

Ancient Grains | Modern Market

2015 Overview



Overview

Founded in 1983 as Nu-World Amaranth, Inc. Nu-World Foods offers:

- Ancient Grain based, Allergy-Friendly, Specialty & Functional Ingredients
- Contract Blending & Packaging of Flours and Dry Mixes (AG not required)
- R&D, Application Development, and Formulation Services

Closely held family business with:

- Corporate Headquarters in Naperville, Illinois
- Two Processing Facilities in Dyersville, Iowa
- Additional Offsite Warehousing near Dyersville, Iowa

Safe & reliable partner with facilities & products certified:



**Organic, Vegan, and Non-GMO Certifications available upon request*

Why Nu-World Foods?

The Highest Quality Standards

Global Food Safety Initiative Compliant: SQF Level II Certification

Research and Development Experience

Over 35 years experience with ancient grains, including gluten-free and allergy friendly formulation assistance, positioning us ahead of the curve in both formulation and commercialization

Alternative Markets Asset – Conventional Sales Driver!!

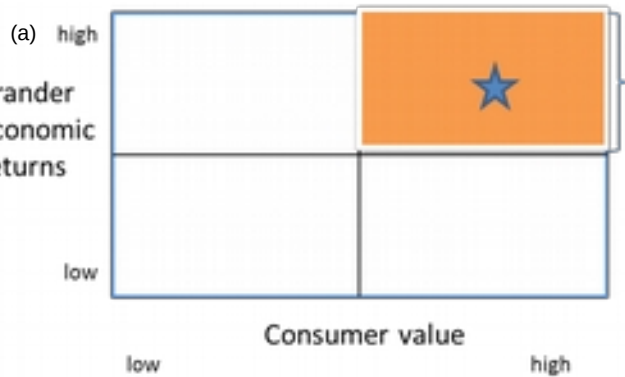
Help Customers Take Advantage of Marketing (and pricing) Opportunities when incorporating the benefits of alternative ingredients: wellness, nutrition, ancient grains, “free-from”, plant-based, organic, clean label, non-GMO, natural, and even gluten-free



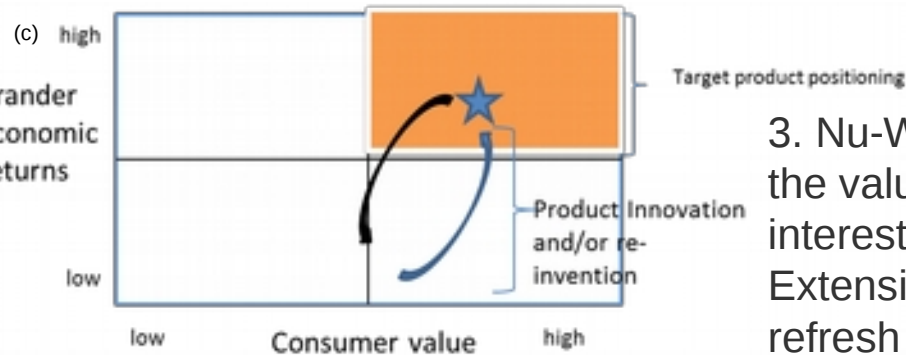
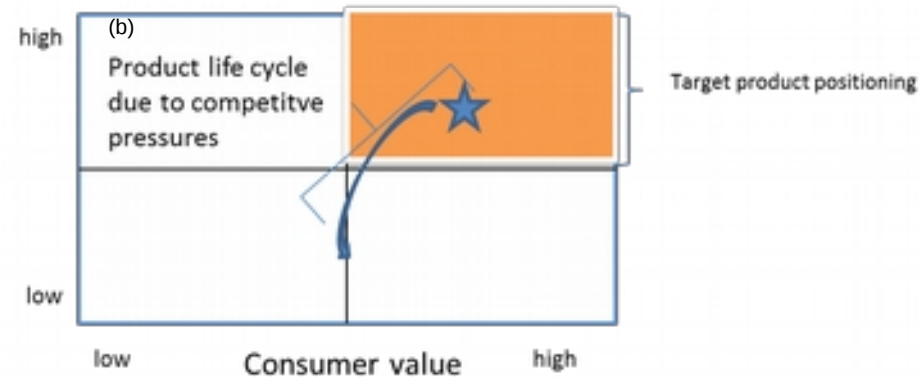
Value Added Strategies

Our Customer Centric Strategy

1. Brand meets consumer expectation who perceives product of reasonable value (a)



2. Over time consumer fatigue and competition disrupt the value chain so brand stales; sales wane (b)



3. Nu-World Foods helps Brands re-establish the value chain, improving consumer interest, increasing margin. Create line Extensions or Reinvigorate, improve, and refresh existing products utilizing functional, nutritious, Ancient Grains (c)



Ingredients

- + Full Line of Functional, Nutritious Ancient Grain Products
- + Easily Incorporates into Existing and Potential Product Lines
- + Certified Gluten-Free in a Top 8 Allergy Friendly Facility

Flours (specify mesh size)

- Amaranth Flour
- Millet Flour
- Quinoa Flour
- Sorghum Flour
- Brown / Ivory Teff Flour
- Chia
- Flax

Pre-Gel Powders

- Pre-Gel Amaranth Powder
- Pre-Gel Quinoa/Kaniwa Powder
- Pre-Gel Sorghum Powder

Specialty Flours (specify mesh size)

- Toasted Amaranth Flour
- Toasted Amaranth Bran Flour
- Toasted Quinoa Flour
- Toasted Sorghum Flour
- Toasted Teff Flour
- Toasted Chia Flour
- Toasted Flax Flour

Puffed / Popped / Flaked

- Puffed Amaranth Seed
- Puffed Quinoa
- Puffed Millet*
- Puffed Corn/Rice*
- Popped Sorghum Seed

*Source Additional Specialty and Functional Ingredients for blends as required

*Contact Sales Manager for Additional Products not listed and for Pricing



R&D Formulation Services

Product Development

Full Compliment of Product Development, Formulation, and R&D services

Decades of Experience in Flavor, Dry Blend, and Bakery Applications

Unmatched in achieving product performance per desired organoleptic, functional, and nutritional characteristics as specified:

- Flavor
- Texture
- Feel
- Viscosity
- Color
- Delivery system



Product Development

For You. For Your Consumer.

Nu-World Foods has developed innumerable Consumer Conscious products for distribution as Private Label Solutions both on behalf of and in conjunction with Branders, Retailers, and 3rd Party Formulators

Nu-World can work as closely with our partners as they require

When working with third party formulators we respect the clients wishes

Our development work aims to change the paradigm that ancient grains should stay in the past



What is the Narrative?

- Responding to Manufacturer's & Brander's Needs
 - Functional
 - Nutritional
 - Clean Label
 - “Wellness” Initiative Compliant
 - Ancient Grain Market Appeal
 - Innovation
 - Safety, Security, and Reliability
- Requisite Services to Serve Your Needs
- Responding to Consumer Needs



Ancient Grains

An Introduction

Ancient grains have reemerged in the modern market, now appearing across many product categories and in an increasing number of pantry staples.

Though the definition and origin of “ancient grains” can be debated, it is generally thought to encompass those seeds and grains which have been substantially less processed and adapted over time than wheat and other refined grains.

Nu-World suggests:

Amaranth

Quinoa

Sorghum

Teff

Millet

Kaniwa

Chia

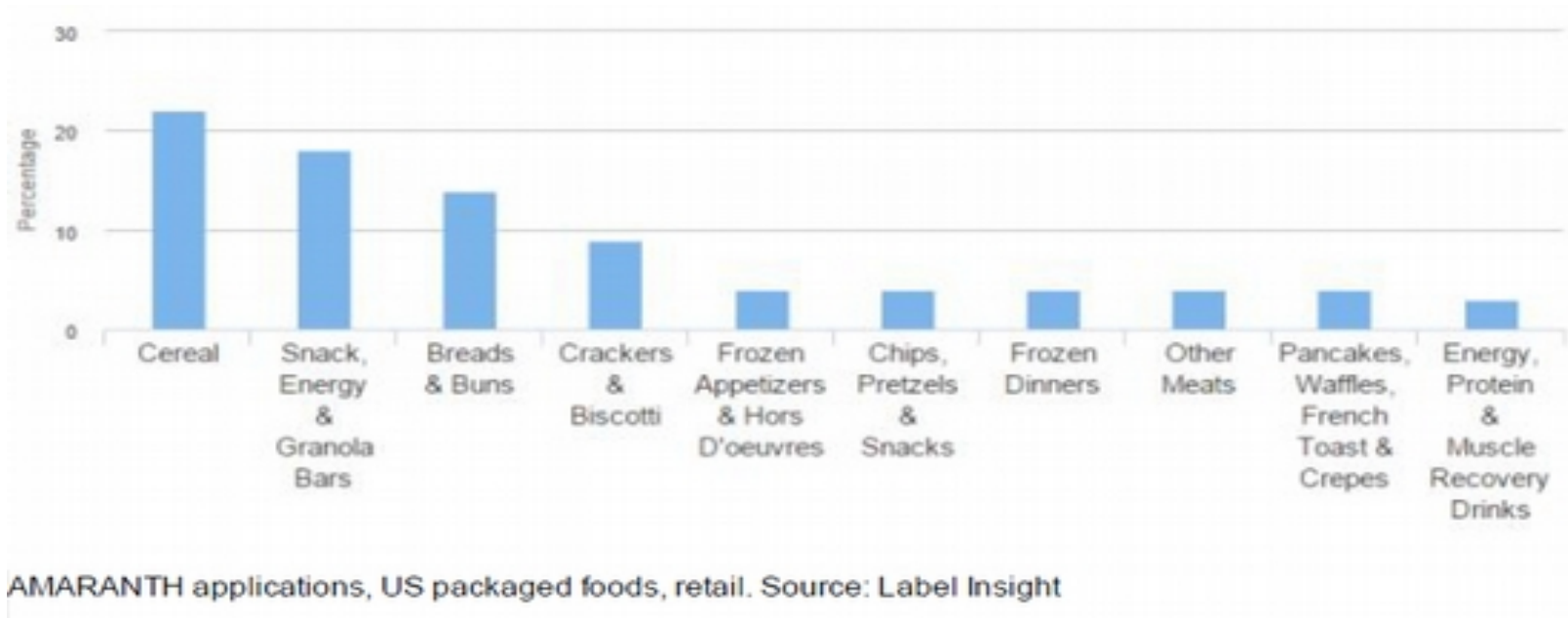
Brown Rice

Flax

Buckwheat



Amaranth: The Future is Now



According to SPINS Trendwatch data in the Packaged Facts report, "dollar sales growth of specific ancient grains for the 52 weeks ending July 13, 2014 was +686% for Kamut, +363% for spelt, +159% for freekeh, +123% for amaranth, +58% for teff, +39% for farro and +35% for quinoa."



Ancient Grains

Making Headlines



July 08, 2014

**What's the Next Quinoa?
Farmers, Foodies Revive Heritage Grains**



September 05, 2014

Ancient grains making a modern-day comeback

The New York Times

March 13, 2015

Beyond Quinoa: The New Ancient Grains

Health

March 12, 2015

5 Ancient Grains You Need to Try

**THE
NEW YORKER**

October 24, 2014

**Why We're Willing to Pay More for
Cereals with Ancient Grains**



December 08, 2014

**Fringe No More: 'Ancient Grains'
Will Soon Be A Cheerios Variety**



Ancient Grains

Nutritional Comparisons to Conventional Ingredients

Per 100g	Amaranth	Quinoa/Kaniwa	Sorghum	Rice	Corn	Soy	Wheat
Protein	14+	14+	13+	7.1	9.4	13	12.6
Fat	7	7.92	2.7	0.66	4.74	6.8	1.54
Carbohydrates	65	68	80	80	74	11	71
Fiber	8.36	12	10.65	1.3	7.3	4.2	12.2
Sugar	1.7	2.44	0.39	0.12	0.64	0	0.41
Calcium	Up to 208	77	17	28	7	197	12
Iron	7.6	8	4.3	4.31	2.71	3.55	0.78
9 Amino Acids	Y	Y	Y	N	N	N	N
Gluten-Free	Y	Y	Y	Y	Y	Y	N
Top 8 Allergy	Y	Y	Y	Y	Y	N	N
Non-GMO	Y	Y	Y	Y*	N	N	N
Clean Label	Y	Y	Y	Y*	N	N	N

•“Scientific studies confirm that GM contamination is unavoidable once GM crops are grown in a region,” explains the *Earth Open Source* report *GMO Myths and Truths*

•The *GM Contamination Register* explains that between the years of 2006 and 2007, three different varieties of illegal GM rice, **none of which have ever been approved for cultivation or consumption anywhere in the world**, were identified in more than 30 countries worldwide. Bayer Crop Science. – Global Research July 4th, 2013 by Ethan Huff



Ancient Grains

Additional Marketing Opportunities & Advantages

Organic

It is forecasted that the organic food market in the United States will grow at the CAGR of about 14% during 2013-18. - *United States Organic Food Market Forecast & Opportunities, 2018*

Non-GMO Initiative

Consumer Driven Initiative that has gotten the attention of state and federal government; driving change at Whole Foods by 2018 (label GMO)

- *Non GMO Project*

“It is estimated that non-GMO food and beverage sales in the U.S. will be approximately \$178 billion in 2013... projects that by 2017 non-GMO products will make up around 30% of total food and beverage sales, with a value of about \$264 billion.

- *Research and Markets Non-GMO Foods: U.S. Market Perspective*

Natural and Clean Label Initiatives

“Health and Wellness will continue to remain front and center with an emphasis on natural products that are additive and preservative free... manufacturers will continue to develop natural and clean labels whenever they are able.” - *Leatherhead Food Research*

“64% of consumers are either somewhat or extremely concerned about the impact of processed foods on their health, with 57% claiming to be highly influenced by ‘natural’ claims when making food and beverage choices.”

- *Datamonitor Consumer*



Ancient Grains

Additional Marketing Opportunities & Advantages

Plant & Protein Based Diets

In a new report, Food Formulation and Ingredient Trends: Health & Wellness, Packaged Facts says we can expect to see... Ancient grains such as amaranth and quinoa will feature in more foods promoted for their protein content.

- *Food Navigator USA*

“Two of the hottest growth themes in the natural and organic food industry: gluten-free and plant based

diet.” resulting from an “increasing awareness of nutritional benefits of plant-based diet (digestive and heart health), increased focus on allergen avoidance, and growing appreciation of the environmental benefits associated with plant based foods.”

- *RBC Capital Markets Report*

“The global protein ingredient market revenues are expected to reach USD 28.90 billion by 2020, growing at a CAGR of 6.5% from 2014 to 2020. Plant proteins accounted for over 56% of global volumes in 2013, and are expected to continue dominating the market over the next six years, growing at an estimated CAGR of 6.3% from 2014 to 2020. Plant protein ingredients were dominated by soy based products, accounting for over 70% of global volumes in 2013.”

- *Grand View Research*

Whole Grains

The global market for whole grain and high fiber foods is set to reach a staggering \$27.6 billion by 2017, as the US continues to dominate the market, says a new report.”

- *Food Navigator USA*



Ancient Grains

Additional Marketing Opportunities & Advantages

“Free From”

“Minimum 1 in 13 children have a food allergy.”

- *Food Allergy Research and Education (FARE)*

“It’s clear that the free-from sector is set for further growth, with interest continuing to spread from those diagnosed as specific allergies and intolerances, via the self-diagnosed to those with a more general interest in health and well-being.

- *Innova Market Insights 2014*

Nutrition

The growing consumer interest in health and well-being is helping drive interest in ancient grains, also known as heritage grains, which are gluten-free and contain significantly higher levels of nutrition – as much as double the amount of minerals and proteins – than modern wheats.”

- *Datamonitor ForeSights*

Interest in these alternative grain products perceived as traditional, natural and nutritious has become increasingly apparent...and their use is extending out of the specialist health foods sector and into the mainstream, as well as out of cereal products and into the wider processed foods market.”

- *Innova Market Insights*



Ancient Grains

Additional Marketing Opportunities & Advantages

Gluten-Free

“While the true category size is debatable, the underlying growth characteristics are not. By any definition, the gluten-free category has seen consistent double digit growth in recent years.”

–RBC Capital Markets, LLC Report

“In dollars and cents, sales of gluten-free products were expected to total \$10.5 billion last year, according to Mintel, a market research company, which estimates the category will produce more than \$15 billion in annual sales in 2016.”

- Mintel / The New York Times

“Overall, the gluten-free food market continues to thrive off those who ... perceive gluten-free foods to be healthier or more natural,”

- A. Topper, Mintel Report 2014



Ancient Grain Ingredients

High Function Forms

Stabilized Ingredients: Toasted Flours, Pre-Gel Powders

Exploded Pieces: Puffed and Popped Seeds, Flakes, etc.

	Amaranth	Quinoa	Teff	Millet	Sorghum
Flavor Enhancer	X	X	X		
Add Texture	X	X	X	X	X
Add Viscosity	X	X	X		
Mouth Feel	X	X	X	X	X
Extend Shelf Life	X		X		
Emulsification	X	X			
Retain Moisture	X	X			
Freeze/Thaw Stability	X	X	X		X
Nutritional Profile Enhancement	X	X	X		
High in Protein & Fiber	X	X	X		
Mineral Supplement	X	X	X		
Balanced Amino Acid Profile	X	X			
	Enhancers and Differentiators			Pricing Balancers	



Amaranth



Millet



Quinoa



Sorghum



Teff



Ancient Grains

Functionality Comparisons

	Amaranth	Quinoa	Teff	Sorghum	Millet
Flavor Enhancer	X	X	X		
Add Texture	X	X	X	X	X
Add Viscosity	X	X	X		
Mouth Feel	X	X	X	X	X
Extend Shelf Life	X		X		
Emulsification	X	X			
Retain Moisture	X	X			
Freeze/Thaw Stability	X	X	X	X	
Nutritional Profile Enhancement	X	X	X	X	X
High in Protein & Fiber	X	X	X	X	
Mineral Supplement	X	X	X		
Balanced Amino Acid Profile	X	X			
	Enhancers & Differentiators			Pricing Balancers	



Ingredient Applications

Particulates (puffed & popped pieces; flakes, etc.)

Puffed Amaranth, Quinoa, Millet, Kaniwa, and Rice; Popped Sorghum

Inclusions in Bars – increase nutrition; enhance texture & mouth feel

Bakery – increase nutrition; enhance texture & mouth feel

Cookies; Crackers – improve eye appeal; enhance texture

Cereals: Hot and Cold – increase nutrition; flavor enhancer

Granola; Muesli – increase nutrition; enhance texture & mouth feel

Salad Toppers – enhance texture & eye appeal; increase nutrition

Confection - inclusion and as garnish for eye appeal and texture; chocolate

Yogurt; Parfait – inclusion and as garnish for eye appeal and texture

Individual Snack – virtually hull-less, accepts flavors well,



Ingredient Applications

Pre-Gel Amaranth, Sorghum, Quinoa, and Kaniwa

Functional - Developed for sauces, puddings, and beverage applications; also useful in baked goods to increase nutrition; enhance texture, mouth feel, and water retention for “moistness”

Sensory Value - Recreates glossy sheen and viscosity of puddings, sauces, and beverages without the need to cook; facilitates the appearance and texture of having retained “moist” characteristics in bakery products without increasing water activity, potentially enhancing shelf-life

Quick Hydrator - A powder in which the starch granules have been pre-swollen

Flavor Enhancer – From neutral to naturally sweet and nutty options

Nutrition – An All-Natural solution for protein and other essential nutrients



Ingredient Applications

Toasted Amaranth, Quinoa, Sorghum, Teff, Millet, etc. Flour

Functional Additive - Blend with other flours for breads, pancakes, cookies and other baked products

Shelf Life – toasting process halts enzymatic activity without reaching degrading nutritional profile

Clean Label - simplify your ingredient list and enhance nutritional content

Flavor Enhancer – From neutral to distinctively toasted, sweet, and nutty flavors

Retain Moisture - High water-holding capacity

Nutrition – protein, fiber, iron, etc.

Other – press into oil for pharmaceutical; use in textiles and defense



Challenge: Supply Chain

Enough For Everyone

Over 35 Years Experience Sourcing Ancient Grains and Other Ingredients from Around the World: United States, India, Bolivia, Peru, Ecuador, Mexico, etc.

Lasting Relationships with Source Providers and Shipping Partners Alike
Accurate Forecasting Improves Availability for Spot Purchases

See Growers as Integral to the Supply Chain Management, Recognizing the Potential Value of Their Story in the Narrative of Your Products Life Cycle

Testing and Certification Compliance Standards and Procedures Well Documented and Enforced

Redundant Raw Ingredient Suppliers

Monitor Price Fluctuations to Leverage Strategic Contracting and Buying
Contracting Effectively Voids Lead Times & Limits Price Volatility





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