



BLUEBERRY FORMATS TO MEET MANUFACTURER NEEDS

	PROCESS		PACKAGING	CHARACTERISTICS	STORAGE
FRESH	Harvested blueberries → precool → sort → pack		<ul style="list-style-type: none"> ✓ Plastic clam shells ✓ Bulk cartons 	Available year round. Fresh or glazed topping for cakes.	32° to 34°F (-0.6° to 1°C) 90-95% relative humidity
FRESH					
FROZEN	Harvested blueberries → precool → wash/dry → sort → individually quick frozen → pack		<ul style="list-style-type: none"> ✓ Poly bags ✓ Poly-lined corrugated cartons ✓ Poly-lined metal drums ✓ Totes ✓ Other containers 	Individual fresh fruit identity. Any formulation where fruit identity is important.	0° to -10°F (-18° to -23°C)
IQF (Individually Quick Frozen)					
CASE FROZEN	Harvested blueberries → precool → wash/dry/sort → packed in poly-lined cartons → frozen		<ul style="list-style-type: none"> ✓ Poly-lined corrugated cartons ✓ Poly-lined metal drums ✓ Totes ✓ Other containers 	Popular bakery ingredient.	0° to -10°F (-18° to -23°C)
STRAIGHT PACK	Harvested blueberries → precool → wash/dry/sort → densely packed → frozen in the container		<ul style="list-style-type: none"> ✓ Poly-lined corrugated cartons ✓ Poly-lined metal drums ✓ Other containers 	High amount of fruit in a box; base ingredient for making toppings, syrups, fillings and soups.	0° to -10°F (-18° to -23°C)
DRIED					
DEHYDRATED	Fresh or frozen blueberries → air dehydrated to around 11-18% moisture → further processed to dried fruit specs		<ul style="list-style-type: none"> ✓ Poly-lined corrugated cartons ✓ Sacks ✓ Totes ✓ Other containers 	Moisture: 11-18 % Water Activity: 0.5-0.6	Shelf stable in a cool, dry place. 70°F (21°C) and 50% relative humidity.
INFUSED (Whole, sliced, diced) SUGAR OR FRUIT JUICE	Fresh or frozen blueberries are infused with a syrup → dehydrated to 11-16% moisture → further processed to dried fruit specs: i.e., oil coated, diced, etc.		<ul style="list-style-type: none"> ✓ Poly-lined corrugated cartons ✓ Sacks ✓ Totes ✓ Other containers 	Moisture: 11-16% Lower moisture available Water Activity: <0.65% (sweetened)	Shelf stable in a cool, dry place. 70°F (21°C) or less and 50% relative humidity.
FREEZE DRIED (Whole, pieces, powder)	Fresh or frozen blueberries → flash frozen → moisture removed in vacuum chamber → may be further processed (i.e., pieces, powder)		<ul style="list-style-type: none"> ✓ Poly-lined corrugated cartons ✓ Sacks ✓ Totes ✓ Other containers 	Moisture: 2% maximum	Shelf stable at room temperature for 3 months, after that store at 40°F (4°C).
MICROWAVE DRIED (Whole, flakes, powder)	Fresh or frozen blueberries → vacuum microwave chamber → low temperature dehydration to remove water from fruit		<ul style="list-style-type: none"> ✓ Metalized PET bag in double build corrugated box ✓ Other containers 	Moisture: 7.0 to 12% Water Activity: 0.30 - 0.50	70°F (21°C) or less and 50% relative humidity. Shelf life: two years in cool, dry place.
DRUM DRIED AND FLASH DRIED POWDERS	Fresh or frozen blueberries or purée → drum dried or other process → ground into powder or flakes to specifications		<ul style="list-style-type: none"> ✓ Poly-lined corrugated cartons ✓ Other containers 	Moisture: 3-5% Available in various screen sizes and granule consistencies. Use in confections, drink mixes, bakery mixes.	Store in cool, dry place 70°F (21°C) or less, away from direct sunlight.
FIBER	Blueberry pomace (from juice pressing) → dehydration → milled to size		<ul style="list-style-type: none"> ✓ Poly-lined cartons ✓ Sacks ✓ Totes ✓ Lined bags ✓ Other bulk containers 	Moisture: <10% Water Activity: 0.200% Dietary Fiber: 72.34% Insoluble (67.27%), Soluble (5.07%)	24 months at 60°F (15°C) or below. Cool, dry storage away from sunlight.

QC steps throughout process





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	PROCESS		PACKAGING	CHARACTERISTICS	STORAGE
LIQUID					
SINGLE STRENGTH PURÉE	Fresh blueberries → crushed → finished → pasteurized or cold filled in containers → frozen		✓ Plastic pails, frozen & aseptic ✓ Bag-in-box ✓ Poly-lined metal drums	Brix: 8.0 - 13.0° * pH: 2.5 - 4.0 * Acidity: 0.2 - 1.2% by weight *	0° to -10°F (-18° to -23°C) Aseptic: <75° F (24° C)
PURÉE CONCENTRATE	Fresh blueberries → crushed → heat/enzyme treated vacuum concentrated → pasteurized → packaged → frozen		✓ Plastic pails, frozen & aseptic ✓ Poly-lined metal drums	Brix: 20.0 - 45.0° * (Or as specified) pH: 2.5 - 3.7 * Acidity: 0.75 - 4.5% @ 30° Brix *	0° to -10°F (-18° to -23°C) Aseptic: <75° F (24° C)
SINGLE STRENGTH JUICE	Fresh berries → crushed → pressed → filtered → pasteurized → packaged → frozen		✓ Plastic pails, frozen ✓ Bag-in-box, aseptic ✓ Poly-lined metal drums, frozen & aseptic ✓ Totes, frozen & aseptic	Brix: 8.0 - 13.0° * pH: 2.8 - 3.4 *	0° to -10°F (-18° to -23°C) Aseptic: <75° F (24° C)
JUICE CONCENTRATE	Fresh blueberries → crushed → heat/enzyme treated → vacuum concentrated → packaged → frozen		✓ Plastic pails, frozen ✓ Bag-in-box, aseptic ✓ Poly-lined metal drums, frozen & aseptic ✓ Totes, frozen & aseptic	Brix: 32.5° (aseptic), pH: 2.5 - 3.8 * Acidity: 1.2 - 4.0%, as citric * Dilution rate: 2.57 : 1 Brix: 65° (frozen), pH: 2.5 - 3.8 * Acidity: 2.0 - 8.0%, as citric * Dilution rate: 7.2 : 1	0° to -10°F (-18° to -23°C) Aseptic: <75° F (24° C)
OTHER FORMATS					
ESSENCE	Volatile flavor components distilled off from juice and concentrate process → packaged		✓ Plastic pails: 5, 6 gal. (18.9, 22.7 l.) ✓ Other sizes	Intensive blueberry flavor found in no artificial flavoring. → Used to boost blueberry flavor in tandem with berries. Also brewing flavor.	Tightly closed container at 32°F (0°C) or lower.
CANNED (Packed in syrup)	Fresh or frozen blueberries → placed in cans → light or heavy syrup added → sealed → heated		✓ Cans: #300, #2, #2-1/2, #10 ✓ Other sizes	Various levels of fruit content depending on supplier and application.	Shelf stable in a cool, dry place.
CANNED (Packed in water)	Fresh or frozen blueberries → placed in cans → water added → sealed → heated				
BAKERY FRUIT FILLINGS	Fresh or frozen blueberries and/or other forms → sweetener and starch/gum based slurry added → heated → packaged to specifications		✓ Plastic and foil pouches ✓ 5 gal. plastic pails (18.9 l.) ✓ 55 gal. drums.(208.2 l.) ✓ Other sizes	Various levels of fruit content. → Used in Danish, fruit fillings and toppings.	Shelf stable in a cool, dry place.
NEW BLUEBERRY INGREDIENT SOLUTIONS ✓ Concentrated Blueberry Powders ✓ Blueberry Juice Concentrate Powders ✓ Blueberry Paste ✓ Blueberry Seeds & Seed Oil	Contact blueberry supplier.		Per supplier pack availability.	As per ingredient format.	As per ingredient format.

QC steps throughout process
* Varies with crop year

This is a general reference.
Contact your blueberry supplier for product specifications, storage and packaging.
Certifications: Halal, Kosher, organic available. Contact your blueberry supplier for details.

