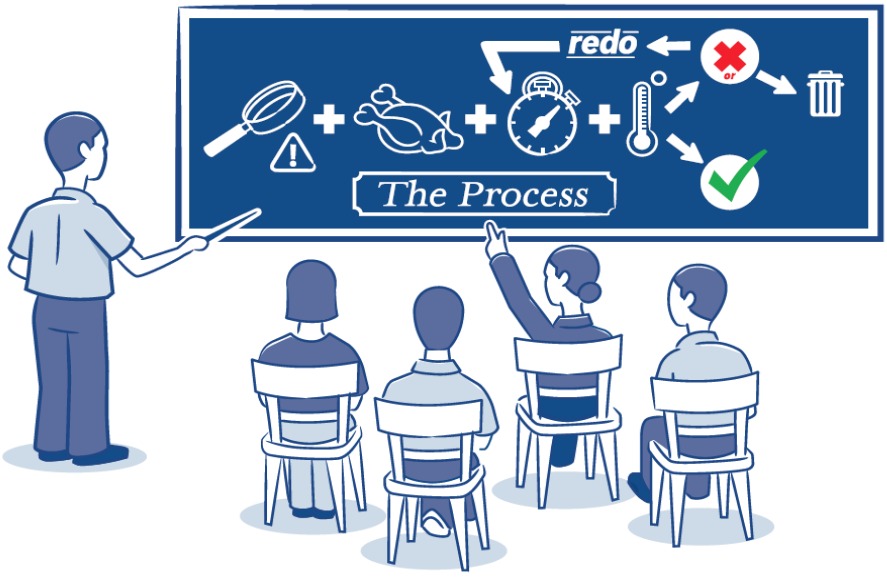
Sample Food Safety Plan

MEETS BC REGULATORY REQUIREMENTS

IQF RASPBERRIES



BRITISH COLUMBIA | Ministry of Health

Product Description

Product Description	
1. What is your product name and weight/volume?	IQF raspberries (450 g)
2. What type of product is it (e.g., raw, ready-to-eat, ready-to-cook, or ready for further processing, etc.)?	Ready to eat
3. What are your product's important food safety characteristics (e.g., acidity, A_w, salinity, etc.)?	None
4. What allergens does your product contain?	None
5. What restricted ingredients (preservatives, additives, etc.) does your product contain, and in what amounts (e.g., grams)?	None
6. What are your food processing steps (e.g., cooking, cooling, pasteurization, etc.)?	Receiving incoming materials, ambient storage, cool refrigerator storage, packaging material storage in a separate location, dumping, washing, antimicrobial treatment, rinsing, drying, inspection, individual quick freezing, optical sorting, weighing, bag packaging and labeling, metal detecting, case packaging and labeling, palletizing, freezer storage, shipping.
7. How do you package your product (e.g., vacuum, modified atmosphere, etc.) and what packaging materials do you use?	IQF raspberries are packaged in plastic bags. Packaged bags are packed in corrugated boxes.
8. How do you store your product (e.g., keep refrigerated, keep frozen, keep dry) in your establishment and when you ship your product?	Keep frozen. Frozen raspberries are shipped in a clean, temperature-controlled truck (less than or equal to -18°C)
9. What is the shelf-life of your product under proper storage conditions?	Frozen raspberries shelf life is 2 years at freezer temperatures (less than or equal to -18°C)
10. How is the best before date to be noted on your product? (When product shelf life is more than 3 month, lot code or manufacturing date is to be printed on product label.)	The best before date is printed on the plastic bag as YY MM DD. Example: 15 JA 04 (January 04, 2015)
11. Who will consume your product (e.g., the general public, the elderly, the immunocompromised, infants)?	Ready to eat for the general population.

Product Description	
12. How might the consumer mishandle your product, and what safety measures will prevent this?	1. Products not stored at correct temperatures can cause illness and can have quality defects – storage and handling instructions are on the label. 2. Products that have passed the best before date can cause illness and can have quality defects – the best before date is printed on the plastic bag. 3. Refreezing can cause quality defects – storage and handling instructions are on the label.
13. Where will the product be sold?	Food service, retail, wholesale and distributor.
14. What information is on your product label?	Individual product bag label contains information such as product name, weight, ingredients listing, nutritional table, claim, storage and handling instructions, best before date, preparation instructions, manufacturing company name, address and contact information. Corrugated box label contains information such as product name, best before date, quantity, storage and handling instructions, preparation instructions, manufacturing company name, address and contact information.

Incoming Materials

Ingredients	
Raspberries	
Food contact processing aid materials	
Water	Sodium hypochlorite
Food contact packaging materials	
Pre-printed plastic bags	
Non-food contact packaging materials	
Pre-printed corrugated boxes	Shrink wrap
Ink	Wooden pallets
Tape	
Chemicals (hand washing, sanitation and maintenance)	
Hand soap	Sanitizer
Hand sanitizer	Lubricant
Degreaser	

Food Safety Plan Table: Meets BC Regulatory Requirement

1. Identifying Hazards (Regulatory Requirement*)	2. Identifying Critical Control Points (Regulatory Requirement*)	3. Establishing Critical Limits (Regulatory Requirement*)	4. Establishing Monitoring Procedures (Regulatory Requirement*)	5. Establishing Corrective Actions (Regulatory Requirement*)	6. Establishing Verification Procedures (Pending Regulatory Requirement)	7. Keeping Records (Pending Regulatory Requirement)
Biological hazard: Inadequate reduction of pathogenic microorganisms due to ineffective antimicrobial treatment (insufficient chemical concentration, inadequate water pH, inappropriate water temperature, and/or inadequate contact time) **Chemical hazard:** Chemical contamination with excess concentrations of antimicrobial chemical due to improper mixing, application, or agitation.	CCP # 1 Antimicrobial treatment	1. Water temperature must be less than or equal to 4°C and water pH must be between 6.0 and 7.0 prior to the addition of the antimicrobial chemical. 2. The antimicrobial treatment solution (i.e., the chemical and water mix) must contain total chlorine levels between 100 ppm and 150 ppm. 3. The product must remain in contact with the antimicrobial treatment solution for 4–5 minutes. 4. The antimicrobial treatment solution must be replaced every 4 hours.	1. Test the critical limits at the start of production and every 4 hours during production, when the antimicrobial treatment solution is replaced. 2. Calibrate the thermometer and the pH meter to ensure that they are working correctly before measuring water temperature and pH. 3. Check the water temperature and pH prior to adding the antimicrobial chemical. 4. Mix the antimicrobial chemical as per manufacturer's instructions. 5. Check chlorine levels in the antimicrobial treatment solution using a chemical test kit or paper. 6. Monitor the product's contact time with the antimicrobial treatment solution using a stopwatch. 7. Ensure that the antimicrobial treatment	**A. When the water temperature and/or pH does not meet the critical limit** **1.** Adjust the water temperature and/or pH by adding warm or cold water. **B. When the antimicrobial treatment solution does not meet the critical limit for total chlorine** 1. Adjust by adding water or antimicrobial chemical until the antimicrobial treatment solution reaches the desired critical limit. **C. When the product's contact time with the antimicrobial treatment solution fails to meet the critical limit** 1. Immediately place all products processed since the last successful check on hold.	1. Review the "Daily Antimicrobial Treatment Check Record" to ensure that it has been properly completed. 2. Once per week, ensure that the monitoring of the antimicrobial treatment solution follows the written monitoring procedure. 3. Investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 4. Record all observations (e.g., temperature readings, pH and chlorine checks, non-conformances, and corrective actions) on the "Daily Antimicrobial Treatment Check Record," including the date, the time, and initials.	Daily Antimicrobial Treatment Check Record

1. Identifying Hazards (Regulatory Requirement*)	2. Identifying Critical Control Points (Regulatory Requirement*)	3. Establishing Critical Limits (Regulatory Requirement*)	4. Establishing Monitoring Procedures (Regulatory Requirement*)	5. Establishing Corrective Actions (Regulatory Requirement*)	6. Establishing Verification Procedures (Pending Regulatory Requirement)	7. Keeping Records (Pending Regulatory Requirement)
			solution is replaced every 4 hours. 8. Record the monitoring procedure results including water and antimicrobial chemical volume on the "Daily Antimicrobial Treatment Check Record," including the date, the time, and initials.	2. Products put on hold must be reprocessed to meet critical limit, if critical limit cannot be met product must be destroyed. **D. When the antimicrobial treatment solution is not replaced every 4 hours** 1. Immediately place all products processed since the last successful check on hold. 2. Products put on hold must be reprocessed to meet critical limit, if critical limit cannot be met product must be destroyed. For above listed non-conformances (A, B, C & D) investigate the cause of the non-conformances and take necessary corrective actions to prevent reoccurrence. Record all non-conformances and corrective actions taken on the		

1. Identifying Hazards (Regulatory Requirement*)	2. Identifying Critical Control Points (Regulatory Requirement*)	3. Establishing Critical Limits (Regulatory Requirement*)	4. Establishing Monitoring Procedures (Regulatory Requirement*)	5. Establishing Corrective Actions (Regulatory Requirement*)	6. Establishing Verification Procedures (Pending Regulatory Requirement)	7. Keeping Records (Pending Regulatory Requirement)
				"Daily Antimicrobial Treatment Check Record," including the date, the time, and initials.		
Biological hazard: Presence of pathogen in the finished product due to infrequent rinse water replacement. Presence of pathogen in the finished product due to overly warmed rinse water. **Chemical hazard:** Presence of antimicrobial chemical in the finished product due to inadequate rinsing	CCP # 2 Rinsing	1. Rinse water must be replaced every 4 hours. 2. Rinse water temperature must be less than or equal to 4°C. 3. Free chlorine levels in rinse water must be less than 2 ppm.	1. Calibrate thermometer to ensure that it is working correctly before measuring the water temperature. 2. Check the rinse water temperature and free chlorine levels at the start of the production process, every hour during processing, and at the end of the production run. 3. Ensure that the rinse water is replaced every 4 hours. 4. Record the results on the "Daily Rinsing Check Record," including the date, the time, and initials.	**A. When the rinse water is not replaced every 4 hours** **B. When the rinse water temperature does not meet the critical limit** **C. When the rinse water does not meet the critical limit for free chlorine levels** For above listed non-conformances (A, B & C) 1. Immediately place all products processed since the last successful check on hold. 2. Products put on hold must be reprocessed to meet critical limit. If critical limit cannot be met, product must be destroyed. 3. Investigate the cause of the non-conformance and take necessary	1. Review the "Daily Rinsing Check Record" to ensure that it has been properly completed. The Quality Assurance technician must sign and date the "Daily Rinsing Check Record." 2. Once per week, ensure that the monitoring of the rinse follows the written monitoring procedure. 3. If non-conformance is found during the verification procedure, investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 4. Record all observations (e.g., temperature readings, chlorine levels checks, non-	Daily Rinsing Check Record

1. Identifying Hazards (Regulatory Requirement*)	2. Identifying Critical Control Points (Regulatory Requirement*)	3. Establishing Critical Limits (Regulatory Requirement*)	4. Establishing Monitoring Procedures (Regulatory Requirement*)	5. Establishing Corrective Actions (Regulatory Requirement*)	6. Establishing Verification Procedures (Pending Regulatory Requirement)	7. Keeping Records (Pending Regulatory Requirement)
				corrective actions to prevent reoccurrence. 4. Record all non-conformances and corrective actions taken on the "Daily Rinsing Check Record," including the date, the time, and initials.	conformances, and corrective actions) on the "Daily Rinsing Check Record," including the date, the time, and initials.	
Biological hazard: Reduced shelf life of the product due to inadequate freezing of the product.	CCP # 3 Individual quick freezing	The internal temperature of the product must be less than or equal to -18°C.	1. Check the internal temperature of the product at the start, middle and end of the freezing process. 2. Calibrate the thermometer to ensure it is working correctly before measuring the product's internal temperature. 3. Collect a sample of the product in a sampling bowl; place thermometer into the middle of the sample without touching the sides of the sampling bowl, and wait until the thermometer reading is steady. 5. Record result on the "Daily Individual Quick Freezing Record" including the date, the time, and initials.	**When critical limits are not being met for one or two or all samples** 1. Immediately stop the line and must place all products that do not meet the critical limit on hold. 2. Products put on hold must be frozen again or if the critical limit cannot be met, product must be destroyed. 3. Investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 4. Record all non-conformances and corrective actions taken on the	1. Review the "Daily Individual Quick Freezing Record" to ensure that it has been properly completed. 2. Once per week, ensure that the temperature check follows the written monitoring procedure. 5. If non-conformance is found during the verification procedure, investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 3. Record all observations (e.g., temperature readings, non-	Daily Individual Quick Freezing Record

1. Identifying Hazards (Regulatory Requirement*)	2. Identifying Critical Control Points (Regulatory Requirement*)	3. Establishing Critical Limits (Regulatory Requirement*)	4. Establishing Monitoring Procedures (Regulatory Requirement*)	5. Establishing Corrective Actions (Regulatory Requirement*)	6. Establishing Verification Procedures (Pending Regulatory Requirement)	7. Keeping Records (Pending Regulatory Requirement)
				"Daily Individual Quick Freezing Record," including the date, the time, and initials.	conformances, and corrective actions) on the "Daily Individual Quick Freezing Record," including the date, the time, and initials.	
Physical hazard: Presence of hazardous extraneous foreign materials in the finished product due to the failure of the optical sorter to detect foreign materials (wood, stone) and function as intended when foreign materials are detected.	CCP # 4 Optical sorting	Optical sorter must detect 3.0 mm wood sample and a 3.0 mm stone test samples when the test samples are passed through the optical sorter with the product. The optical sorter must reject the product.	1. Test the optical sorter at the start, every hour during production and at the end of each production run. 2. First, place a 3.0 mm wood sample inside the product and pass the product through the optical sorter. A properly operating optical sorter must detect the wood sample in the product. 3. Then, place a 3.0 mm stone sample inside the product and pass the product through the optical sorter. A properly operating optical sorter must detect the stone sample in the product. 4. Each time a foreign material is detected, the optical sorter belt must retract and the rejected product must drop into the rejection box. 5. Record the results of each check as	**When the optical sorter fails to detect one or both test samples** 1. Immediately stop the production line and place all products processed since the last successful check on hold. 2. All products processed while the optical sorter is not functional must be held until they can be passed through a functional optical sorter. 3. Investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 4. Record all non-conformances and corrective actions taken on the "Daily Optical Sorter Check	1. Review the "Daily Optical Sorter Check Record" to ensure that it has been properly completed. 2. Once per week, ensure that the monitoring of the optical sorter follows the written monitoring procedure. 3. If non-conformance is found during the verification procedure, investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 4. Record all observations (e.g., whether the optical sorter is operating effectively, non-conformances, and corrective	Daily Optical Sorter Check Record

1. Identifying Hazards (Regulatory Requirement*)	2. Identifying Critical Control Points (Regulatory Requirement*)	3. Establishing Critical Limits (Regulatory Requirement*)	4. Establishing Monitoring Procedures (Regulatory Requirement*)	5. Establishing Corrective Actions (Regulatory Requirement*)	6. Establishing Verification Procedures (Pending Regulatory Requirement)	7. Keeping Records (Pending Regulatory Requirement)
			acceptable ("✓") (i.e., the optical sorter is functioning properly) or not acceptable ("X") (i.e., the optical sorter is not functioning properly) on the "Daily Optical Check Record," including the date, the time, and initials.	Record," including the date, the time, and initials.	actions) on the "Daily Optical Sorter Check Record," including the date, the time, and initials.	
Physical hazard: Presence of hazardous extraneous metallic material in the finished product due to the failure of the metal detector to detect metal and reject the product when metal is detected.	CCP # 5 Metal detecting	Metal detector must detect 3.0 mm ferrous, 3.0 mm non-ferrous, and 3.5 mm stainless steel test samples when the test samples are passed through the detector with the product. The metal detector must reject the product.	1. Test the metal detector at the start, every hour during packaging, and at the end of each packaging run. 2. Test the metal detector by passing a sample piece of metal through the detector to ensure that it is operating effectively and able to detect metal present in the product. 3. Check metal samples of 3.0 mm ferrous, 3.0 mm non-ferrous, and 3.5 mm stainless steel, one at a time. Each check must include all three sample tests. 4. Insert the metal sample into the middle of the product and then pass the product package through the metal detector. A properly operating metal	**A. When the metal detector fails to detect a metal test sample** 1. Immediately stop the line and place all products processed since the last successful check on hold. 2. All products processed while the metal detector was not functional must be held until they can be passed through a functional metal detector. **B. When a product is rejected by the metal detector** 1. Inspect the product for the metal piece. For above listed non-conformances (A & B) investigate the cause of the non-	1. At the end of each production day, review the "Daily Metal Detector Check Record" to ensure that it has been properly completed. 2. Once per week, ensure that the monitoring of the metal detector follows the written monitoring procedure. 3. If non-conformance is found during the verification procedure, investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. 4. Record all observations (e.g.,	Daily Metal Detector Check Record

1. Identifying Hazards (Regulatory Requirement*)	2. Identifying Critical Control Points (Regulatory Requirement*)	3. Establishing Critical Limits (Regulatory Requirement*)	4. Establishing Monitoring Procedures (Regulatory Requirement*)	5. Establishing Corrective Actions (Regulatory Requirement*)	6. Establishing Verification Procedures (Pending Regulatory Requirement)	7. Keeping Records (Pending Regulatory Requirement)
			detector must detect the metal sample in the product. 5. Each time a metal contaminant is detected, the metal detector belt must retract and the rejected product must drop into the rejection box. 6. Record the metal sample check as acceptable (“✓”) (i.e., the metal detector is operating correctly) or not acceptable (“X”) (i.e., the metal detector is not operating correctly) on the “Daily Metal Detector Check Record,” including the date, the time, and initials.	conformance and take necessary corrective actions to prevent reoccurrence. Record all non-conformances and corrective actions taken on the “Daily Metal Detector Check Record," including the date, the time, and initials.	whether or not the detector is operating effectively, non-conformances, and corrective actions taken) on the “Daily Metal Detector Check Record,” including the date, the time, and initials.	

Daily Antimicrobial Treatment Check Record
Critical Control Point # 1 (Biological, Chemical)

Critical Limits:

1. Water temperature must be less than or equal to 4°C and water pH must be between 6.0 and 7.0 prior to the addition of the antimicrobial chemical.
2. The antimicrobial treatment solution (i.e., the chemical and water mix) must contain total chlorine levels between 100 ppm and 150 ppm.
3. The product must remain in contact with the antimicrobial treatment solution for 4–5 minutes.
4. The antimicrobial treatment solution must be replaced every 4 hours.

Date	Time	Water Volume	Antimicrobial Solution Volume	Water Temperature	Water pH	Total Chlorine	Product Contact Time	Initials
2015/11/02	7:15 (start)	2 L		3.8°C	6.2			CC
	7:35	2 L	15 mL	4.0°C	6.2	167 ppm	4 min.	CC
	11:40	2 L	15 mL	4.0°C	6.2	166 ppm	4 min.	CC
	11:50 (water replaced)	2 L		3.8°C	7.0			CC
	12:00	2 L	15 mL	3.9°C	6.4	166 ppm	4 min.	CC

Record non-conformance and corrective actions here:

Daily verification:	MN	Date: 2015/11/02
Weekly verification:	ML	Date: 2015/11/09

Daily Rinsing Check Record
Critical Control Point # 2 (Biological, Chemical)

Critical Limits:

1. Rinse water must be replaced every 4 hours.
2. Rinse water temperature must be less than or equal to 4°C.
3. Free chlorine levels in rinse water must be less than 2 ppm.

Date	Time	Rinse Water Replaced	Water Temperature	Free Chlorine	Initials
2015/11/02	7:55 (start)		4°C	1.6 ppm	CC
	9:00		3.9°C	1.8 ppm	CC
	10:01		3.4°C	1.4 ppm	CC
	11:04		3.8°C	1.5 ppm	CC
	12:02	✓	4°C	1.6 ppm	CC

Record non-conformance and corrective actions here:		
Daily verification:	MN	Date: 2015/11/02
Weekly verification:	ML	Date: 2015/11/09

Daily Individual Quick Freezing Check Record
Critical Control Point # 3 (Biological)

Critical Limits:

The internal temperature of the product must be less than or equal to -18°C.

Date	Product Name	Batch Number	Temperature			Initials
			Start	Middle	End	
2015/11/05	Raspberries	1	-18°C	-19°C	-18.5°C	CC
	Raspberries	2	-19°C	-21°C	-19°C	CC
	Raspberries	3	-18°C	-19°C	-22°C	CC

Record non-conformance and corrective actions here:

Daily verification: MN	Date: 2015/11/05
Weekly verification: ML	Date: 2015/11/09

Daily Optical Sorter Record
Critical Control Point # 4 (Physical)

Critical Limits:

Optical sorter must detect 3.0 mm wood sample and a 3.0 mm stone test samples when the test samples are passed through the optical sorter with the product. The optical sorter must reject the product.

Record the foreign material sample check as acceptable ("✓") (i.e., the optical sorter is operating correctly) or not acceptable ("X") (i.e., the optical sorter is not operating correctly)

Date	Time	Product Name	Batch Number	3.0 mm Wood	3.0 mm Stone	Initials
2015/11/05	10:22	Raspberries	1	✓	✓	CC
	11:00	Raspberries	2	✓	✓	CC
	12:04	Raspberries	2	✓	✓	CC
	13:03	Raspberries	3	✓	✓	CC
	14: 05	Raspberries	4	✓	✓	CC

Record non-conformance and corrective actions here:		
Daily verification:	MN	Date: 2015/11/05
Weekly verification:	ML	Date: 2015/11/09

Daily Metal Detector Check Record
Critical Control Point # 5 (Physical)

Critical Limits: Metal detector must detect 3.0 mm ferrous, 3.0 mm non-ferrous, and 3.5 mm stainless steel test samples when the test samples are passed through the detector with the product. The metal detector must reject the product.

Record the metal sample check as acceptable ("✓") (i.e., the metal detector is operating correctly) or not acceptable ("X") (i.e., the metal detector is not operating correctly)

Date	Time	Batch Number	Product Name	3.0 mm Ferrous	3.0 mm Non-ferrous	3.5 mm Stainless Steel	Initials
2015/11/05	12:00 (start)	1	Raspberries	✓	✓	✓	SM
	13:05	1	Raspberries	✓	✓	✓	SM
	14:07	1	Raspberries	✓	✓	✓	SM
	15:37	1	Raspberries	✓	✓	✓	SM
	16:04	1	Raspberries	✓	✓	✓	SM
	17:05	1	Raspberries	✓	✓	✓	SM
	17:44 (finish)	1	Raspberries	✓	✓	✓	SM

Record non-conformance and corrective actions here:

At 16:20, one package was rejected. The product was screened for a metal piece. A small piece (4 mm in size) of metal found. Upon investigation, it appears that it came from one of the damaged belts. The belt was immediately removed and replaced with a new belt. SM

Daily verification:	MN	Date: 2015/11/05
Weekly verification:	ML	Date: 2015/11/09