



# Ensuring Food Safety and Hygiene Standards in the Blueberry Industry

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## Introduction



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# Table of Contents

- + Importance of Food Safety and Hygienic Design
- + Sanitary Design Principles
- + The FPS Standard
- + Contact FPS



## FPS GLOBAL FAMILY

### Combined Facility Size

Canada	360,000 sq ft (33,400 m <sup>2</sup> )
US	250,000 sq ft (23,300 m <sup>2</sup> )
Other Regions	170,900 sq ft (15,890 m <sup>2</sup> )
<b>Global Total:</b>	<b>780,900 sq ft (72,590 m<sup>2</sup>)</b>

Headquartered in  
Richmond, BC, Canada

**14** Years in Business

Establishments in

**10** Countries

**20** Locations

**3** Subsidiaries



**1** Partner





**20+**

Global Facilities



**1000+**

Employees



**650+**

Installations



**350+**

Field Service  
Projects



**2+**

Warehouses



**20+**

Global Suppliers

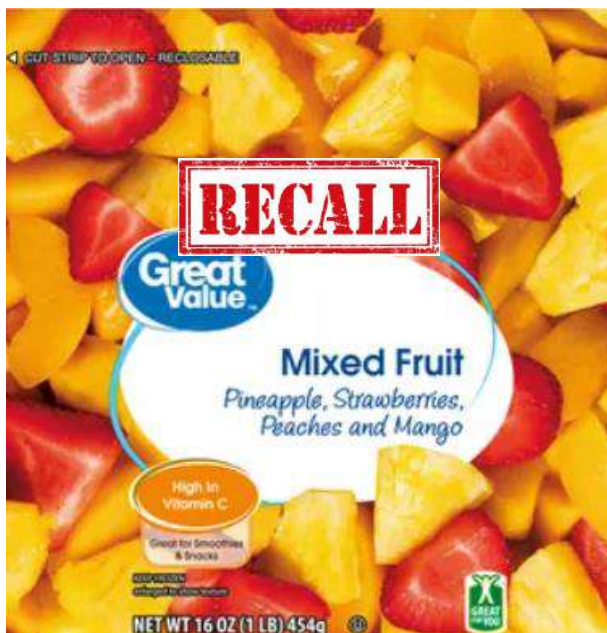




+ Importance of Food Safety and Hygienic Design



## Latest Recall Incidents / Berry Issues



- + Voluntary recall due to *Listeria monocytogenes* contamination by third-party supplier (USA) 2023



- + Recall of strawberries due to Hepatitis A outbreak in Mexican-grown strawberries in mix (USA) 2023



- + Frozen berry recall over links to a Hepatitis A outbreak originated from China (USA/Global) 2017

Our Customers





## We Know Berries



- + Raw Receiving
- + Conveyance
- + Washing
- + Destemming



- + Mechanical Sorting
- + Laser Sorting/Visual Inspection
- + Dewatering (Fluid Removal System)



- + Chilling/Freezing
- + Tote/Case Filling
- + Frozen Grading/Packaging

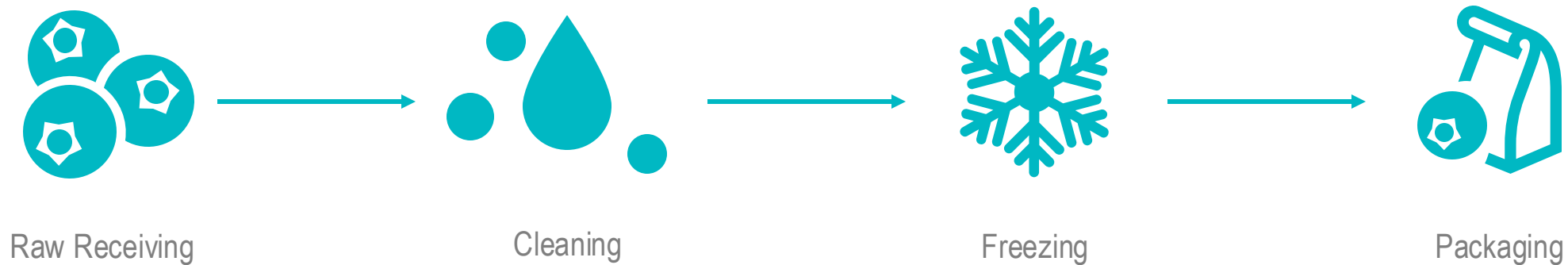




+ Sanitary Design Principles



# The Blueberry Processing Life Cycle



# Moroccan Blueberries: Pesticide & Chemical Policies



- + Morocco's pesticide regulations are aligned with EU and OECD standards, ensuring safety for key export markets, especially in Europe and North America



- + Emphasis on sustainable practices helps reduce chemical use and pesticide residues, enhancing market appeal for eco-conscious consumers



- + In collaboration with UNEP, Morocco is strengthening its regulatory framework to restrict or ban highly hazardous pesticides, aiming to improve public health and environmental safety



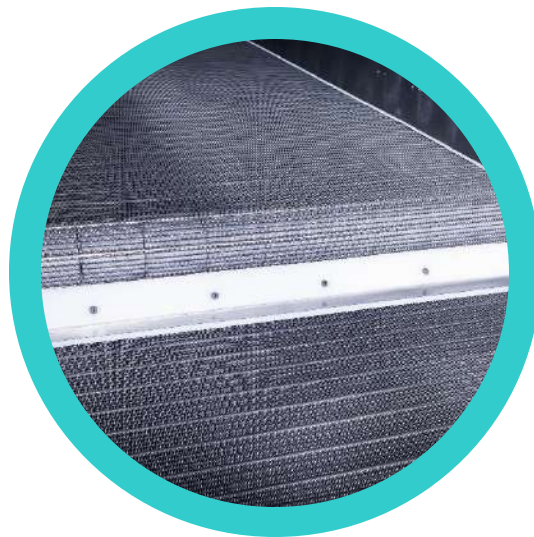
- + Morocco is establishing national standards for pesticide application equipment, storage, and labeling to improve safety and management throughout the pesticide supply chain



## Full End-to-End Berry Processing Line



+ Cleaning Line

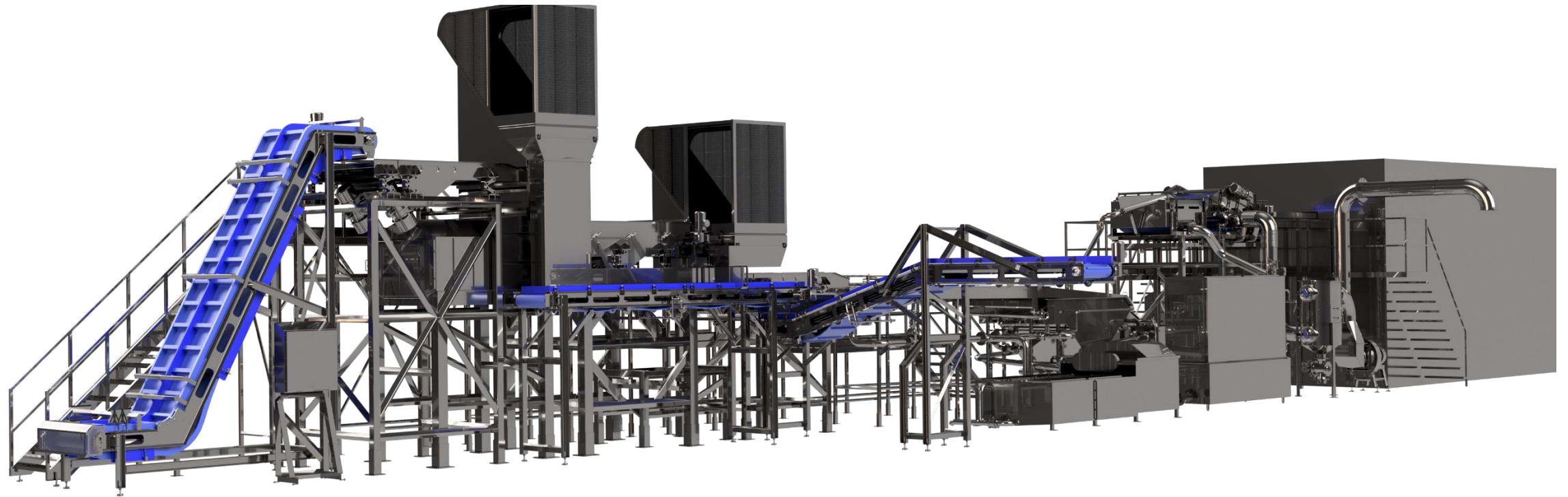


+ Freezing



+ Post-Freezing

# Front End Berry Processing Line





## Cleaning Line



- + From raw receiving to washing/cleaning to fluid removal
  - + Air Cleaner/Winnow (remove leaves, dirt, small debris)
    - + For High Bush Blueberries
  - + Dual Pump Loops (energy efficient cleaning vs single pump)
    - + Water and energy conservation
- + Dewatering (Fluid Removal System)
  - + Patented design combining vibration and mesh belt conveyor with suction plenum in the same unit







## Cleaning Line Steps – Hygienic Process



+ Raw Receiving



+ Washing/Debris removal



+ Sizing Deck



+ Sorter (Optical)



+ Dewatering (Fluid Removal System)

- + Air Cleaner/Winnower
- + First Wash – Raw Product (remove dirt, stems, leaves)
- + Second Wash – Dual Pump Loops (same water but treated = better water consumption)
- + Sizing Deck – removes unripened berries, small rocks, other matter that should not be there

+ Berries are treated and cleaned in sanitary conditions **BEFORE** entering the freezing stage

## Freezing



- + Stainless steel, fully welded enclosure
- + Minimal internal surface area means less bacteria contamination
- + Externally mounted fans eliminates foreign material including less wear and tear
- + Sloped, bathtub floors ensures effective drainage and chemical contamination
- + Sequential Defrost System ensures continued uptime while maintaining clean, food safe surfaces





## Recirculating CIP System with Pasteurization



- + Dishwasher cleaning concept
- + Fast, repeatable cleaning to customer requirements
- + Improved safety and minimal use of manpower
- + Recirculation during rinse and cleaning
- + Ability to use high temperature water, more aggressive chemicals and higher volumes than possible with manpower.
- + Multiple cleaning zones maximize scrubbing and soaking time
- + Cleaning at 600gpm to each zone
- + Optional clean water rinse/sanitizer tank

## Recirculating CIP System





## Post Freezing



- + After IQF freezing, berries are now in a state of potential contamination before packing. Areas we focus on:
  - + Hygienic Conveyance Systems for transporting product
  - + Stem Removal – berries are run through a rotary system
  - + Optical / Manual Sorter
  - + Packaging Line or straight to freezer
- + Made from stainless steel, sanitary conveyor systems transport frozen berries to frozen grading stations for sorting then cold storage or packaging

## Post Freezing – Hygienic Process is Crucial



+ Stem Removal



+ Sorting  
+ Optical  
+ Manual



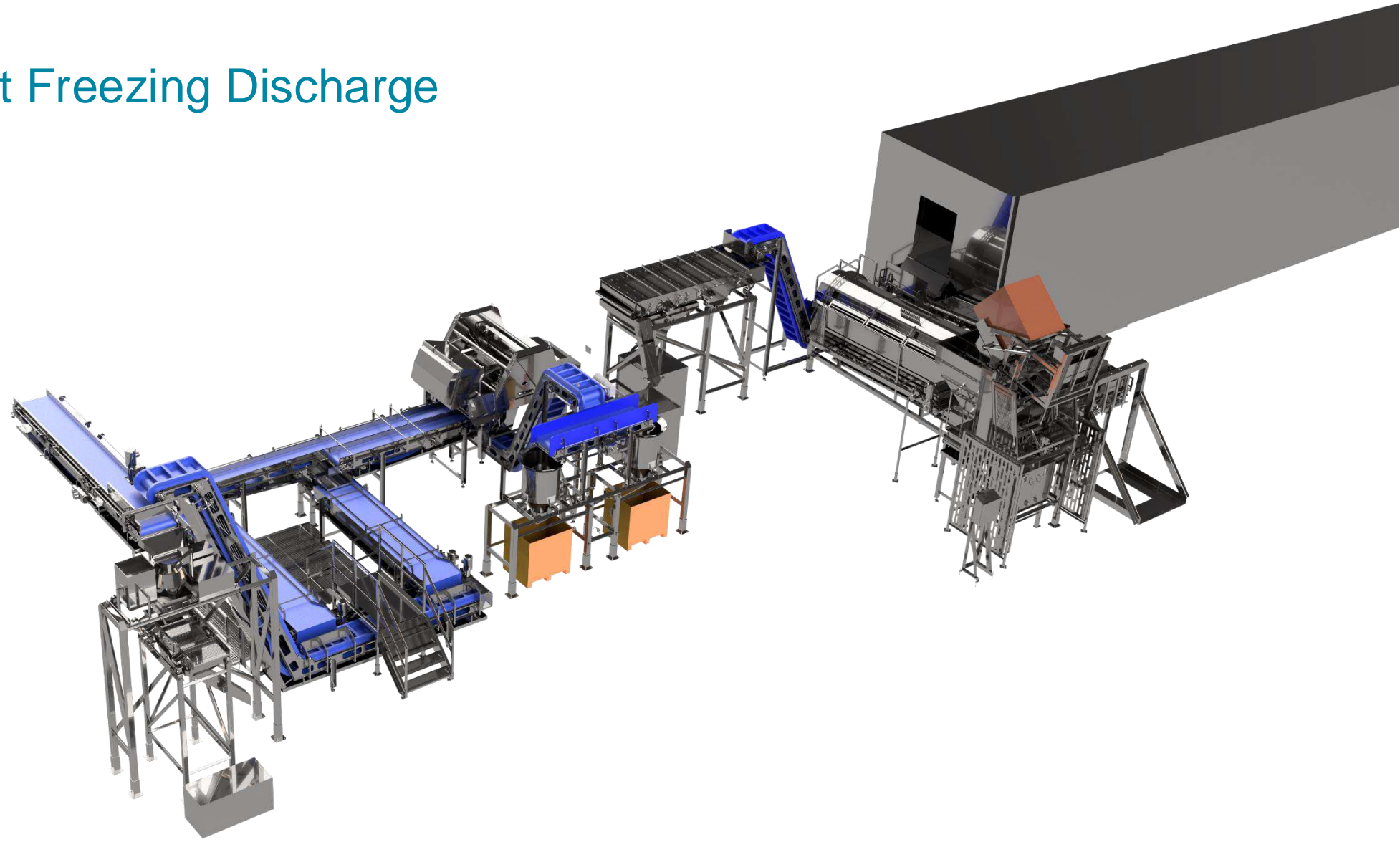
+ Packing  
+ Freezing  
+ Packaging

- + Destemming – rotaty destemmer (can be run twice)
- + Sorting – optical / manual
- + Packing => Freeze => Packaging

+ Post Freezing Steps- **Critical** for Sanitary Conveyance and Packaging



# Post Freezing Discharge







# The FPS Standard



## What is the FPS Standard?

- + Partnership and Collaboration
- + Lowest Cost of Ownership
- + Peace of Mind : 24-Hr Service & Support





# DISCUSSION

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