

Society for Nutrition Education and Behavior July 22, 2020





LANDFILL DISPOSAL OF FOOD





KEEPING THE FOOD SYSTEM WITHIN ENVIRONMENTAL LIMITS

- No single measure is sufficient; a combination of efforts will be needed
 - Global plant-based diet adoption
 - Global technological changes
 - Global reductions in food loss and waste











STUDY METHODS

- Professional titles were used to recruit interview participants
- Structured interviews were audio recorded and transcribed verbatim
- Structured kitchen observations (80 hours @ 14 sites)
 - Waste volume and disposal method
- Policy document collection
- Data were triangulated and inductive content analysis method employed
- Member checking
- Descriptive statistics used to characterize food recovery efforts

PARTICIPATING FOOD RECOVERY PROFESSIONALS

Title (Work Setting)	Years in Current Position
Sustainability Coordinator (Waste Hauling Company)	7 years
Animal Feed Regulatory Administrator (Government)	3 years
Food Resource Manager (Food Bank)	2 years
Extension Dairy Specialist (University)	9 years
Environmental Health Specialist (Government)	25 years
Account Manager (Commercial Composting, Biogas Facility)	2 years
School Nutrition Program Specialist (State Government)	l year
Solid Waste Management Unit Leader (Government)	2 years

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- Foods allowed on share tables
- Redistribution guidelines
- How do states promote food safety in their share table policies?

Prescott et al. 2020 JNEB

METHODS

- Qualitative policy analysis study
- State Department of Education websites were reviewed by 2 independent researches to locate share table guidance
 - -Contacted via email if policy document was not located
- Policy documents were independently coded by two researchers

Key Word	Description
Health Code	Describes complying with state and local health department food safety codes.
Standard Operating Procedures (SOP)	Written instructions that describe how to meet regulations for share table implementation.
Identify Items	Identify menu items that are allowed and not allowed on the share table.
Critical Limits	Critical limits describe boundaries for food safety. They are the time and/or temperatures that must be met to prevent a food safety hazard. ¹⁴ Critical limits must be documented.
Monitoring	Monitoring procedures ensure that SOPs and critical limits are being followed. If procedures are not being followed, monitors will call for corrective action. The procedures should include the how, who, and when of monitoring such as giving temperature logs.
Corrective Actions	Develop corrective actions that describe what to do if a food safety procedure is not being followed, for example, discarding food that has not been held at the correct temperature.
Record Keeping	Keep records of corrective actions, time and temperature monitoring, and items left on the share table.
Reuse/Redistribution Plan	Have a plan that describes how the food or beverage items left on the share table will be handled at the end of the meal service.
Marketing and Outreach	Post share table posters with "rules and provide the school community with information about share tables (parents, children, teachers, child nutrition staff, etc.).
Allergy Considerations	Special considerations for how students with allergies should engage with share tables, if at all.
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CONCLUSIONS

- Strong policies are easy to understand and include clear guidelines for allowable and unallowable share table items, food item redistribution, monitoring procedures, corrective actions, and food allergy considerations.
 - -Specific instructions for how to handle time & temperature controlled foods
- Schools may need guidance on how to keep food safe during the re-service process.

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FOOD SAFETY

- HACCP Plan
- Communication especially important here
- Agreement with partners











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WEEKLY MEETING AGENDA			
Univ of Illinois-Urbana-Champaign - Busev E	ans		
March 09, 2020 - March 15, 2020			
March 03, 2020 - March 13, 2020			
DISCUSSION ITEM #1: SHARE OVERVIEW OF	WASTED FOOD WITH YOUR TEAM		
CHAMPION: During this period, our food was	te was		
Worth	\$000.00	Cost of Wasted Food	-
Total number of transactions this period:	486	Number of Transactions	
The food item wasted the most was:	Vegetables	Most wasted food of the Period	
The reason for loss used the most	Overproduction	Most Frequent Reason for Wasted Food	
The reason for loss used the most.	overproduction	most riequent neason for master root	
CHAMPION: Every meeting we look at the iter items next week. This week, our top 5 most o	ns we overproduced the most so we ca verproduced items (by value) were	in discuss ways to reduce these	
Ren	Value	Weight Change v Prior 20 days	
Vaprahles	\$ 00.00	26.51 %	
Vegetables-Prepared	\$ 99.00	16.39 %	
Cassarile	\$ 06.00	100.50 %	
Read Whete	a secol		
The last	5 8.00	20.67%	
CHAMPION: What ideas do you have so we co	an target and reduce the amount of ove	Interv Unary	-
THE CHAMPION: What ideas do you have so we control the second sec	an target and reduce the amount of ove	rproduction on these items in the future? (record answers below)	
CHAMPION: What ideas do you have so we co CHAMPION: What ideas do you have so we co DISCUSSION ITEM #3: REVIEW YOUR GOALS [(Record your goal discussion)]	an target and reduce the amount of ove	Income Income	-
	an target and reduce the amount of ove	Intern Unants rproduction on these items in the future? (record answers below)	
CHAMPION: What ideas do you have so we co CHAMPION: What ideas do you have so we co DISCUSSION ITEM #3: REVIEW YOUR GOALS [(Record your goal discussion)] DISCUSSION ITEM #4: TEAM RECOGNITION CHAMPION: Finally I want to thank our most	an target and reduce the amount of ove	Incl. (max) rproduction on these items in the future? (record answers below) No Data at person is:	
	an target and reduce the amount of ove	Inc. (max) (max) (max) (max) (NoDeta) (NoDeta) (NoDeta)	





"JUST IN TIME" COOKING

Batch cook

- Large amounts cooked at one time and held for service
- Only used when quality not affected by hot holding

JIT Cook

- Watch food levels and replenish "just in time" before that item runs out
- Risk of running out temporarily















GRIND 2 ENERGY

- What Is It?
 - Disposal system that takes all food waste (including fats and oils) and turns it into renewable energy
- How Does It Work?
 - Food waste is put through processor as needed throughout the day
 - Energy rich slurry is stored in an outdoor storage tank
 - -G2E technicians monitor levels in tank and haul away when full













- YOU WANT TO PROMOTE FOOD RECOVERY
- SOMETHING ABOUT FOOD RECOVERY MAKES YOU UNCOMFORTABLE
 - -Maybe... People, touching, germs, risks ...
- YOU'VE HAD SOME FOOD SAFETY TRAINING, BUT A LONG TIME AGO

MY ASSUMPTIONS ABOUT YOU (THE AUDIENCE)

• YOU WANT TO PROMOTE FOOD RECOVERY

-Good. I do too

SOMETHING ABOUT FOOD RECOVERY MAKES YOU UNCOMFORTABLE

-Maybe... People, touching, germs, risks ...

-Fair. People do move around contamination

• YOU'VE HAD SOME FOOD SAFETY TRAINING, BUT A LONG TIME AGO

-Great! I'll try to dust that off and link it to food recovery

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TAKE HOME MESSAGES

- FOOD RECOVERY ADD **EXTRA STEPS** TO THE FOOD SYSTEM
- THOSE EXTRA STEPS INCREASE THE RISK OF
 - -**Cross-Contamination** (more touches)
 - -Hazard-Amplification (growth by temperature abuse)
- UNTIL FORMAL RISK-ASSESSMENTS EXIST, ONE CAN TRY TO MANGE FOOD RECOVERY SAFETY BY MATCHING CONTROL STRATEGIES TO RISKS MOST LIKELY INCREASED BY RECOVERY



SPECIFIC HAZARDS ARE DIFFERENTLY				
Hazard Category	Specific Hazard Example	Most Affected Steps	Major pathways of concern	Why
Viruses	Norovirus	Preparation, Service, Selection, Shared tables, Re-service, Re-storage, Disposal, Donation	Cross-contamination	No growth outside host
	Hepatitis A	Preparation, Service, Selection	Cross-Contamination	
Enteric Bacterial Pathogens	Salmonella spp.	Preparation, Disposal, Storage	Cross-Contamination	Causes illness at relatively low
	Campylobacter spp.	Preparation, Disposal, Storage	Cross-Contamination	Little growth in foods unless
	Shiga-toxin producing Escherichia coli	Preparation	Cross-contamination	temperatures are near body
Other Bacterial Pathogens	Clostridium perfringens	Preparation, Service, Selection, Re-storage, Re-service	Temperature Control	Spores can be activated during cooking and then germinate and produce toxin if food is poorly stored
	Listeria monocytogenes	Preparation, Storage, Shared tables, Re- Storage	Temperature Control. Cross-contamination	Can grow in refrigerated foods Forms biofilms in facilities
Non-Microbe Hazards	Allergens	Preparation, Service, Selection, Consumption	Cross-Contamination	Causes illness at low doses No increase in foods
			#9N	EB2020: What Food Future2





- FOOD RECOVERY OFTEN CONFLICTS WITH BEST PRACTICES
 - -Desire to eliminate things like
 - Additional hold times
 - Extra touches
 - Risk of improper hot or cold hold
 - -ANY interaction with the consumer is considered risky

WAY FORWARD

- -Listen to concerns
- -Scientifically manage risks
- Use social need to justify special treatment

ILLUSTRATIVE EXAMPLE: SHARE TABLES

ONE POPULAR FOOD RECOVERY STRATEGY WITH SOME CLEAR FOOD SAFETY DIMENSIONS











PRACTICALLY: HO TO PROCEED	XC: Hand TC: He XC: Hand TC: Hol TC: H	L Utersk, Surfaces ding temperature th, Surfaces, Foods th, Surfaces, Foods th, Surfaces, Foods th, Surfaces, Foods food from hom it (Brown Barg it (Brown Barg) th (Br	Pect coun lood Pect coun lood Pect count lood Pect co	en, Food emperature 5.6 Food Resed and Served	
Understand the Process	XC: Surfaces, FC han TC: Holding T	ode, handens, angendure K.C. Sufaces, Foods, ha TC: Transpot keng, refig	ders ration () Transportation from sch- donation alle. XC: Surfaces, Foods, harr TC: Transportation fem	again. col to 7. Food in share table respection atem 0. Retrigeration/storage. XC: Surfaces. Foods, handlers TC: Sionage temp	
Consider Impacted Haza	Step	Hazard Introduced Norovirus Clostridium perfringens Allergens	Route Utensils, Hands Prepared foods Utensils, Food to Food, Hand to food	Cross Contamination/ Temperature control Cross Contamination Temperature Control Cross Contamination	
Develop best Practices	velop best Practices Often in dialog with inspectors				
			#SNEB202	20: What Food Fut	iture?

