Fruit Quality and Trends in the Cranberry Industry

Rod Serres, Ocean Spray Cranberries

BC Cranberry Congress, Feb. 7th, 2017
What is Fruit Quality?

The word “quality” comes from the Latin word, *qualitas*, which means attribute, property, or basic nature of an object. In popular language it usually refers to ‘Good’ or ‘Superior’ qualities.
What is Fruit Quality?

BUT – Good quality is often subject to preference!
What is Fruit Quality?

BUT – Good quality is often subject to preference!

Or Intended Use!
What is Fruit Quality?

So, good quality cranberries have specific characteristics that lend themselves to producing consumer-preferred products.
Ways to Get Your Cranberries

1800’s Fresh
Ways to Get Your Cranberries

1800’s
Fresh

1930’s
Sauce
Ways to Get Your Cranberries

1800’s
Fresh

1930’s
Sauce

1960’s
Juice
Ways to Get Your Cranberries

1800's
- Fresh

1930's
- Sauce

1960's
- Juice

2000's
- Dried
Today we need nearly all fruit for Dried Juice.

Percentage of fruit needed for various products:

- Yr 2000:
  - Dried: 90%
  - Juice: 10%

- Yr 2016:
  - Dried: 100%
Spectrum of Cranberry Fruit Quality*

Low

Medium

High

% non-Defect (rot)

Uniformity of color

Uniformity of size

Firmness
Spectrum of Cranberry Fruit Quality*

Low

Medium

High

% non-Defect (rot)

Uniformity of color

Uniformity of size

Firmness

“shrink”

juice

sauce

dried

fresh
The Craisin™ Berry

No rot spots, cracks, or bruises
Uniformly colored and TAcy range of 35-50
Size of > ½” diameter
Generally round
Firm >450 on Firmtek
The Craisin™ Berry

As a Delivery Load

Less trash the better
Less rot the better
Fewer non-colored the better
No allergens
No foreign material
Uniform size
Why Individual Berries Matter

- OSC can sell all parts of the berry.
- Increased receiving efficiency.
- Increased manufacturing efficiency.
- Finished product quality is uniform, to spec, and competitive.

Individual Berry Quality

- Low in defects
- Uniform in color and within our optimal color range
- Uniform in size and within our optimal size range
- Firm and have good flesh integrity
How to Optimize and Maintain Berry Quality
Farm to Receiving Station

- Fruit Maturation (Aug-Oct)
- Flood
- Pick
- Clean
- Boom and Lift
- Float
- Load Truck
- Transport
- Dump
Receiving Station to Finished Product

- Time in the Pool/Hopper
- Cleaning/sorting
- Conveying
- Binning
- Transport to Freezer
- Freezing
- Storage Time
- Manufacturing
- Finishing
On The Farm

Fruit Maturation (Aug-Oct) → Flood Pick Float Boom and Lift Clean Load Truck Transport Delivery and Handling

Defect/Rot – Canopy, water, fungicides, inoculum, traffic
Color – Maturity, cultivar, light exposure, canopy, crop load
Size – Maturity, cultivar, nutrition, water
Firmness – Maturity, handling, water, nutrition, cultivar
Trash – Weeds, harvest, cleaning, foreign material
Allergens – Manage peanuts, tree nuts, fish, shellfish
Farm to Receiving Station

% Firmness Reductions Found Experimentally

- Fruit Maturation (Aug-Oct)
- Flood
- Pick
- Float
- Boom and Lift
- Clean
- Load Truck
- Transport
- Delivery and Handling

OR: 8-10%
WA: 3%
BC: 17%
WI: 4-7%
EC: 0-6%
MA: 2-8%
NJ: 2-6%

Transport: 4-12%
Delivery and Handling: 0-7%
WI: 4-36%
BC: 10-24%
MA: 6-31%
NJ: 7%
EC: 0-13%
BC: 26%
WA: 5-8%
OR: 0-7%
NJ: 19-23%

Ocean Spray
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To be successful, we strive to maximize the use of what we receive and What we receive needs to be useful.
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