I. Retail Food-Produce

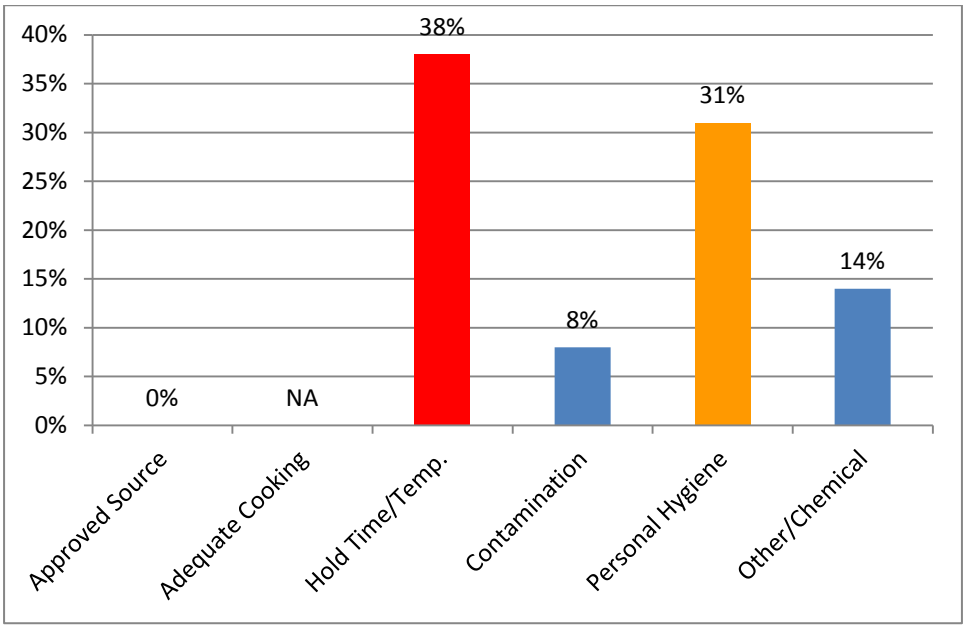
Introduction

For the 2010 Wake County Baseline survey, 42 produce departments were surveyed. For the 46 possible individual data items on the survey instrument 620 observations were made at 42 produce departments. See Appendix I for complete data related to produce departments.

Certified food protection managers (29%): For this survey, a certified food protection manager had to be present, and possess a State-approved course certificate, in order to be marked IN compliance. A certified food protection manager was present at 12 of the 42 facilities (29% IN compliance).

Results and Discussion

Table Produce-1: The following diagram represents OUT of compliance risk factors by category as a percentage of total observations.



The same data is shown in the table below with the actual number of OUT of compliance observations relative to the total number of observations (IN and OUT).

Foodborne Illness Risk Factor Risk Factor OUT of compliance:	Produce		
	% OUT	# OUT observations	Total Observations
Food from Unsafe Source	0%	0	97
Inadequate Cooking	NA	0	0
Improper Holding/Time-Temperature	**38%**	**47**	**123**
Contaminated Equipment/Contamination	8%	10	126
Poor Personal Hygiene	**31%**	**60**	**196**
Other/Chemical	14%	12	88
Totals	21%	129	620

The foodborne illness risk factors needing priority attention are:

- Improper Holding/Time and Temperature (38% OUT of compliance)
- Poor Personal Hygiene (31% OUT of compliance)

Tables Produce-2 and Produce-3 show the breakdown of these risk factors into the specific individual data items on the survey instrument that need priority attention.

Table Produce-2: ***Holding/Time-Temperature (38% OUT)***

Data Item	# OUT	Total Obs.	% OUT
Cold Hold 8a	**29**	**42**	**69%**
Proper Cooling Procedure (Ambient and cooled) 7b	**2**	**6**	**33%**
Commercially prepared RTE, PHF date marked 10c	**4**	**12**	**33%**
RTE, PHF discarded after seven days 10b	7	32	22%
RTE prepared on site, PHF date marked 10a	5	31	16%

Items with ≥ 25%, with significant sample size, are shown in **bold.*

Cold Holding at 41°F (Individual Data Item 8a): Maintaining potentially hazardous food (PHF) foods under the cold temperature control of 41°F limits the growth of pathogens that may be present in or on the food and may help prevent foodborne illness. Temperature has significant impact on both the generation time of an organism and its lag period. Control of the growth of *Listeria monocytogenes* (*Lm*) is the basis for the cold holding temperature of 41°F. Cut, green, leafy greens are considered PHF based on the 2009 FDA Food Code. This may have contributed to the OUT of compliance for this individual data item. North Carolina's cold holding temperature requirement is 45°F.

Proper Cooling Procedure (Individual Data Items 7b) : Safe cooling requires rapid removal of heat from foods quickly enough to prevent the growth of spore-forming pathogens. Foodservice directors and managers need to ensure their practices and procedures are capable of rapidly cooling PHF. Item 7b represents cooling from ambient temperatures. Cooling melons before slicing them would eliminate this potential for risk.

Datemarking (Individual Data Items 10a, 10b and 10c): Date marking of refrigerated ready-to-eat, PHF foods is an important food safety system component designed to promote proper food rotation and limit the growth of *Listeria monocytogenes* during cold storage. Discarding ready-to-eat, PHF that has remained in cold storage beyond the parameters described in the *FDA Food Code* prevents foods with a harmful level of *Listeria monocytogenes* from being served. North Carolina's current rules do not require

Table Produce-3: ***Poor Personal Hygiene (31% OUT)***

Data Item	# OUT	Total Obs.	% OUT
Employee Health Policy 17a	**36**	**42**	**86%**
Handwash facilities (accessible) 16a	10	42	24%
Proper Handwashing 13a	4	17	24%
Prevention of Hand Contamination 15a	4	21	19%
Handwash facilities (soap and towels) 16b	4	42	10%
Good Hygienic Practices 14a	2	32	6%

Items with ≥ 25%, with significant sample size, are shown in **bold.*

Employee Health Policy (Item 17a): The development and effective implementation of an employee health policy based on the provisions in the Food Code may help to prevent foodborne illness associated with contamination of food by ill or infected food employees. Current North Carolina rules do not require an employee health policy.

Handwash facilities (Item 16a and 16b): Hands are a common vehicle for the transmission of pathogens to foods in an establishment. Hands can become soiled with a variety of contaminants during routine operations. The transfer of contaminants can be limited by providing food employees with handwashing sinks that are properly equipped and conveniently located. Handwashing sinks that are blocked by portable equipment or stacked full of soiled utensils and other items, are rendered unavailable for employee use. In addition to accessibility, hand sinks should be supplied with soap and towels.

The other individual data items are listed, and are important for prevention of foodborne illness. The sample sizes are relatively small for analysis.

Summary

Table Produece-4: foodborne illness risk factor categories and individual data items in need of priority attention

Foodborne Illness Risk Factor in need of priority attention	Individual data items in need of priority attention with % OUT
Improper Holding/Time-Temperature (38% OUT)	**Cold Hold 8a (69% OUT)**
	Proper Cooling Procedure (Ambient and cooled) 7b (33% OUT)
	Commercially prepared RTE, PHF date marked 10c (33% OUT)
	RTE, PHF discarded after seven days 10b (22% OUT)
	RTE prepared on site, PHF date marked 10a (16% OUT)
Poor Personal Hygiene (31% OUT)	**Employee Health Policy 17a (86% OUT)**
	Handwash facilities (accessible) 16a (24% OUT)
	Proper Handwashing 13a (24% OUT)
	Prevention of Hand Contamination 15a (19% OUT)
	Handwash facilities (soap and towels) 16b (10% OUT)
	Good Hygienic Practices 14a (6% OUT)

Items with ≥ 25%, with significant sample size, are shown in **bold.*