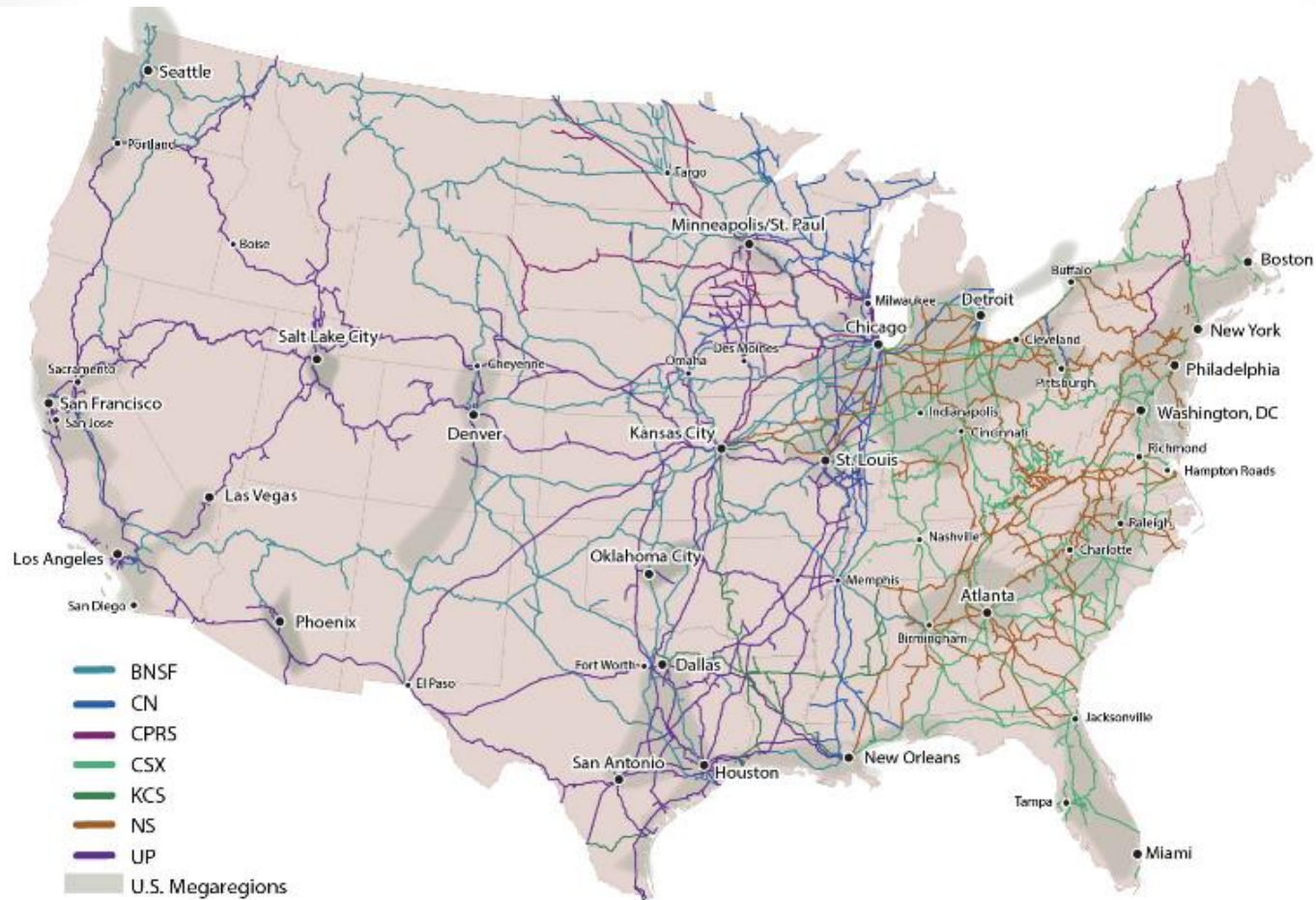
- Since the initial recall NAMA members have been taking steps to update their purchasing practices and contracts with suppliers.
- Prohibitions on peanut contamination have been added to discount schedules and grain purchasing agreements.
- NAMA members are working to standardize some of these practices in a voluntary manner, so that supply chain partners may encounter similar and effective food safety expectations across the industry.

Supply Chain Controls

- Prior Load Restrictions
 - When delivering grain to many mills, farmers and truckers must now sign affidavits specifying that peanuts or other hazardous cargos were not hauled in the immediate prior load or that the truck was cleaned sufficiently to remove all residue.
 - Similar agreements are being implemented for rail cars, but this process is inhibited by lack of data transparency.

Supply Chain Controls

- Systemic Testing
 - Testing kits, while expensive, provide milling companies opportunity to check effectiveness of risk-reduction protocols.
 - Quick test kits give a positive result for peanut protein contamination above 5 PPM.
- Limits to Testing
 - Peanut residues are often found in the bottom of rail cars. Standard GIPSA probing protocols unlikely to find them.
 - Many modern flour mills don't have capacity in flour load-out bins to effectively conduct pre-release testing of peanut in flour. Peanut protein and residue is unlikely to be evenly distributed through a flour lot, increasing the number of tests and cost to flour buyer, required for statistical validity.



How Can the Railroads Help Reduce Risk of Allergen Cross-Contact?

IMPROVING DATA TRANSPARENCY

The limits of prior-load based supply chain controls

- Millers can insist that cargo vessels' prior loads not contain peanuts or other hazardous cargo.
- Unless they own their own railcars, millers have no way of knowing the previous cargos going back multiple loads hauled in railcars.
- Certain hazardous residues, including peanuts are not removed simply by running an intermediate load through a bulk vessel.
 - e.g., 1. Peanut Meal -> 2. Corn for Feed -> 3. Milling Wheat. Can still result in contamination of resulting flour.

The limits of prior-load based supply chain controls

- The major Class One railroads have provided mixed messages about their ability to provide prior load information to customers.
- Individual railroads say that they lose the ability to track prior loads at two critical junctures:
 - 1. Railcars are transferred between two different railroads
 - 2. Railcars cross the U.S./Mexico border
- However, rail tracking systems such as Railinc, operated by the American Association of Railroads, already track such information regardless of where in North America a railcar goes.
- NAMA believes that this prior-load information is critical for ensuring food safety, and shippers should have access to prior-load information going back five loads.

Improving Clean Out Procedures

- There is not currently an industry-wide agreed upon standard for cleaning out railcars so that a car formerly containing peanuts or peanut byproducts can be safely returned to hauling food grade grain.
- Some railroads have responded by segregating, or promising to segregate peanut traffic into dedicated cars . For railroads unable to segregate cars, an effective cleanout procedure is needed.
- NAMA members have undertaken a preliminary experiment to measure levels of contamination of wheat hauled in truck which previously carried peanut meal.
- NAMA believes that a joint study between the grain-based foods supply chain, railroads, and peanut industry could develop of validated protocol for cleaning out peanut residue.

Stakeholder Discussion

QUESTIONS?