

Blueberry Formats to Meet Manufacturer Needs (For USHBC suppliers list go to <http://www.blueberrytech.org>)

Product	Process	Typical Packaging	Characteristic/ Application	Storage
FRESH				
Fresh	Fresh blueberries > packaged	Consumer packs: plastic clam shells, cello packs; Cartons: 2-1/2 lb (1.1 kg), 5 lb (2.3kg), 10 lb (4.5 kg), 20 lb (9.07kg).	Available almost year round.	32° to 34°F (-0.6° to 1°C) 90-95% relative humidity
FROZEN				
IQF (Individually Quick Frozen)	*>Fresh blueberries> individually quick frozen> packaged.	Consumer packs: poly bags. Bulk: Poly lined corrugated cartons 10-50 lb (4.5 - 22.7 kg), poly-lined metal drums: 270 lb (122.5 kg)	Individual fresh fruit identity. Any formulation where fruit identity is important.	0° to -10°F (-18° to -23°C) Shelf Life: up to 24 months with proper packing, storage, handling conditions.*
Case Frozen	*Fresh blueberries> in poly-lined cartons> frozen.	Poly-lined corrugated cartons: 30-50 lb (13.6 - 22.7 kg); poly-lined metal drums: 350 lb (158.8 kg)	Popular bakery ingredient.	0° to -10°F (-18° to -23°C)
Straight Pack	*>Fresh Blueberries> packaged> flash frozen.	Poly-lined corrugated cartons: 30-50 lb (13.6 - 22.7 kg); poly-lined metal drums: 350 lb (158.8 kg)	High amount of fruit in a box, base ingredient for 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: i.e. oil coated, diced etc.	Poly-lined corrugated boxes: 5, 10, 25 lb (2,3, 4.5, 11.3 kg).	Moisture: 11-18 % Water Activity: 0.5-0.6	Shelf stable in a cool, dry place.
Dehydrated Infused	*>Fresh or frozen blueberries are infused with a syrup> dehydrated to 11-18% moisture> further processed to dried fruit specs: eg oil coated, diced.	Poly-lined corrugated boxes 5, 10, 25 lb (2,3, 4.5, 11.3 kg).	Moisture: 11-18 % Water Activity: 0.5-0.6	Shelf stable in a cool, dry place.
Freeze Dried (whole, pieces, powder)	*>Fresh or frozen blueberries > flash frozen > moisture removed in vacuum chamber > sealed in moisture proof bags.	Poly lined corrugated boxes (10 lb, 4.5 kg) and other custom sizes.	Moisture (unsweetened):0-2 % Moisture (sweetened): 9-14%	Stable at room temp 3 mo; after that store at 40°F (4°C).
Osmotically Preserved	*>Fresh or frozen blueberries >placed in vacuum chamber>undergo slow natural infusion process with syrup solution and stabilizers> carefully dried to preserve color and flavor	Poly lined corrugated boxes (25 lb, 11.3 kg) and other custom sizes.	Moisture: 40% maximum Water Activity: 0.5 – 0.87	Shelf stable in cool, dry place. Best used within 10 months.
Drum Dried and Flash Dried Powders	*>Fresh or frozen blueberries or purée > dried > ground into powder or flakes to specifications	Bagged, vacuum sealed, in corrugated boxes (10 lb, 55 lb; 11.3 kg, 24.9 kg) and custom sizes.	Moisture Content: 3-5% Various screen sizes and granule consistency available.	Stable at room temp. 3 months; after that store at 40°F (4°C).
LIQUID				
Single Strength Purée	*>Fresh blueberries> crushed>finished> pasteurized or cold filled in containers> frozen.	Plastic pails: 28, 30 lb (12.7, 13.6 kg) Poly lined corrugated cartons: 25, 30 lb (12.7, 13.6 kg); Poly lined metal drums: 55 gal (208 l) 400 lb. (181 kg)	Brix: 8.0 -13.0 pH: 2.8 -3.5 >Used in, sauces, flavorings and fillings.	0° to -10°F (-18° to -23°C)
Purée Concentrate	*>Fresh blueberries> crushed > heat/enzyme treated> vacuum concentrated > pasteurized > packaged > frozen.	Plastic pails: 4, 6 gal (15.1, 22.7 l) 28, 30, 60 lb (12.7, 13.6, 27.2 kg) Poly-lined metal drums	Brix Ranges: 20,37, 40 pH: 2.8 - 3.4 >Juices, sauces, blends.	0° to -10°F (-18° to -23°C)
Single Strength Juice	*>Fresh berries > crushed > pressed > filtered > pasteurized > packaged > frozen	Plastic pails: 5,6 gal (18.9, 22.7 l) 28,30,60 lb (12.7,13.6, 27.2 kg) Poly-lined metal drums	Brix: 8.0 - 12.0 pH: 2.8 - 3.4 >All natural fruit juices.	0° to -10°F (-18° to -23°C)
Juice Concentrate	*>Fresh blueberries >crushed >heat/enzyme treated >vacuum concentrated >package >frozen.	Plastic pails: 5,6 gal (18.9, 22.7 l) 50,66 lb (22.7, 29.9 kg) Poly-line metal drums	Brix: 45.0, 65.0, pH: 2.1 - 2.7 >Fruit juices and sauce flavor.	0° to -10°F (-18° to -23°C)
OTHER FORMATS				
Canned (Syrup Pack)	*>Fresh or frozen blueberries > placed in cans > light or heavy syrup added > sealed > heated.	Cans: #2 (1 lb 4 oz, 567 g), #2-1/2 (1 lb 13 oz, 822 g), #10 (6 lb 6 oz: 2.89 kg), other sizes.	Various levels of fruit content depending on supplier and application.	Shelf stable in a cool, dry place.
Canned (Water Pack)	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. (differs from supplier to supplier)	Plastic and foil pouches, 5 gal plastic pails (18.9 l) and 55 gal drums (208.2 l).	Various levels of fruit content depending upon supplier and end use	Shelf stable in a cool, dry place.
Fiber	*Dehydrated blueberry skins and seeds> natural blueberry sugars removed prior to dehydration	Bagged in corrugated boxes (30 lb, 13.6 kg) and custom sizes	Moisture: 4.0% maximum	24 months at 60°F (15°C) or below
Essence	+ >volatile flavor components distilled off from juice and concentrate process > packaged.	Plastic pails: 5, 6 gal (18.9, 22.7 l) and other sizes.	Intensive blueberry flavor found in no artificial flavoring.	40°F (4°C) or lower
Other	Real fruit bits and chips are formulated out of a blend of purée and other ingredients.	10 lb (4.5 kg) boxes, other custom sizes.	Fruit Content: 30-40 % >Baking/snack applications.	Shelf stable in a cool, dry place.