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Selected Sections of a
Food Safety Plan
for
Broccoli, Carrot, Pecan Salad

Teaching Example

Reviewed by: _____ Plant Manager Date: _____

The information in this example is for training purposes only and does not represent any specific operation. Many processing steps were omitted or combined to facilitate its use for class exercises. Thus **it is not complete and contains both required and optional information.** Because development of a Food Safety Plan is site specific, it is highly unlikely that this plan can be used in a specific facility without significant modification. Conditions and specifications used (e.g., validation information) are for illustrative purposes only and may not represent actual process conditions.



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Company Overview

This company's ~50 employees produce a variety of refrigerated salads, including:

- Broccoli, Carrot and Pecan Salad;
- Broccoli, Carrot and Raisin Salad; and
- Italian Vegetable Salad with Parmesan Cheese.

Product is produced 5 days a week, with one 9 hour production shift, followed by 4 hours for sanitation. Cleaning and sanitizing of all processing equipment is conducted per a master sanitation schedule, which also includes cleaning and sanitizing between production runs. Municipal water, which is treated and tested per EPA requirements by the city, is used throughout the facility.

This Food Safety Plan covers production of Broccoli, Carrot and Pecan Salad. Other products have separate Food Safety Plans.

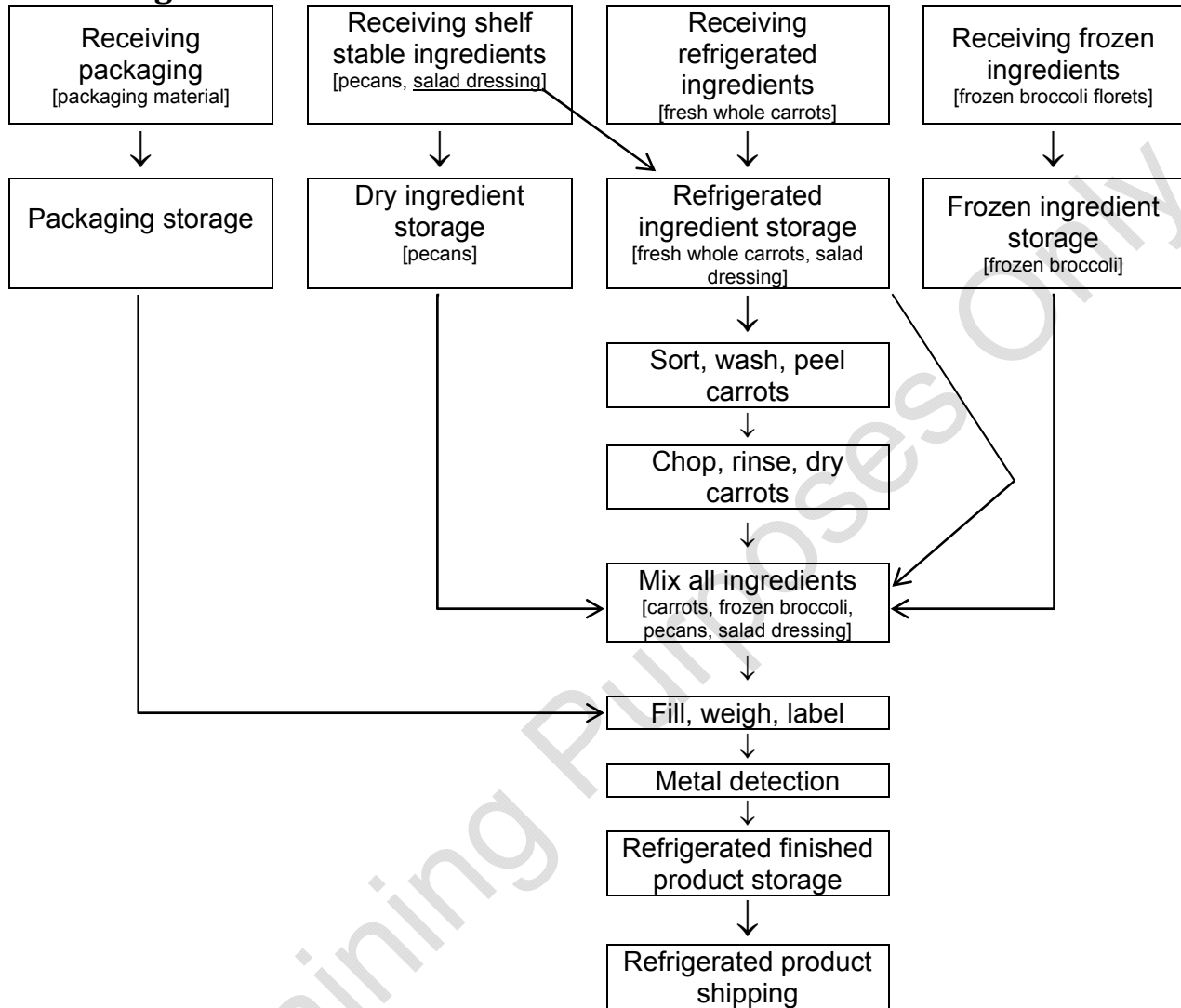
Product Description

Product Name(s)	Broccoli, Carrot and Pecan Salad	
Product Description, including Important Food Safety Characteristics	Refrigerated, ready-to-eat salad, containing broccoli, carrots, pecans and salad dressing. pH <4.6, water activity >0.95	
Ingredients	Fresh carrots, frozen (IQF) broccoli, and salad dressing (water, soybean oil, high fructose corn syrup, vinegar, cornstarch, eggs, salt, potassium sorbate, spice, dried garlic)	
Packaging Used	8 oz. plastic cup and snap on lid	
Intended Use	Ready-to-eat salad, appropriate for grab-and-go applications. Sold through grocery stores, delis and convenience stores.	
Intended Consumers	General public	
Shelf Life	10 days after manufacture	
Labeling Instructions	Keep refrigerated.	
Storage and Distribution	Refrigerated ($\leq 40^{\circ}\text{F}$) storage and distribution	
Approved: Signature: <i>F.S. Leader</i> Print name: F.S. Leader	Date: 6 January 2016	



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Flow Diagram



NOTES:
 Ambient salad dressing is moved to refrigerated storage to help cooling. Not required for safety.
 [Text in square brackets are for teaching purposes]



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Process Narrative

Receiving packaging

Pre-labeled, 8 oz. flexible plastic cups with snap on lids are received in bulk. Specifications require food grade material compatible for refrigerated food products. Packaging materials are stored separate from ingredients, cleaning chemicals, etc.

Receiving shelf stable ingredients

Pecans: Bag-in-box roasted pecans are received from our sole source broker that offers products only from suppliers complying with internationally recognized food safety and quality schemes. The supplier provides a certificate of analysis for aflatoxin tests to verify compliance.

Salad dressing: Received as a shelf stable product in plastic containers from our sole source broker. This ingredient contains egg which is an allergen and has a pH <4.6.

Receiving refrigerated ingredients

Fresh, topped carrots are received in totes from approved vendors/ growers who meet company food safety and quality requirements. A Letter of Guarantee states that carrots are grown under conditions that minimize contamination with vegetative pathogens and lead, and comply with appropriate regulatory pesticide limits. All carrots are produced in the U.S.

Receiving frozen ingredients

Frozen, blanched individually quick frozen (IQF) broccoli florets are received from our sole source broker. The broker's Letter of Guarantee states that production processes and Good Agricultural Practices for growing the broccoli are used. The product is imported.

Packaging storage

Cups and lids are stored in the dry storage room in the packaging area, arranged by product code to avoid mixing of packaging. Packaging is used First-In-First-Out and partially used shipping containers are closed during storage.

Dry ingredient storage

Pecans are stored in the dry ambient storage room in the ingredient area, arranged by ingredient code number. Because pecans are a food allergen, containers are sealed and stored in a specific location to avoid cross-contact.

Refrigerated ingredient storage

Carrots are stored in a segregated refrigerated storage away from other refrigerated ingredients because they are raw and unwashed. They are used on a First-In-First-Out basis.

Salad dressing is refrigerated ($\leq 40^{\circ}\text{F}$) upon receipt. Refrigeration is not necessary for safety, but pre-chilling to $\leq 40^{\circ}\text{F}$ aids in cooling the final product.

Frozen ingredient storage

After receipt, frozen broccoli florets are immediately taken to the frozen storage area and used on a First-In-First-Out basis.

Sort, wash, peel carrots

On an as-needed basis, carrots are sorted by hand to remove gross soil, rot, small or large carrots that do not meet product specification and foreign material. Defects are collected, analyzed and trended. Relevant results are reported back to the broker/ grower. Sorted carrots are mechanically washed to remove dirt and debris in antimicrobial treated water, currently



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maintained at no less than 50 ppm free chlorine using a product labeled for washing and peeling fruits and vegetables. Approved¹ chemicals are used according to label instructions. Chlorine levels in the wash water are monitored. Visual inspection verifies absence of foreign material that could result in injury. Carrots are peeled with mechanical peeling equipment with antimicrobial treated water (>50 ppm free chlorine). Care is taken to ensure that peeling equipment is intact before and after each shift or batch.

Chop, rinse, dry carrots

The washed and peeled carrots are transferred to the vegetable preparation room where they are mechanically chopped using a commercial knife blade vegetable chopper to a ¼ inch dice. Chopping blades are checked to ensure they are intact before and after each shift. Once chopped, the carrots are rinsed with single pass water and spin-dried to prevent the carrot juice from bleeding throughout the finished product. Diced carrots are then held at production room temperatures (45-50°F) for no longer than 2 hours.

Mix all ingredients

Chopped carrots, frozen broccoli florets, pecans and salad dressing are mixed using a ribbon blender to gently blend to a uniform mixture. The finished salad is transferred manually with scoops to totes, covered and transported to the filling area. A batch is blended in <15 minutes. The blended product temperature is typically ≤40°F after mixing. Mixed product can be stored in covered totes at ≤40°F for no longer than 24 hours before filling into final package. All work-in-process (WIP) product is labeled with the appropriate product and allergen labeling, as well as the date and time the product was filled into the tote.

Fill, weigh, label

Labels are matched to the specific description and product number as listed on the Daily Production Schedule. 8 oz. pre-labeled cups that contain the pecan and egg allergen statement are manually filled and weighed, and lids are applied to each container. Product pull date (10 days after production) is printed on each cup. The temperature of filled product is measured periodically.

Metal detection

Packaged product is passed through a metal detector and then is transferred to refrigerated storage (≤40°F)

Refrigerated finished product storage

Finished product is stored under refrigeration (≤40°F) until distributed.

Refrigerated product shipping

Product is shipped in refrigerated trucks to customers (convenience stores, office cafeterias, quick serve restaurants and grocery stores) under refrigerated conditions (≤40°F).

¹ "Approved" refers to meeting regulatory requirements, such as EPA registration or FDA listing of chemical used.



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Hazard Analysis

Hazard identification (column 2) considers those that may be present in the food because the hazard occurs naturally, the hazard may be unintentionally introduced, or the hazard may be intentionally introduced for economic gain.

B = Biological hazards including bacteria, viruses, parasites, and environmental pathogens

C = Chemical hazards, including radiological hazards, food allergens, substances such as pesticides and drug residues, natural toxins, decomposition, and unapproved food or color additives

P = Physical hazards include potentially harmful extraneous matter that may cause choking, injury or other adverse health effects

(1) Ingredient/ Processing Step	(2) Identify <u>potential</u> food safety hazards introduced, controlled or enhanced at this step	(3) Do any <u>potential</u> food safety hazards require a preventive control?		(4) Justify your decision for column 3	(5) What preventive control measure(s) can be applied to significantly minimize or prevent the food safety hazard? <i>Process including CCPs, Allergen, Sanitation, Supply- chain, other preventive control</i>	(6) Is the preventive control applied at this step?	
		Yes	No			Yes	No
Receiving packaging	B None						
	C None						
	P None						
Receiving shelf stable ingredients – pecans	B Vegetative pathogens such as <i>Salmonella</i>	X		Raw tree nuts have a history of potential contamination with vegetative pathogens	<i>Supply-chain Control – Salmonella</i> is controlled by the supplier through the roasting process	X	
	C Allergen – pecan tree nut	X		Pecans are tree nuts, which could present a source of cross-contact for other products that do not contain pecans.	<i>Allergen Control - allergen cross-contact prevention and allergen labeling at subsequent steps</i>		X
	Aflatoxin	X		Pecans have a history of potential contamination with aflatoxin	<i>Supply-chain Control – Aflatoxin</i> is controlled by the supplier by removal of moldy, discolored pecans	X	
	P None						
Receiving shelf stable ingredients – salad dressing	B None			Industrially produced, shelf- stable salad dressing has a high acid content that destroys vegetative pathogens			
	C Allergen – egg	X		Egg is an allergen, which could present a source of cross-contact for other products that do not contain egg.	<i>Allergen Control - cross- contact prevention and allergen labeling at subsequent steps</i>		X
	P None						

continued



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(1) Ingredient/ Processing Step	(2) Identify <u>potential</u> food safety hazards introduced, controlled or enhanced at this step	(3) Do any <u>potential</u> food safety hazards require a preventive control?		(4) Justify your decision for column 3	(5) What preventive control measure(s) can be applied to significantly minimize or prevent the food safety hazard? <i>Process including CCPs, Allergen, Sanitation, Supply- chain, other preventive control</i>	(6) Is the preventive control applied at this step?	
		Yes	No			Yes	No
Receiving– fresh whole carrots	B Vegetative pathogens such as <i>Salmonella</i> and pathogenic <i>E. coli</i>	X		Raw vegetables and soil may contain pathogens that can transfer through further handling and potentially grow under abusive conditions. Intact carrots do not support pathogen growth.	<i>Supply-chain Control</i> - Production in accordance with the Produce Safety rule minimizes vegetative pathogens. <i>Subsequent process controls</i> – antimicrobial washing & peeling, short post-chop process time, finished product temp.		X
	Sporeforming pathogens - <i>C. botulinum</i>		X	While raw vegetables may contain <i>C. botulinum</i> , it will not grow or produce toxin on intact carrots or later due to aerobic conditions and competitive microorganisms inherent to the process.			
	C Pesticides		X	Ingredient is US-sourced. FDA data rarely show pesticide residues above EPA tolerance levels or unapproved pesticides			
	Lead	X		Lead can occur when carrots are grown in a former orchard that used lead arsenate pesticide	<i>Supply-chain Control</i> - site selection addressed in specifications		X
	P None						
Receiving frozen, blanched broccoli florets	B Vegetative pathogens such as <i>Listeria monocytogenes</i> and <i>Salmonella</i>	X		Bacterial pathogens may occur on raw produce and recontamination can occur after blanching without sanitation controls.	<i>Supply-chain Control</i> - Blanching and environmental sanitation controls		X
	C Pesticides	X		FDA testing periodically detects unapproved residues or levels above tolerance in produce from certain countries. ²	<i>Supply-chain Control</i> - Pesticide control and monitoring for broccoli from countries without robust control programs		X
	P None						

² FDA data suggests periodic detection of unapproved residues or levels above tolerance in imported produce from certain countries. If sourced from US or other country with evidence that pesticide non-compliance is rare, column 3 can be answered “No”. See carrot example.



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(1) Ingredient/ Processing Step	(2) Identify <u>potential</u> food safety hazards introduced, controlled or enhanced at this step	(3) Do any <u>potential</u> food safety hazards require a preventive control?		(4) Justify your decision for column 3	(5) What preventive control measure(s) can be applied to significantly minimize or prevent the food safety hazard? <i>Process including CCPs, Allergen, Sanitation, Supply- chain, other preventive control</i>	(6) Is the preventive control applied at this step?	
		Yes	No			Yes	No
Storage – Packaging and dry ingredients [pecans]	B None						
	C Allergen cross- contact during storage		X	Only unopened or resealed containers of allergenic ingredients are stored in the dry storage area making cross-contact unlikely.			
	P None						
Refrigerated ingredient storage [fresh carrots, salad dressing]	B None			These refrigerated ingredients do not support pathogen growth.			
	C Allergen cross- contact during storage		X	Only closed containers of allergenic ingredients are stored in this storage area			
	P None						
Frozen ingredient storage [blanched broccoli]	B None			Pathogen growth does not occur in frozen storage			
	C None						
	P None						
Sort, wash, peel carrots	B Vegetative pathogens such as <i>Salmonella</i> , STEC		X	Wash water may spread contamination, if present, to all carrots. Growth is not likely with short process time.	<i>Process Control – Antimicrobial (chlorine) in wash water</i>		X
	C None						
	P Metal		X	Metal on metal wear in peeling equipment	Metal detection at a later step		X
Chop, rinse, dry carrots	B Environmental pathogens such as <i>Listeria monocytogenes</i>		X	Environmental contamination	<i>Sanitation Control – zoning and environmental sanitation</i>		X
	C None						
	P Metal		X	The potential for metal contamination from chopper exists; fragments could result in injury.	Metal detection at a later step		X

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(1) Ingredient/ Processing Step	(2) Identify <u>potential</u> food safety hazards introduced, controlled or enhanced at this step	(3) Do any <u>potential</u> food safety hazards require a preventive control?		(4) Justify your decision for column 3	(5) What preventive control measure(s) can be applied to significantly minimize or prevent the food safety hazard? <i>Process including CCPs, Allergen, Sanitation, Supply- chain, other preventive control</i>	(6) Is the preventive control applied at this step?	
		Yes	No			Yes	No
Mix all ingredients [carrots, frozen broccoli, pecans, salad dressing]	B Environmental pathogens such as <i>L. monocytogenes</i>	X		Recontamination may occur if environmental control is not in place. Process time is too short for growth to occur.	<i>Sanitation Control – zoning and environmental sanitation</i>		X
	C Allergens from other products; e.g., Italian Vegetable Salad	X		This product could be exposed to milk allergen from other products if not controlled	<i>Allergen Control and Sanitation Control – prevent allergen cross- contact</i>	X	
	P None						
Fill, weigh, label	B Vegetative and sporeforming pathogen growth		X	Short process time - pathogens unlikely to grow			
	Product recontamination with environmental pathogens such as <i>L. mono</i>	X		Recontamination may occur if equipment cleaning and employee practices are not proper	<i>Sanitation Control – zoning and environmental sanitation</i>	X	
	C Undeclared allergens – egg, pecan	X		Product contains egg and pecan allergens	<i>Allergen Control – declaration on label</i>	X	
	P None						
Metal detection	B None						
	C None						
	P Metal	X		Chopping carrots and other metal-on-metal contact may periodically produce metal hazards	<i>Process Control – metal detection</i>	X	
Refrigerated finished product storage	B Vegetative and sporeforming pathogen growth	X		Pathogens can grow if product is time and temperature abused	<i>Process Control – product storage temperature prior to shipment</i>	X	
	C None						
	P None						
Refrigerated product shipping	B Vegetative and sporeforming pathogen growth	X		Pathogens can grow if product is time and temperature abused	<i>Process Control – product and shipping vehicle temperature</i>	X	
	C None						
	P None						



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Process Preventive Controls

Process Control(s)	Hazard(s)	Critical Limits	Monitoring				Corrective Action	Verification	Record-keeping Procedures
			What	How	Frequency	Who			
Wash, carrots	Vegetative pathogens such as <i>Salmonella</i> and pathogenic <i>E. coli</i>	Free chlorine in wash water at end of batch run is ≥ 10 ppm, pH 7.5 maximum	Wash water Initial chlorine level in water is ≥ 50 ppm	Chlorine and pH test strips match color	Each batch	Wash operator	If chlorine or pH level is not correct, then 1) adjust and conduct training as needed to prevent recurrence 2) segregate carrots to the last good check, reprocess or discard; 3) identify root cause and correct.	Daily review of Wash Water Chlorine log Perform accuracy check on both pH and chlorine strips for each new lot of strips with standard solutions Review of corrective action log Review of verification records	Wash Water log showing both chlorine and pH values Corrective action records Verification records Validation report that shows chlorine wash water is effective
Metal detection			<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> See Food Safety Plan in curriculum for an example of potential wording for metal detection. Parameters can vary depending on the product, packaging, detection system, etc. </div>						



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Process Control(s)	Hazard(s)	Critical Limits	Monitoring				Corrective Action	Verification	Record-keeping Procedures
			What	How	Frequency	Who			
Refrigerated finished product storage	Vegetative and spore-forming pathogen growth	Cooler maintained at ≤40°F	Cooler temperature	Digital time and temperature data logger with a continuous chart recorder	Continuous, with visual check of recorded data once per day	Production employee	<p>If cooler temperature is >40°F, place product in alternative cooler.</p> <p>If product temperature is >40°F, measure upstream product and component temperatures to determine potential issues. Hold and evaluate based on total time and temperature exposure - release or reject as appropriate. Find root cause and fix cooler. Retrain if appropriate.</p>	<p>Check recorder and dial thermometer for accuracy and to ensure that they are operating properly before putting into use; check daily at the beginning of operations. Calibrate recorder annually. Calibrate dial thermometer when accuracy check indicates need.</p> <p>Review monitoring, corrective action, and verification records within one week of preparation</p>	<p>Recording refrigeration charts and visual check records</p> <p>Product temperature log</p> <p>Thermometer accuracy checks and calibration records.</p>
		Product temperature ≤40°F	Product internal temperature when it enters the cooler	Dial thermometer	First product in and every 2 hours until the end of shift	Production employee			



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Process Control(s)	Hazard(s)	Critical Limits	Monitoring				Corrective Action	Verification	Record-keeping Procedures
			What	How	Frequency	Who			
Refrigerated product shipping	Vegetative and spore-forming pathogen growth	Product and shipping vehicle temperature must be ≤40°F.	Temperature in refrigerated truck	Recording thermometer on truck compared to temperature of our own thermometer.	Every load before loading	Shipping clerk	<p>If truck temperature is >40°F before loading, then</p> <ol style="list-style-type: none"> 1) close truck and wait until temperature is ≤40°F before loading. 2) identify root cause; 3) conduct training as needed to prevent recurrence 	<p>Check thermometer for accuracy daily at the beginning of operations. Calibrate annually. Review monitoring, and associated corrective action, and verification records within one week of preparation</p>	<p>Shipping truck temperature log Thermometer calibration records.</p>

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Allergen Preventive Controls

Allergen Controls	Hazard(s)	Criterion	Monitoring				Corrective Action	Verification	Records
			What	How	Frequency	Who			
Fill, weigh, label	Undeclared Allergens – pecans and eggs	Correct labels applied to finished product	Label on finished product matches product number and declares pecans and egg	Visual inspection of finished product label	At the beginning and the end of each packaging run, and each new case of containers	Packaging line worker	If label is incorrect, then 1) segregate product, inspect back to the last good check, re-label or discard product; 2) identify root cause; 3) conduct training as needed to prevent recurrence	QA manager reviews Packing Room Log within one week and compares to past information to identify any trends. Weekly review of associated verification records corrective action records, if any	Allergen Label Check log <i>Corrective Action</i> records Verification records

Allergen Label Verification Listing	
Products	Allergen Statement
Broccoli, Carrot and Pecan Salad	Contains: Pecans, egg
Broccoli, Carrot and Raisin Salad	Contains: Egg
Italian Vegetable Salad with Parmesan Cheese	Contains: Milk, egg



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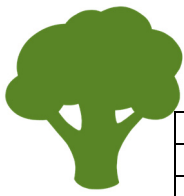
Production Line Allergen Assessment

Product Name	Production Line	Intentional Allergens							
		Egg	Milk	Soy	Wheat	Tree Nut (market name)	Peanut	Fish (market name)	Shellfish (market name)
Broccoli, Carrot and Pecan Salad	1	X				Pecan Unique allergen			
Broccoli, Carrot and Raisin Salad	1	X							
Italian Vegetable Salad with Parmesan Cheese	1	X	X Unique allergen						

Scheduling Implications: Broccoli, Carrot and Raisin Salad does not contain allergens present in other products. Standard practice is to run this product first to facilitate change overs.

Allergen Cleaning Implications: A complete allergen clean is required after Broccoli, Carrot and Pecan Salad and Italian Vegetable Salad with Parmesan Cheese to avoid allergen cross-contact.

For Training Purposes Only



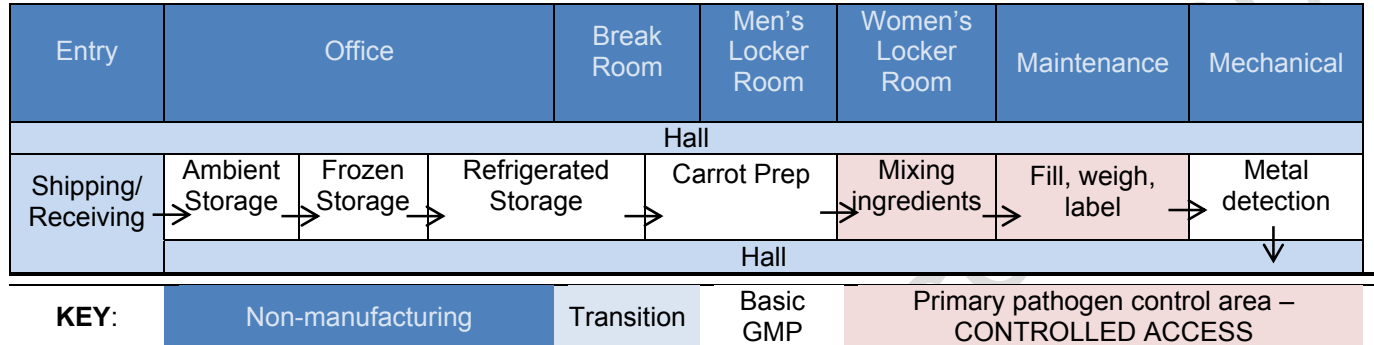
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Sanitation Preventive Controls

NOTE: See Food Safety Plan in curriculum for an example of potential wording for cleaning and sanitation procedures. Parameters can vary depending on the product, equipment, etc.

Hygienic Zoning & Environmental Monitoring

Purpose: Hygienic zoning is important to minimize the potential of re-contamination with environmental pathogens. Verification is by environmental monitoring (see Environmental Monitoring for Sanitation Preventive Control Verification).



Frequency: During production

Who: Employees and other individuals entering the Mixing and Fill areas (in pink above)

Procedure: Employees entering the Assembly and Fill areas must (in the order listed):

1. Take a clean, blue smock from the rack outside the production area and put them on. Smocks must cover outer clothing that would be above the processing line.
2. Take blue shoe covers from the box by the entry and put them on over shoes.
3. Take a blue hairnet from the box by the entry and put it on. Ensure that all loose hair is captured. Men with facial hair should also apply beard nets.
4. Wash hands just before entering the area following the procedures posted by the sink. Apply a clean pair of gloves.
5. When exiting the room deposit smocks, shoe covers and hair nets in the receptacles provided. DO NOT reuse disposable items after entering uncontrolled areas.

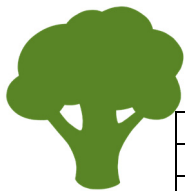
Maintenance workers and visitors must follow the above when entering this area. Traffic in this area is minimized during production.

Monitoring: For hygienic zoning, the sanitation supervisor visually observes the presence of the properly smocked employees, before start up and after lunch break, and every 2 hours.

Corrections: Employee is instructed to gown properly.

Records: Daily Hygienic Zoning Record, Environmental Monitoring Sampling Record and lab results

Verification: Environmental monitoring for verification of sanitation control and records review within 7 working days



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Environmental Monitoring for Sanitation Preventive Control Verification

Purpose: Environmental monitoring is conducted to verify the effectiveness of sanitation and hygienic zoning procedures in the Mixing and Fill, weigh, label areas to control environmental pathogens such as *L. monocytogenes*.

Sample identification: Based on observation when sampling, “worst case” areas are sampled; e.g., standing water or product residue, around table legs, crevasses major traffic areas. Record the specific location sampled.

Sampling procedure: Every other week, sponge swabs are collected during production at least 3 hours after production starts. Sampling time is not uniform to avoid bias of results. Samples are shipped to the laboratory using the sampling kit provided by the laboratory. Samples are refrigerated and shipped in an insulated cooler with a gel pack with next day delivery. Samples are NOT frozen.

The following number of samples collected each time.

- 3 in Assembly area
- 3 in Fill, weigh, label area
- 1 in the hallway at the entry of the assembly area
- 3 other samples based on observed conditions

Laboratory: *Wee Beasties Laboratory* (987 Critter Drive, Yourtown, USA) conducts the analysis using XYZ³ procedures. Analysis is started within 48 hours of sampling.

Test conducted: For routine samples, the contract lab composites sponges from the same area to run as one test for *Listeria* species. *Investigation samples must be run individually.* The test result sheet identifies the specific method number used.

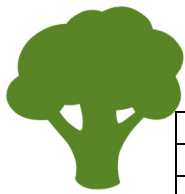
Interpretation of results:

Act on for a negative result – Continue routine operations

Corrective action for a positive result:

1. If a composite is positive, the positive areas are re-sampled within a day of notification and prior to implementing intensive sanitation procedures. Additional samples (number depends on size of area) are taken in other potential problem areas in an attempt to identify a site of contamination. All samples are run individually, without compositing.
2. Intensive sanitation procedures are implemented after sampling is complete.
3. Production can continue after sanitation is complete and product can be shipped.
4. If all re-samples are negative, resume the normal sampling frequency.
5. If one or more re-samples are positive, perform corrective action investigation to resolve the issue. Implement a hold and finished product testing procedure per the Product Testing for Verification corrective action protocol.

³ XYZ would be a scientifically valid method, such as AOAC, ISO, FDA, etc. The procedure must be validated for compositing (FDA BAM is not as of 10/22/2015)



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Supply-chain Preventive Controls Program

Determination of Verification Procedures – Audits

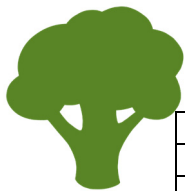
Verification activities: A 3rd party supplier audit by a qualified auditor is used to verify supply-chain control of the hazards listed in the table below. Additional verification activities may be conducted as identified in the table below.

Verification procedures: A copy of a 3rd party audit is requested from each supplier listed below on an annual basis. The audit date, auditor qualifications, audit procedures and audit results are reviewed. Follow up discussion with the supplier takes place, as necessary, to verify that any corrective actions mentioned in a report have been completed, with records maintained for this activity.

Records: A copy of audit reports and verification of corrective actions taken by the supplier are maintained on file by the Food Safety Team Leader.

Other Verification Procedures

Raw Material or Other Ingredient	Hazard(s) Requiring a Supply-chain-applied Control	Preventive Control Applied by Supplier	Verification Activities	Verification Procedures	Acceptance Criteria
Pecans	Vegetative pathogens such as <i>Salmonella</i>	The supplier roasts pecans to inactivate vegetative pathogens	3 rd party audit	See above	See above
	Aflatoxin	The supplier sorts pecans to remove damaged nuts and conducts aflatoxin testing (using a valid method listed on their results report) to verify their control procedures.	A certificate of analysis for each lot of shelled pecans is used to verify supplier control.	For each lot received, trained receiving personnel review the supplier certificate of analysis for aflatoxin	< 15 ppb aflatoxin average maximum for sub-samples with no individual reading > 25 ppb
Fresh carrots	Vegetative pathogens such as <i>Salmonella</i> and pathogenic <i>E. coli</i> Lead	Produce Safety rule compliance minimizes lead and vegetative pathogens	3 rd party audit	See above	See above
Frozen broccoli	Vegetative pathogens such as <i>L. monocytogenes</i> and <i>Salmonella</i>	Blanching and environmental sanitation controls	3 rd party audit	See above	See above
	Pesticides (for product sourced from countries without robust control programs)	Pesticide control and monitoring	Sampled and sent for pesticide screen, quarterly	Quality technician takes and submits samples per procedure XYZ. Quality manager verifies that results comply with acceptance criteria	Residues comply with regulatory requirements following procedure XYZ



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Approved Suppliers for Ingredients Requiring a Supply-chain-applied Control

Ingredient (requiring supply-chain-applied control)	Approved Supplier	Date of Approval	Hazard(s) requiring supply-chain-applied control	Verification method	Verification records
Pecans	Nuts2U Co., Cropville, USA	10/22/2013	<i>Salmonella</i>	Copy of 3 rd party audit by a qualified auditor obtained from supplier to verify <i>Salmonella</i> control	Copy of audit kept in Supplier Verification File
			Aflatoxin	Supplier's Certificate of Analysis (COA) with each shipment to verify aflatoxin control	COA and incoming goods log, corrective records
Fresh carrots	WeeGrower Inc., Rabbiton, USA	9/15/2011	Vegetative pathogens such as <i>Salmonella</i> and pathogenic <i>E. coli</i>	Copy of 3 rd party audit by a qualified auditor obtained from supplier	Copy of audit kept in Supplier Verification File
Frozen broccoli	FreezRFood, Bordertown, NotUSA	8/8/2012	Vegetative pathogens such as <i>L. monocytogenes</i> and <i>Salmonella</i>	Copy of 3 rd party audit by a qualified auditor obtained from supplier	Copy of audit kept in Supplier Verification File
			Pesticides (for product sourced from countries without robust control programs)	Internal sample and test	Lab test results kept in supplier file

Receiving procedures: For each shipment received, the receiving clerk uses the receiving database to identify required documentation then:

- verifies that the product is from an approved supplier
- verifies that each lot in the shipment is accompanied by a COA, if appropriate
- reviews each COA against acceptance criteria above, as appropriate
- documents the above in the Incoming Goods Log.