A BETTER IDEA IN FRUIT & VEGETABLE POWDERS

CLEAN LABEL NUTRITION & SERVINGS IN HEALTHIER, MORE APPEALING PRODUCTS
CLEAN LABEL IS THE NEW ‘COST OF ENTRY’

Consumers won’t accept less than clean label – and the market is differentiating by offering them that and more

• Consumers generally don’t want to stop doing something or do less – they want to do more

• As consumers look for more natural ways to consume the daily required nutrients, natural health benefits in specific food categories are being highlighted. Ingredients rich in good nutrients are positioned as superfoods.

“food with integrity”
“clean brands”
The overall body of evidence examined by the 2015 DGAC identifies that a healthy dietary pattern is higher in vegetables, fruits, whole grains, low- or non-fat dairy, seafood, legumes, and nuts; moderate in alcohol (among adults); lower in red and processed meat; and low in sugar sweetened foods and drinks and refined grains.

“Vegetables and fruit are the only characteristics of the diet that were consistently identified in every conclusion statement across the health outcomes.”

“The major findings regarding sustainable diets were that a diet higher in plant-based foods, such as vegetables, fruits, whole grains, legumes, nuts, and seeds, and lower in calories and animal-based foods is more health promoting and is associated with less environmental impact than is the current U.S. diet.”
ARE THINGS STARTING TO LOOK UP?

Megadriver of USDA seeing traction in new product introductions

US Product Launches Per Year with FOP “Fruit & Vegetable Servings” Claims 2004-2014

Dramatic Increase vs. a Decade Ago

SOURCE: INNOVA Market Insights, June 2015
RECENT ‘SERVING SIZE’ INTRODUCTIONS

Across the food product spectrum

1/2 serving per bar

1 serving per pie

2 servings per bar

2 servings per pack
VIBRANT HARVEST® WHOLE FOOD POWDERS

Patented, radiant zone drying of high quality fruits & vegetables

PURE AND ORGANIC

EXCELLENT RETENTION OF NUTRIENTS AND ANTIOXIDANTS

NUTRIENT DENSITY – LESS PER SERVING SIZE

FRESH FLAVOR AND COLOR

HIGH DISPERSIBILITY AND SOLUBILITY

LONG SHELF-LIFE

SUSTAINABLY PRODUCED!!!

The best way to get serving sizes and the nutrients of fruits & vegetables into your products
VIBRANT HARVEST® MANUFACTURING

A sustainable facility located near farms in Oregon

- 70,000 sq ft Facility (The Dalles, OR)
- SQF Level 3 Certified by SCS Global
- Organic Certified by Oregon Tilth
- Kosher Certified by KOF-K
- 95% of power provided by solar & hydroelectric
- Low water footprint
EFFECTS OF OUR DRYING METHOD ON NUTRIENTS

Exceptional nutrient retention across all parameters

<table>
<thead>
<tr>
<th>Vibrant Harvest Product</th>
<th>Compound Analyzed</th>
<th>Before Drying</th>
<th>After Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blueberry Powder*</td>
<td>Total Antioxidant Capacity</td>
<td>680 mmol TE/g</td>
<td>700 mmol TE/g</td>
</tr>
<tr>
<td></td>
<td>Total Phenolics</td>
<td>8.3 mg GAE/g</td>
<td>6.2 mg GAE/g</td>
</tr>
<tr>
<td></td>
<td>Total Anthocyanins</td>
<td>1.7 mg C3G/g</td>
<td>1.6 mg C3G/g</td>
</tr>
<tr>
<td>Strawberry Powder**</td>
<td>Ascorbic Acid</td>
<td>3.47 mg/g</td>
<td>3.45 mg/g</td>
</tr>
<tr>
<td></td>
<td>Total Phenolics</td>
<td>40.34 mg GAE/g</td>
<td>38.78 mg GAE/g</td>
</tr>
<tr>
<td>Acerola Powder**</td>
<td>Ascorbic Acid</td>
<td>364.2 mg/g</td>
<td>365.8 mg/g</td>
</tr>
<tr>
<td>Cranberry Powder**</td>
<td>Total Anthocyanins</td>
<td>2.73 mg/g</td>
<td>3.00 mg/g</td>
</tr>
<tr>
<td></td>
<td>Total Phenolics</td>
<td>24.23 mg/g</td>
<td>25.17 mg/g</td>
</tr>
<tr>
<td>Carrot Powder***</td>
<td>Vitamin A</td>
<td>1285.17 IU/g</td>
<td>1322.98 IU/g</td>
</tr>
</tbody>
</table>

*Published,
**Manuscript in Preparation (no significant difference between before and after),
***Experiment in progress

TE: Trolox Equivalents
GAE: Gallic Acid Equivalents
C3G: Cyanidin-3-Glucoside
IU: International Units
**NUTRIENT PRESERVATION**

No significant loss of Vitamin C or antioxidants with Vibrant Harvest

### EFFECTS OF DRYING ON VITAMIN C IN STRAWBERRY

<table>
<thead>
<tr>
<th></th>
<th>Vibrant Harvest</th>
<th>Freeze Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Fruit</td>
<td>347.5 ± 7.9</td>
<td>312.6 ± 11.9</td>
</tr>
<tr>
<td>Dried Powder</td>
<td>345.3 ± 6.7</td>
<td>274.1 ± 12.8</td>
</tr>
<tr>
<td>Loss of Vitamin C</td>
<td>No Loss</td>
<td>12.31%</td>
</tr>
<tr>
<td>from Fresh Fruit to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dried Powder</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1Presented at 2011 Berry Health Symposium

umol TE per gram

### EFFECTS OF DRYING ON ANTIOXIDANTS IN BLUEBERRIES

<table>
<thead>
<tr>
<th></th>
<th>Before Drying</th>
<th>After Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extract</td>
<td>23,850 ± 4.2%</td>
<td>22,340 ± 5.6%*</td>
</tr>
<tr>
<td>Juice</td>
<td>2,810 ± 14%*</td>
<td>3,180 ± 2.2%*</td>
</tr>
<tr>
<td>Puree</td>
<td>680 ± 14%*</td>
<td>700 ± 5.7%*</td>
</tr>
</tbody>
</table>

*Percent Standard Deviation or (%RSD)

ADVANTAGES FOR VIBRANT HARVEST

When quality, nutrition and a clean label count

“Fresh”

Advantages of Vibrant Harvest:
- Logistics!
- Lower microbial degradation
- Longer shelf life
- Less food waste
- Ease of processing
- Control of water content
- Nutrient density

Spray Dry/Drum Dry

Advantages of Vibrant Harvest:
- A cleaner label
- Cost for nutrition/servings
- Usually better flavor & color
- Better overall product quality
- Sustainability

Freeze Dry

Advantages of Vibrant Harvest:
- Cost for nutrition/servings
- Better overall product quality
- Sustainability
SERVINGS ARE A GREAT APPLICATION

A solid market opportunity that is getting more traction

USDA MY PLATE REQUIREMENTS

- Fruits → 2 cups (4 servings)
- Vegetables → 2.5 to 3 cups (5-6 servings)

ONE SERVING | VIBRANT HARVEST POWDER*
--- | ---
Kale | 2.63g
Peach | 8.84g
Pumpkin | 5.02g
Strawberry | 7.75g

LOW ADDITION RATES & GREAT SENSORY

- You can hide it if you want!
- You can feature it if you want!

*Based on USDA Nutrient Database and on raw material data. Individual lots will vary based on raw material.
SYSTEMS WE LIKE FOR WHOLE FOOD NUTRITION

Not a scientific study, but intuitive/aspirational + customer inquiries

FOOD & BEVERAGE
• RTE, Canned & Powdered Sauces
• Soups & Gravies
• Fruit Preparations for bakery, dairy, snacks & energy bars
• Ice cream & frozen desserts
• Dairy (instant, RTE, mousses, puddings, yogurt)
• Beverages/Beverages mixes
• Bakery

SUPPLEMENT
• Sports Nutrition (powders, bars)
• Weight Management
• Multivitamin
• Selected condition specific
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