

Shrimp, Dried

Generic HACCP Plan

Updated 7/15/02

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1. Process Description

Shrimp received for drying are head-on, small and fresh. They are delivered on ice by fishermen. The drying process is seasonal.

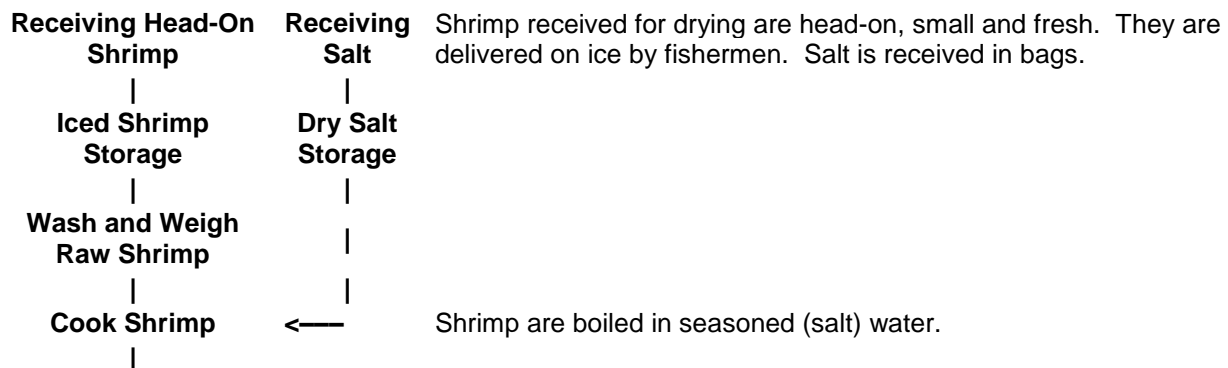
Head-on shrimp are kept on ice until processed. Shrimp are washed and weighed to remove ice and damaged shrimp. Shrimp are boiled in seasoned (salt) water. The amount of salt used to season the shrimp may vary and is determined by desired flavor of the end product.

After boiling each batch of shrimp, additional salt is added to the cook water to maintain a constant concentration. Cooked shrimp are placed in forced-air drying units until the shrimp are properly dried, usually six to seven hours.

The dried shrimp are rotated in a screen drum to remove shells and heads from the dried meat. Dried shrimp tails are sacked and stored. Sulfite is not declared on the label because sulfited shrimp are not used. The shrimp may be stored under refrigeration, although this is not necessary.

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2. Flow Diagram



Forced Air Drying

|
Screen Tumbling

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**Packaging or
Sacking**

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Storage

Cooked shrimp are placed in forced-air drying units until the shrimp are properly dried, usually six to seven hours.

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3. Hazard Analysis Worksheet

Firm Name: <i>ABC Shrimp Drying Company</i>		Product Description: <i>Dried shrimp in cloth sacks</i>			
Firm Address: <i>Anywhere, USA</i>		Storage and Distribution: <i>Dry storage, unrefrigerated</i>			
		Intended Use and Consumer: <i>Ready-to-eat without further processing</i>			
(1) Ingredient/ processing step.	(2) Identify potential hazards introduced, controlled or enhanced at this step.	(3) Are any potential food- safety hazards significant? (Yes/No)	(4) Justify your decisions for column 3.	(5) What control measures can be applied to prevent the significant hazards?	(6) Is this step a critical control point? (Yes/No)
Receiving Shrimp	BIOLOGICAL Bacterial pathogen contamination	Yes	Raw seafood can be natural reservoirs for pathogens.	Cooking will destroy prior to consumption.	No
	CHEMICAL Sulfiting agent	Yes	Potential for allergic-type reaction.	Reject shrimp containing sulfite residuals.	Yes
	PHYSICAL None				
Receiving salt	BIOLOGICAL None				
	CHEMICAL None				
	PHYSICAL None				
Iced shrimp storage	BIOLOGICAL Bacterial pathogen growth	Yes	Pathogen growth if temperature abused	Cooking will destroy prior to consumption.	No
	CHEMICAL None				

	PHYSICAL None				
Salt storage	BIOLOGICAL None				
	CHEMICAL None				
	PHYSICAL None				
Wash raw shrimp	BIOLOGICAL None				
	CHEMICAL None				
	PHYSICAL None				
Cook shrimp	BIOLOGICAL Pathogen survival	Yes	Improper cooking will allow survival of pathogens.	Control time/temperature during cooking.	Yes
	CHEMICAL None				
	PHYSICAL None				
Drying	BIOLOGICAL Pathogen growth	Yes	Improperly dried shrimp will have a wet spot, allowing pathogen growth.	Reduce water activity to acceptable levels.	Yes
	CHEMICAL None				
	PHYSICAL None				
Tumbling					
	BIOLOGICAL Pathogen recontamination	No	Controlled by SSOP.		
	BIOLOGICAL Pathogen growth	No	Low water activity.		
	CHEMICAL None				
Packing					
	BIOLOGICAL Pathogen recontamination	No	Controlled by SSOP.		
	BIOLOGICAL Pathogen growth	No	Low water activity.		
	CHEMICAL None				

	PHYSICAL None				
Storage	BIOLOGICAL Pathogen growth	No	Low water activity.		
	CHEMICAL None				
	PHYSICAL None				

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4. HACCP Plan Form

Firm Name: <i>ABC Shrimp Drying Co.</i>				Product Description: <i>Dried shrimp in cloth sacks</i>					
Firm Address: <i>Anywhere, USA</i>				Storage and Distribution: <i>Dry storage, unrefrigerated</i>					
				Intended Use and Consumer: <i>Ready-to-eat without further processing; general public</i>					
(1) Critical Control Point (CCP)	(2) Significant Hazard(s)	(3) Critical Limits for each Control Measure	Monitoring				(8) Corrective Action(s)	(9) Verification	(10) Records
			(4) What	(5) How	(6) Frequency	(7) Who			
Receiving Head-on shrimp	Sulfite residuals	No detectable sulfite residuals.	Presence of sulfite residuals in any three grab samples	Rapid sulfite test	Every boat.	Dockmaster	Reject if present.	Daily record review. Lab reports with official AOAC tests seasonally.	Receiving record.
Cook shrimp	Survival of pathogens	Boil at 212°F for three minutes	Water temperature and time of cook.	Visual check of boiling and time check.	Every batch.	Cooker operator	Hold and evaluate or recook.	Daily record review. Validation study (on file)	Cooking log.
Drying	Pathogen growth	Water activity .85 or less achieved	Water activity and drying time.	Water activity meter	Every batch.	Quality-control person	If .85 water activity is not	Daily record review. Calibration	Drying record.

		within eight hours.		and drying cycle timer.			achieved within eight hours, continue drying cycle and hold and evaluate by competent authority.	n of water activity meter.	
Signature of Company Official:					Date:				

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Reference

Seafood HACCP Alliance for Education and Training. 2001. HACCP: Hazard Analysis and Critical Control Point Training Curriculum. Available from: UF/IFAS-Extension Bookstore, P.O. Box 110011, Gainesville, FL 32611-0011.

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UCSGEP 02-2W; July 2002 (Revised)

This work is sponsored in part by NOAA, National Sea Grant College Program, Department of Commerce, under grant number NA06RG0142, project number A/EA-1, through the California Sea Grant College Program, and in part by the California State Resources Agency. The U.S. Government is authorized to reproduce and distribute reprints for governmental purposes.