



Global Plant Proteins & Ingredients From Innovation to Supply

Innovative Plant-Based Ingredients & Market Overview



The Axiom Foods' Ingredient Difference

Setting the Bar Once Again

Quality & Certifications







Clean

Labels







Product Offerings



Pea Proteins Vegotein®

Sacha Inchi Protein Incatein™

Hemp Protein Cannatein®

Pumpkin Protein Cucurbotein®

Oat Milk
Rice Avenolait®
Milk
Oryzolait®

News & Trends









2014
F&B Sustainability





BUSINESS



First & 12+ U.S. & Inter. Patents

Clinical Trials







Market Specialist

We currently work with

Brown Rice Yellow Peas Sacha Inchi Seeds Hemp Seeds Oats

In the Pipeline

Rice Bran

Coconut

Flax

Pumpkin

Sweet Lupine

Almond

Grain / Barley

And More

New Functional Testing

More Neutral Versions

More Suspendable and Soluble Versions

More Claims-based Versions

All we do is innovate and fraction plantbased nutritional ingredients, in large commercial quantities, which are in increasing demand, and distribute them.

Our core specialities have been plant proteins and dairy alternatives.

David Janow's Vision in 2005

Innovate + Manufacture + Distribute Nutrition

Utilize plant-based waste streams to create nutritious ingredients which are high-quality, hexane-free, all-inclusive, allergen-friends, sustainable, gluten-free, clean label sources.

The answer to pending protein shortages, unsustainable animal protein, and fluctuating animal-based ingredient costs.



Axiom's Worldwide Reach



LEGEND

- ★ Headquarters
- Factories
- Suppliers
- Fulfillment
- Distributors / Partners
- Future Factories

- Australia / New Zealand
- Canada
- Brazil
- China
- Europe / Middle East / Africa
- Mexico
- UK / Ireland
- United States

- Pacific Resources International
- Debro, Inc.
- **Univar Solutions**
- Nanjing Axiom Foods Co., Ltd. & Axiom Asia Ltd.
- Brenntag Food & Nutrition
- DAFRE
- Healy Group
- **Univar Solutions**



The Only Truly Organic Rice & Pea Proteins

Truly Organic & Pesticide-Free Certification starts at the field & without the proper documentation at every step it's not "organic". Is it worth the risk?

Guaranteed Soy & Gluten-Free The only pea protein making this guarantee while others experience regular cross-contamination.

Axiom Foods helped create the Organic Rice Protein market in 2010, and Organic Pea Protein market in 2015, securing one of the 1st agricultural sources and setting a standard.

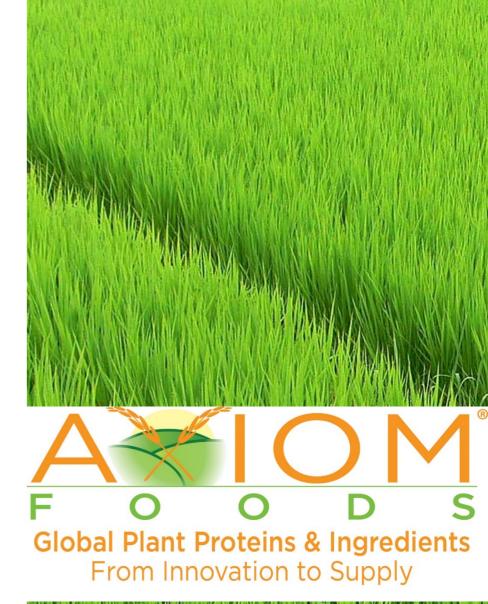
More information available upon request.

USDA Cracking Down on False Organic Plant Protein Certification Claims



Axiom Ingredients

Products, Labels, and Claims







Oryzatein® Rice Proteins

Benefits & Points of Differentiation

Our Oryzatein® vs Other Types of Protein

- ✓ All-inclusive allergen-friendly nutrition. Free of dairy, soy, and gluten (<20ppm).
- ✓ **Neutral** color and taste.
- ✓ High-quality plant-based protein source with **all the Essential and Non-Essential Amino Acids** which are clinically shown to act like a complete protein & easily meets PDCAAS 1 when blended with pea protein
- √ 100% natural, vegan, and free of GMOs, cholesterol and sodium
- ✓ World's 2nd largest crop & solution for **pending world shortage of protein**
- √ FDA GRAS food can have a Nutrition Label
- √ Low FODMAP for diet (at all serving sizes)
- √ High in cysteine & methionine
- ✓ Approx. 38% EAAS & 18% BCAAs

Our Oryzatein®... vs Other Rice Proteins

- √ First, largest and most consistent source of organic rice proteins
- √ Non-GMO Project Verified
- ✓ Only Patented for use as a sports nutrition dietary source
- √ Clinically tested to be as good as whey at building muscles and strength, plus aiding muscle recovery
- ✓ Will be USP Monographed standard by which all rice proteins are measured



Pronunciation "oh-RAHYZ-uh-teen"

Ingredient Label:
Organic Brown Rice
Protein

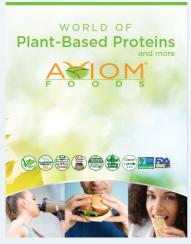


Oryzatein® Rice Protein Applications

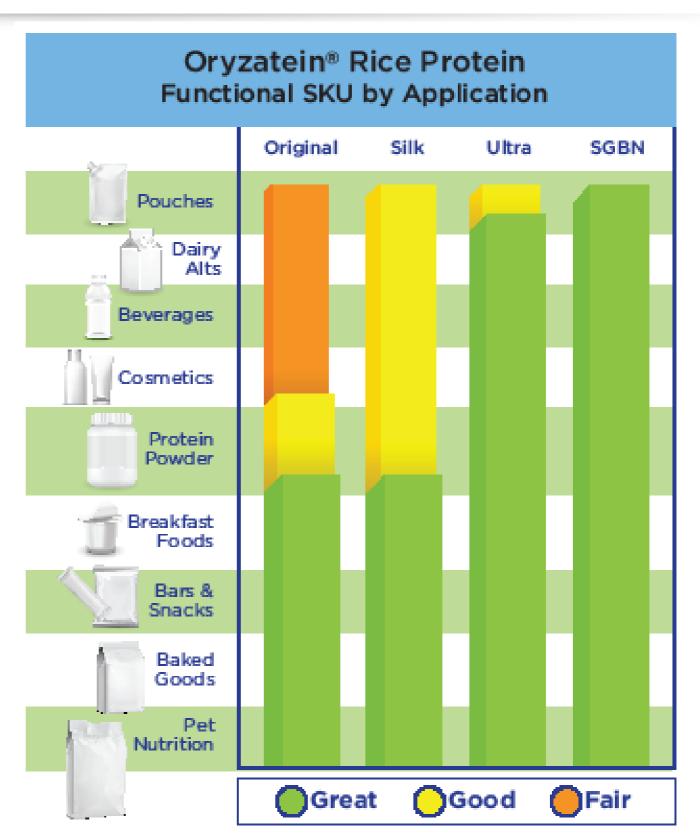
There are multiple functional versions of our rice and pea proteins.



These are examples of four of our rice proteins and the differences between which applications they are ideally suited for.



Visual and more available in World Brochure





Vegotein™ Pea Proteins

Benefits & Points of Differentiation

	Certifications	Characteristics	Process
All Vegotein	FDA GRAS North America Non-GMO Certified Peas GFSI-Certified under BRC Organic Kosher GMI Audit	Guaranteed soy & gluten-free High in lysine and arginine Natural source of both protein and iron Low FODMAP with diet (at 30g product max) Great dispersibility, stability, and dissolving Suspendable Falls out of solution slowly Isoelectric point - 4.2 pH Emulsification Should have some binding capabilities Tan, smooth, and thick	Patented natural, mechanical, water-based pea protein process Consistent source and economically efficient Sustainable Pronunciation: "VEJ-oh-teen" Ingredient Label: Organic Pea Protein



Vegotein™ Pea Proteins

Line Differences

	Product	Flavor	Other defining characteristics
	Vegotein P (Original)	Slight pea flavor	
		Neutral flavor	Made in the USA
	Vegotein N (Neutral)		1.0 PDCAAS
NEW!			Highly functional
			Patent Pending
	Vegotein MA (Meat Analogue)	Slightly salty umami flavor	Homogenized
			Highly functional
	Vegotein HP (Hydrolyzed Pea)	Slight pea flavor	Hydrolysis degree 10 - 20%
NEW!			Highly functional
		Slight pea flavor	1.0 PDCAAS
NEW!	Vegotein TX (Texturized Pea)		Highly functional
			4 versions



Cannatein™ Hemp Protein

Benefits & Points of Differentiation





NEW!
THE MOST NEUTRAL
COLOR & FLAVOR
AVAILABLE ON THE
MARKET

- √ Allergen-friendly, THC-free seed (< 20ppm)
 </p>
- √ Free of dairy, soy, and gluten (<20ppm).
 </p>
- ✓ Hemp Hearts Protein is also a good natural source of Omegas 3 & 6 (key fatty acids), Manganese, Magnesium, Iron, Phosphorus, Zinc, Copper, Folate, Thiamin, Niacin & Vitamin B6
- ✓ Ideal for aiding satiety in weight loss products due to combination of protein + fiber
- √ Good water binding for meat analogues
- ✓ Protein especially high in cystine and methionine which serve as antioxidants and high in arginine for sports nutrition
- ✓ Offered in ≥ 58% protein concentration. Approximately half protein and other half carbs, healthy GLA fats & other nutrients.

Pronunciation "CAN-uh-teen"

Ingredient Label:
Organic Hemp Protein
or
Organic Hemp Hearts Protein



<u>N</u> Incatein™ Sacha Inchi Protein



- √ Made in Peru
- ✓ Natural source of Omegas. The only protein containing the exact proportion of omegas 3, 6 & 9 that our bodies need
- √ Allergen-friendly, Peruvian seed
- √ Excellent composition of amino acids and soft, nutty flavor
- √ Easily digestible
- √ High in tryptophan essential Amino Acid (AA)
- √ Tan color and nutty flavor
- √ 100% natural and vegan



Pronunciation "ING-kuh-teen"

Ingredient Label: Sacha Inchi Protein



Cucurbotein™ Pumpkin Seed Protein

CÜCURB TEIN



Pronounciation "kyoo-CURB-oh-teen"

Ingredient Label: Pumpkin Protein

- √ Three organic versions
 - Raw 65% (one of the highest concentrations available)
 - Toasted 59%
 - Raw 55%
- √ Rich in arginine essential amino acid maintains acid/base balance, helps nitrogenous waste excretion, making NO (nitric oxide) to support healthy heart and vascular function
- √ Can be a good source of iron, zinc, copper, manganese, magnesium and potassium
- √ Allergen-friendly seed
- √ Colors ranging from light green raw to light brown toasted
- √ Lighter pumpkin seed flavor than typically found in the market
- √ 100% natural and vegan
- ✓ Blends with pea protein to make a "complete protein"



Plant Proteins - All

General Marketing Claims - - Many Are Unique to Axiom Foods

Protein Structure/Function & Certification Claims:

Ask to See Complete Claims Guidance Claims are suggested and need to be verified by manufacturer based upon finished product.



Milk Substitutes

- Exceptionally dispersible
- Nutrient-dense
- Certified 100% Whole Grain
- Sourced and made in the U.S.A.
- Neutral taste perfect for mixing
- Excellent for beverages, frozen treats, bakes goods and more
- Oat dairy alternative has same claims as whole oats and thus is also believed to help lower LDL cholesterol and reduce the risk of heart disease







Oryzolait™ & Avenolait™ Dairy Alternatives

General Marketing Claims - Many Are Unique to Axiom Foods

Dairy Alt Structure/Function & Certification Claims:

Both:

Allergen-Friendly

Dairy Free

Soy Free

Non-GMO

Vegan

Kosher

Naturally Free of Cholesterol (vs milk)

Free of Top 8 Allergens

Gluten-Free (Oat upon request)

Organic

Made in the U.S.A.

Oat:

Contains many of the same essential vitamins, minerals and nutrients found in whole grain oats, which are known to help lower LDL cholesterol and also reduce the risk of heart disease.

Ask to See Complete Claims Guidance

Claims are suggested and need to be verified by manufacturer based upon finished product.



Brown Rice Syrup Solids







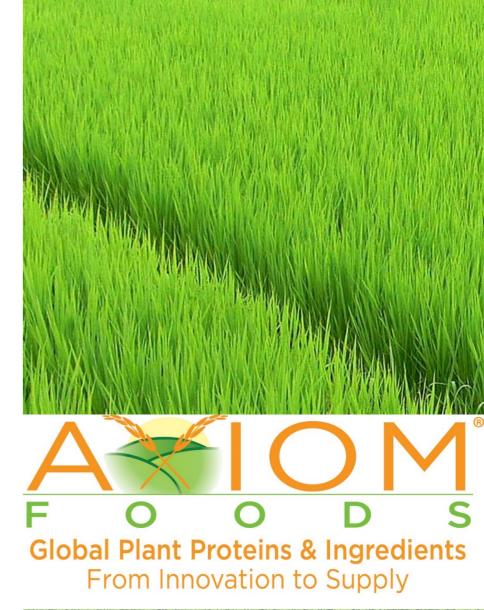
- Allergen-friendly
- High perceived sweetness level of 120 with 90-93 DE (primarily glucose)
- Greater carrier for other ingredients and aids absorption
 - Electrolytes in oral rehydration products
 - Sport nutrition products
- Cooling effect like xylitol
- Economically efficient
- Ease of plating flavors
- 90-100 on glycemic index



Benefits & Trends of Plant Proteins

- Protein Trends and Audiences
- Consumer Motivations and Consumption
- Addressing Health Needs: Allergens and Aging

Additional information available upon request







Protein Trends Summary

Key Consumer Trends Shaping Market

PROTEIN'S BROAD CONSUMER APPEAL

 Protein seekers are not just weight managers & bodybuilders - they include children, seniors, health & wellness motivated & more

THE RISE OF THE "ACTIVE LIFESTYLE" CONSUMER

 Pursue fitness as part of an overall healthy lifestyle; protein viewed as important in achieving overall health and wellness goals

DEMAND FOR CONVENIENT, PORTABLE NUTRITION

 Increased snacking behavior; use of snacks as drive demand for nutritionally enhanced option

PLANT-BASED NUTRITION

 An international shift in consumer intent & desire to consume more plant foods and reduce animal consumption

CONSUMER'S CHANGING EATING STYLES

The rise of "flexitarianism;" personalized nutrition opportunities





Plant Protein Trends In the News

Scientists, Investors, Silicone Valley & Industry Leaders Predicting Plant Protein Trends



Investors worth 1.25 trillion urge industry to switch to sustainable plant proteins

"...targeted 16 food companies including Kraft Heinz, Nestle, Unilever, Tesco, Walmart & General Mills."

FORTUNE

6 most important tech trends according to Eric Schmidt

(CEO of Alphabet, Google's parent company)

"#1 Plant protein... Replacing livestock with growing and harvesting plants could reduce greenhouse gas emissions and fight climate change"



"Americans are increasingly looking to add more protein to their diets, and rice protein is seen as an attractive alternative. Jane Wells speaks to the CEO of Axiom,"

The Washington 105t Plant proteins, healthy fats and more 2017 food trends

"Plant-based proteins are sustainable, affordable and nutritious. They're also incredibly versatile, and healthy food companies are taking advantage of that aspect to bring vegetarian proteins to every meal and snack."



REUTERS

Major beef supplier Cargill to exit U.S. cattle-feeding business

"Cargill wants to expand its North America-based protein business by exploring plant-based protein, fish and insects,"

theguardian

Food shortages could force world into vegetarianism, warn scientists (Stockholm International Water Institute)

"Adopting a vegetarian diet is one option to increase the water available to grow more food in an increasingly climate-erratic world [with 2bn more people estimated by 2050], the scientists said. Animal protein-rich food consumes 5-10x more water than a vegetarian diet. 1/3 of the world's arable land is used to grow crops to feed animals."

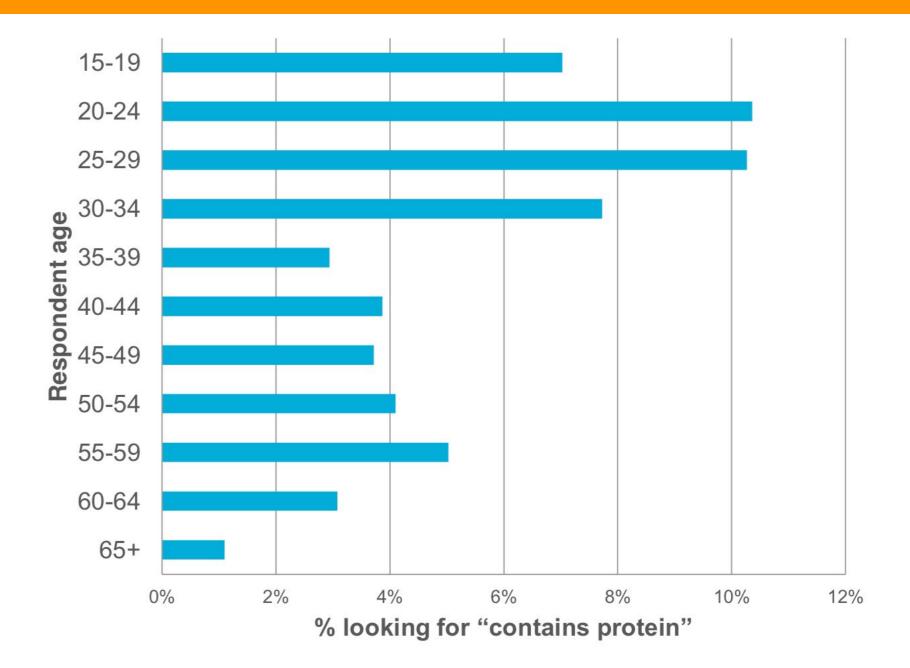


Most Popular Protein Audiences

Millennials, Followed by Baby Boomers

Ebbs and flows throughout their lifetime

Protein aligns with brand-consciousness and fitness trends





Consumers Motivated by 6 Main Factors

Why the Plant-Based Shift?

Plant-based diet motivators for consumers

Healthier product 60%

Provides more energy 57%

Digestive health 57%

Weight management 56%

Less sugar 55%

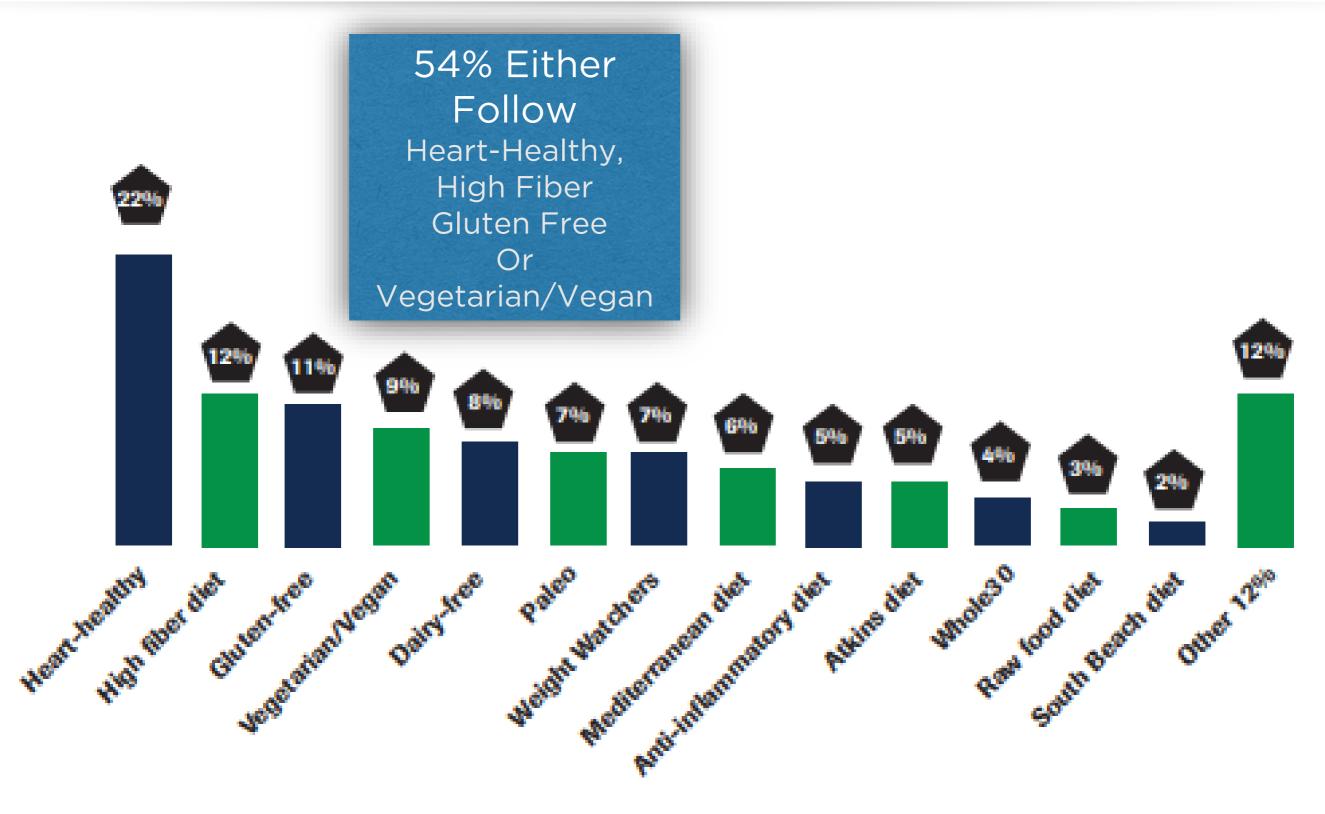
Taste 53%

The number one motivator is general health – people want a "better for them" product



Consumers Motivated by Dietary Programs

Plant Proteins Can Be an Important Part of Most





Consumers Purchasing for Benefit & Quality

Over Form, Brand or Price

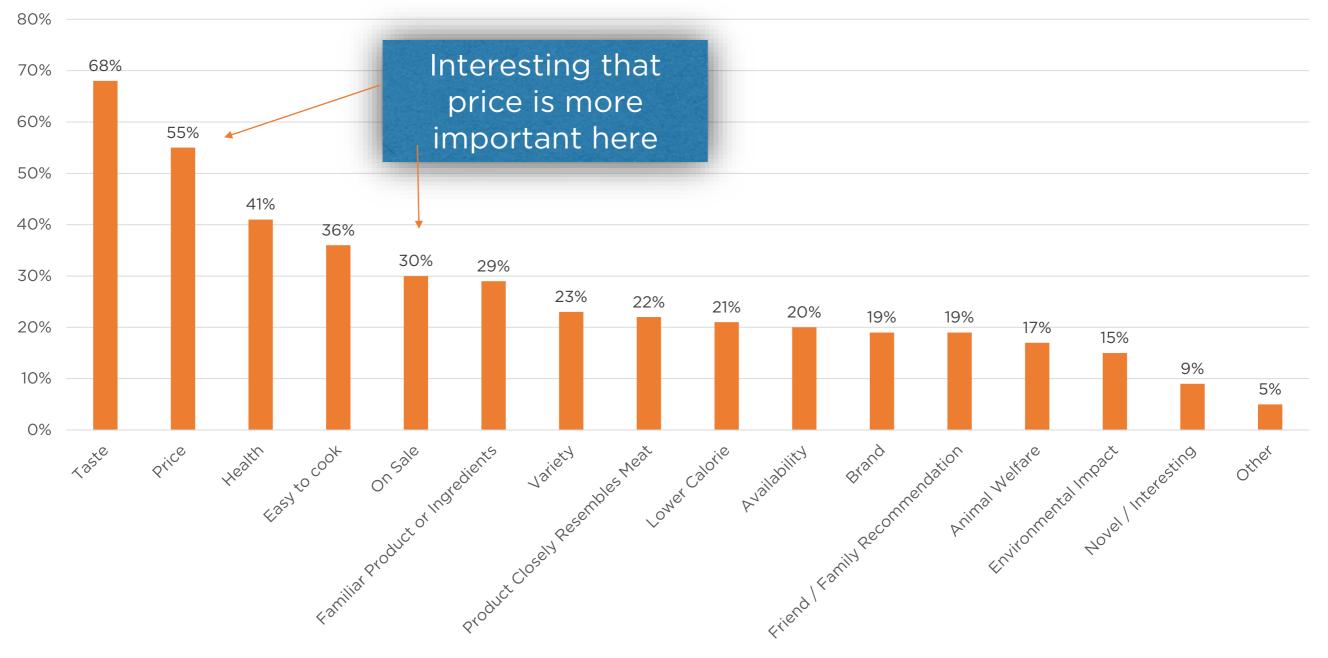




Purchasing Factors Plant-Based Alts.

Taste, Price, Health & Convenience Most Important

Factors most likely to encourage the purchase of plant-based meat and plant-based dairy products





Category Growth Leader

Flexitarians Eat More Plants + Some Animal

Flexitarians =
Largest Food
Tribe =
Influencers
Shaping Dietary
Trends

39% of US households are trying to increase their plant food consumption

39% Eat More Plants 33% Flexitarian

One in three Americans consider themselves "flexitarian," that is eating a diet that is neither wholly animal nor plant-based - but are attempting to eat more plants



58% US adults tried or are interested in eating less meat

58% Eat Less Meat

79% of Millennials eat meat alternatives 79%
Millennials
& 21% HH
Eat PlantBased
"Meat"

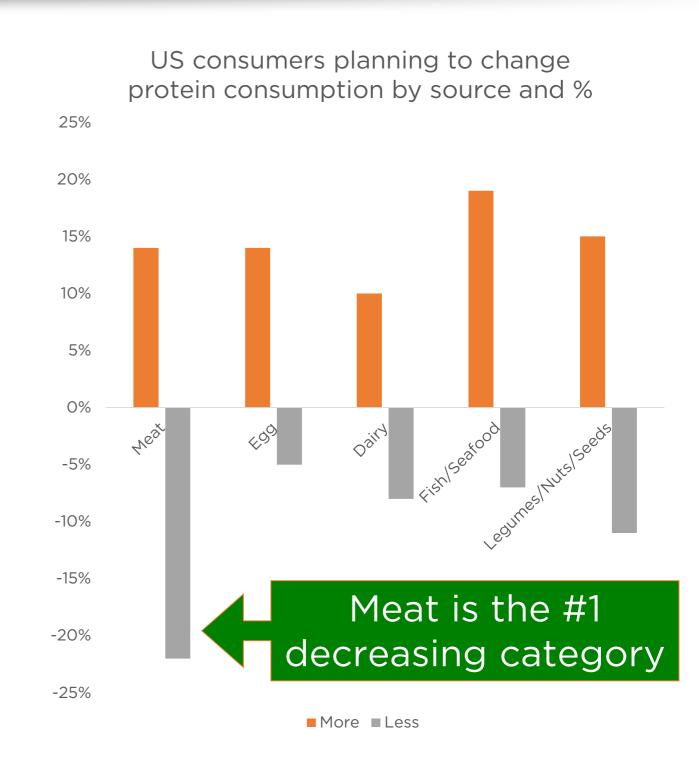
21.6% of households (approximately 2 million households) purchase meat alternatives and of those, 27% purchase 5 or more times a year (540,000 households)



Consumer Protein Consumption

What For & Which Sources

- 51% of consumers say they have protein at every meal
 - #1 to increase/maintain energy
 - #2 to manage weight and maintain muscle
 - #3 for better brain function
- Consumers intend to eat about the same dairy and less meat but eat more protein specifically:
 - Egg
 - Fish
 - Plant-based protein sources





Plant Proteins Fit "Free from" Gluten, Dairy & Soy Trends

Due to an Intolerance, Celiac Allergy, or By Choice

Gluten-free Households 11% HH gluten-free diet

75% by choice (not due to allergy or intolerance)

Source: NPD Group

30 to 50 Million
People in the U.S. Have a
Dairy Allergy or
Intolerance

1 Million
People in the U.S. Have a
Soy Allergy, with millions
more being intolerant





Health-Related Perceptions by Age

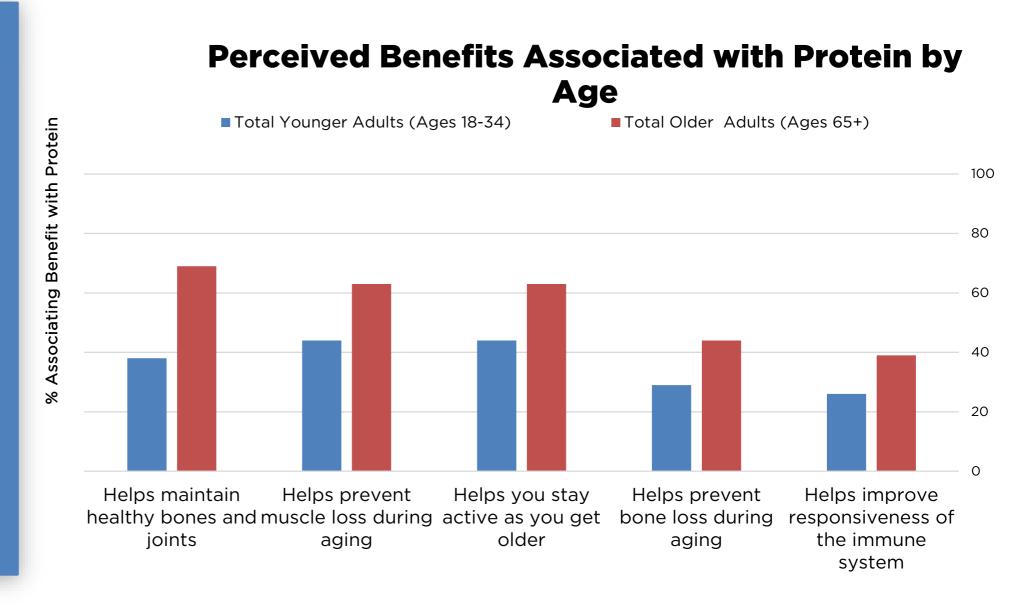
Aligning Protein with Muscle & Joint Support

Health Claims Skew Toward:

- Higher income HH
- Millennials (transparency)
- Baby Boomers

Protein Perceptions:

- 65% perceive that protein helps prevent muscle loss with aging
- 56% perceive that protein helps build/mai ntain muscle strength





Health-Related Opportunity

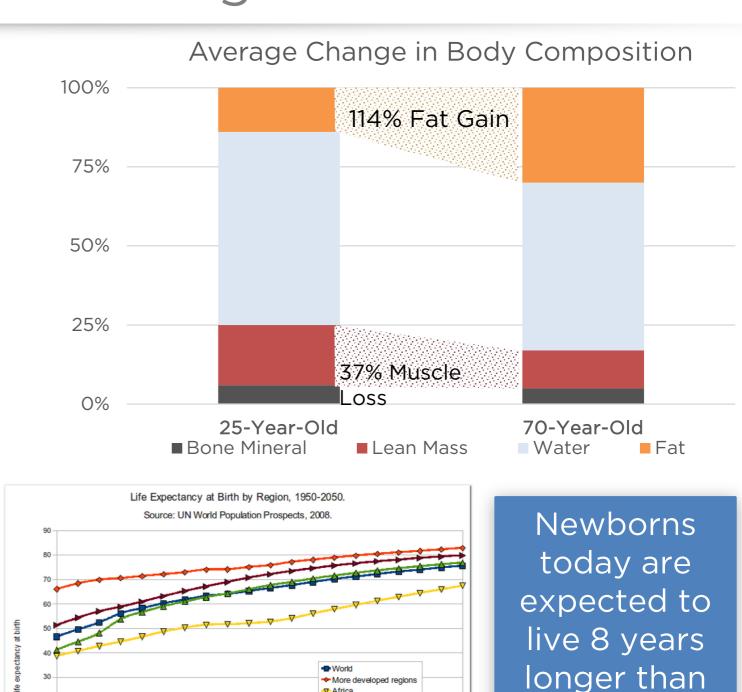
Sarcopenia - Progressive Muscle Loss

What is Sarcopenia?

- Sarcopenia is the progressive loss of muscle mass, function, and quality driven by the aging process.
- Often leads to diminished strength, activity levels, mobility issues, osteoporosis, and more.
- Between 30 to 60 years of age, the average adult:
 - will gain 1 lb of weight and lose 1/2 lb of muscle annually
 - a total gain of 30 lbs of fat and a loss of 15 lbs of muscle
 - accelerates to 15% loss per decade, after age 70

Population Affected & Why it is Increasing

- Approx. 45% U.S. older adults are affected by Sarcopenia, & increasing as population ages.
- Consumers over age 50 often consume less than the RDA for protein
 - 27% to 41% of women
 - 15% to 38% of men



those born in

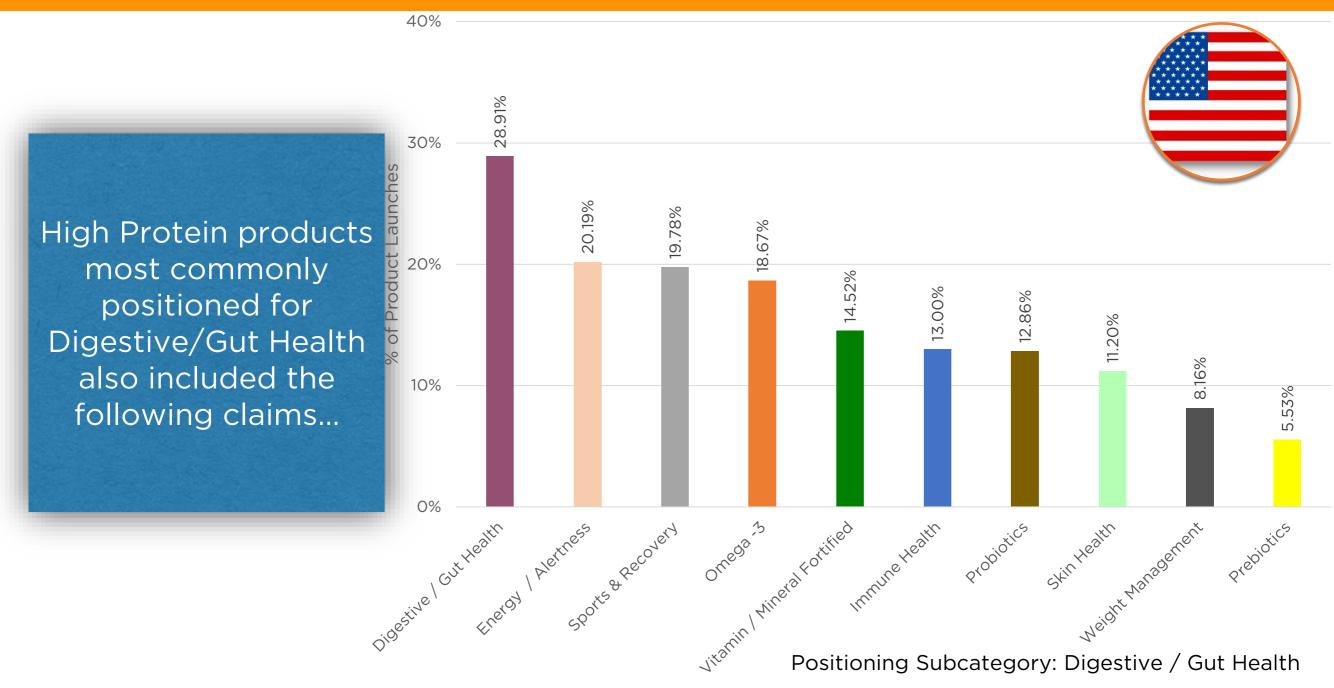
1960



High Protein Product Launches:

Top Sub-Claims for Digestive Health

U.S. Food/Beverage Launches Containing Pea Protein (2016 - 2017) Positioning Subcategory: *Digestive / Gut Health*



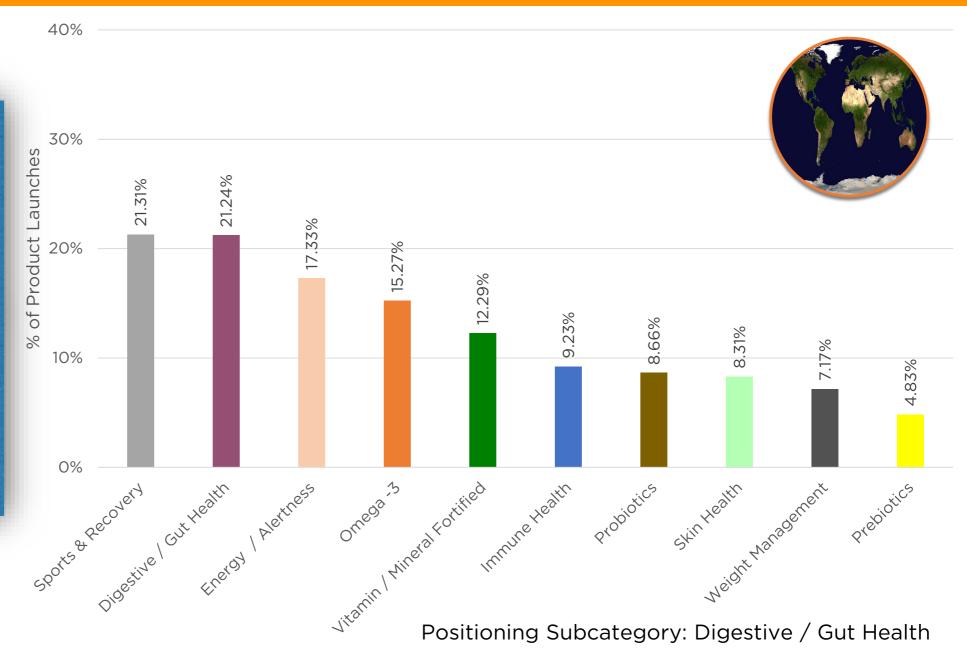


High Protein Product Launches:

Top Sub-Claims for Sports & Recovery

Global Food/Beverage Launches Containing Pea Protein (2016 - 2017) Positioning Subcategory: *Sports & Recovery*

High Protein products most commonly positioned for Sports & Recovery also included the following claims...

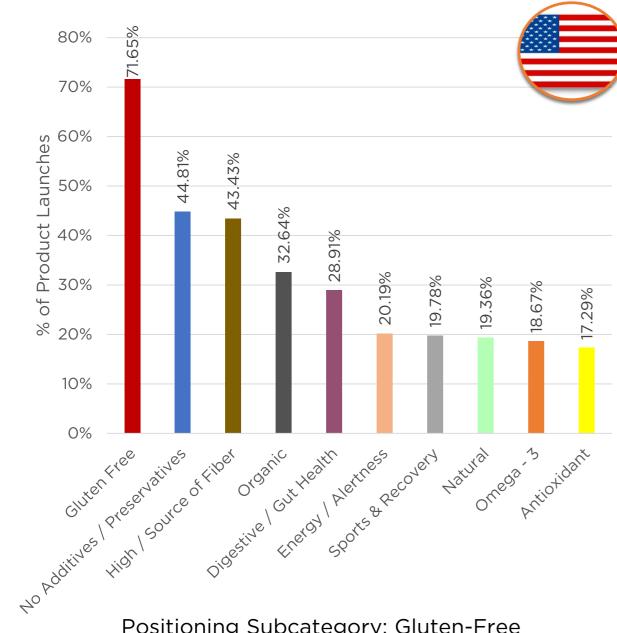




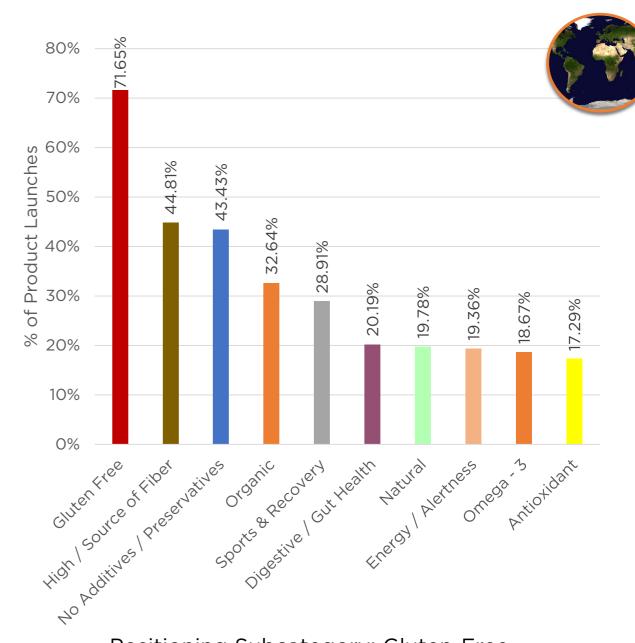
High Protein Product Launches:

Top Sub-Claims for Gluten Free

U.S. & Global Food/Beverage Launches Containing Pea Protein (2016 - 2017) Positioning Subcategory: Gluten-Free



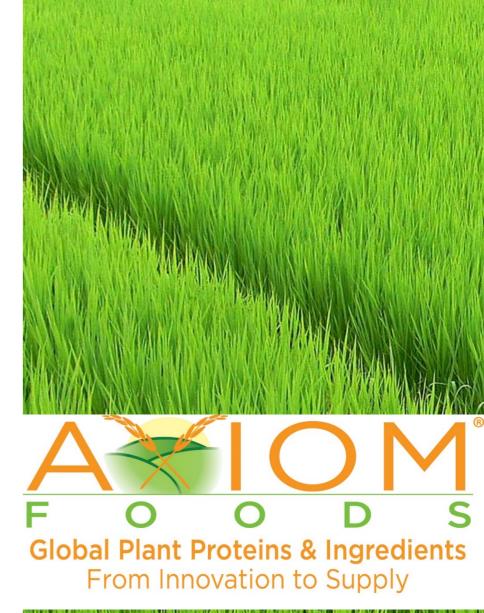




Positioning Subcategory: Gluten-Free

Clinical Trials & Patents

- A. Rice vs Whey Protein
- B. Consumer Education
- C. Patented Claims





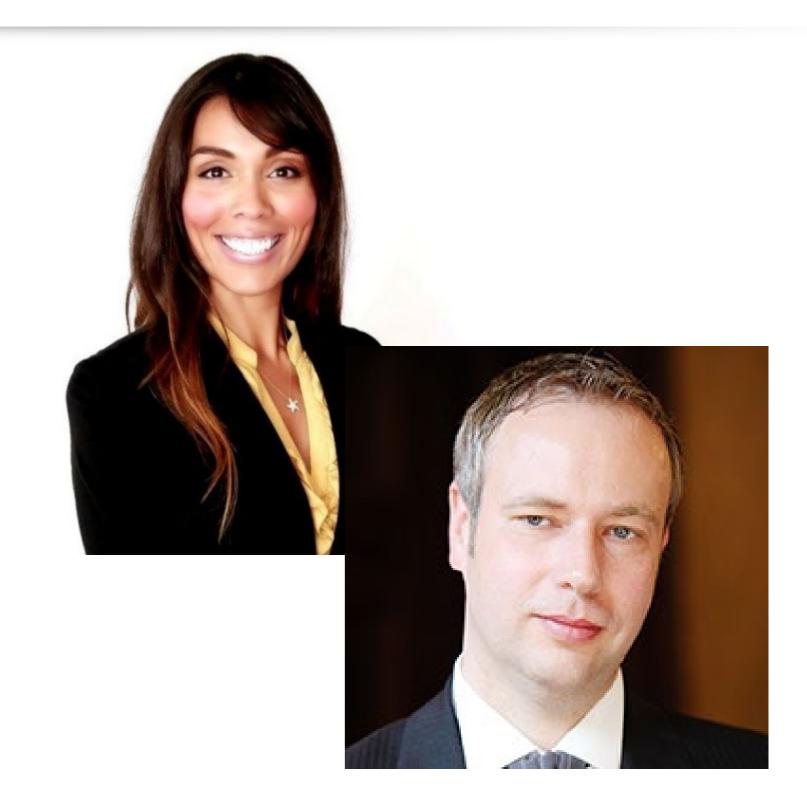


First Clinical Trials

Our Team Leaders

Scarlett Blandon Full, MS,
RDN
Axiom Foods Research
Manager
Scarlett@AxiomFoods.com

Ralf Jäger, FISSN, CISSN, MBA Increnovo Ralf.Jager@Increnovo.com





2013, 2018, 2020 Clinical Trials Summary

Rice Protein Muscle Building vs Whey Protein

Three Clinical Studies

One HEAD TURNING Result Helping Even the Playing Field



2013

[†]Nutrition Journal

8 weeks

Double blind study

24 collegiate athletes

24g of rice or whey protein 2x/day

Periodized resistance training 3x/week

Both Oryzatein® rice and whey protein equally increased lean muscle mass, power & strength, plus helped exercise recovery.

2018

[†]EC Nutrition Journal

6 weeks

Prospective pilot trial study

11 pro MMA athletes

25g of rice or whey protein 3x/day

MMA training 2x/day, 6 days/week

Both Oryzatein® rice and whey protein equally maintained lean muscle mass.

2020

TBA

8 weeks

Double blind study

24 collegiate athletes

24g of rice or whey protein 1x/day

Periodized resistance training 4x/week

Both Oryzatein* rice and whey protein equally supported lean muscle mass, even at a low dose



Sports formulations utilizing this claim are covered under Axiom Foods' use patents.

Oryzatein® is equally as effective as whey protein for increasing and maintaining lean muscle mass



2018 Clinical Trial

Absorption Kinetics of Rice Protein v Whey Results

The Race

to Leucine Amino Acid Absorption



WHEY 85 minutes

RICE 67 minutes

Leucine, the key amino acid for muscle building, absorbs almost 30% faster from rice protein than whey protein.*





Clinical Research with a Consumer Message

Turned Into Consumer Education Programs

Annual Education Program

- Plant Protein Month is an opportunity:
 - To educate consumers through



Plant Protein Month
Health & Wellness Website
20.539 like this

 To educate retailers (and consumers) through retail display contest



 Get brands involved, which features plant proteins in their products



Clinical Trial Based Education Program

 Plant vs Animal Challenge turns clinical trials into something consumers can relate to, to benefit the entire plant protein industry



Could Vegan Protein Be Just As Effective As Whey for Building Muscle?

Whey has long been called the muscle-building king—but new research says, "Be humble, sit down."



New study with UFC fighters shows plant-based protein produces same results as whey in athletes





Andre Soukhamthath defeated Luke Sanders in December by second-round TKO. He credits a shift to plant-based



Intellectual Property & Licensing

Only if you formulate with Oryzatein® Rice Protein can you make these claims!



Country	Patent No.	Issue Date			
United	9,820,504	11/21/17			
States					
United	9,907,331	03/06/18			
States					
Australia	2014225786	01/25/18			
China	ZL	04/10/18			
	201480013156.1				
Hong Kong	HK1213441	11/23/18			
Macau	J/003136	09/24/18			
New Zealand	711956	10/02/18			

And more pending

Patents

Method of Use Patents:

Oryzatein is the only rice protein that can be used in Sports Nutrition with the following claims*, as good as whey:

- 1. Build muscles (lean body mass)
- 2. Increase strength
- 3. Increase power
- 4. Increase endurance
- 5. Increase exercise recovery
- 6. increased rate of absorption of leucine an essential branched chain amino acid triggering muscle growth

*When rice protein is the single source of protein

Proprietary & Novel Patent-Pending Processes

- Tasteless pea protein
- Suspension Grade process adaptation for other proteins
- Rice Milk
- Organic heavy metal chelation
- Ultrafiltration & Microfiltration for rice protein separation

Licensing Opportunities Avai



Intro to Protein

Where Do They Come From?

All plants have some protein but at different percentages

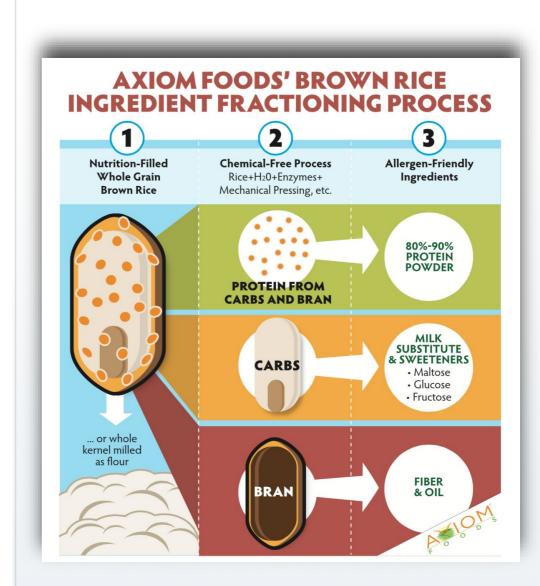
- Some plant proteins are just dried and ground whole plant flour that is typically only 25-50% concentrated protein
- Axiom Foods' plant proteins are typically 58% to 80%+ because they are separated (AKA fractioned) from the plant and concentrated
- If any protein powder is concentrated above 80% it is referred to as an "isolate"
- The concentration of protein in peas is approximately 5:1 so it would take eating 5 bowls of peas to consume the protein in one bowl of protein powder.

All concentrated plant proteins are part of a sustainable process that uses the whole grain, seed, legume or nut.

- The part of the plant that isn't protein is a 2nd food, beverage or nutraceutical ingredient that is often an oil, starch, sugar or fiber.
- Originally discarded, protein powders originated from food waste streams. Whey protein is a by-product of cheese manufacturing which needs the curds but discards the whey

Axiom Foods created the most minimal and natural fractioning processes that do NOT use petroleum by-products such as hexane

- ALL Soy proteins have been fractioned out of the soy bean using lowcost hexane, with some recent exceptions.
- Rice Protein: Brown rice is ground, mixed with water, treated with carbohydrate-breaking enzymes to remove the starch leaving a protein rich "cake" behind which is then concentrated and dried into powder
- Pea Protein: Dried field peas are ground, mixed with water, mechanically separated via centrifuge to remove the starch leaving a protein rich "cake" behind which is then concentrated and dried into powder.





Intro to Protein

Choosing Between Proteins

Whey typically has:

- Cholesterol
- Lactose/allergens
- Contamination with growth hormones/antibiotics
- Artificial additives including sweeteners

Although the whey industry is trying to address these things.

Plant proteins are naturally:

- Free from cholesterol
- · Low-fat and free of saturated fat
- Sustainable
- Low carbohydrate
- Part of most any type of diet plan or lifestyle (vegan, low FODMAP, Keto, food allergies, sports, etc.)

Plant proteins can be perceived as:

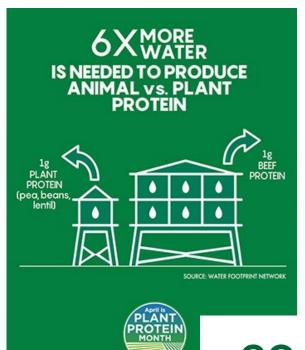
- Taste/texture differences BUT things are improving and the positives far outweigh the negatives
- Muscle building differences BUT several clinical studies show rice protein is as good as whey protein at building muscle / power / strength and actually contains a faster absorbing Leucine, the AA that triggers muscle building

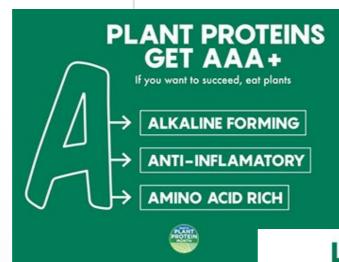
	Brown Rice	Pea	Sacha Inchi	Hemp	Soy	Whey	Egg White
Derived from the Whole Grain	✓						
Raw/Low Heat Option	✓	✓		✓			
Allergen-Friendly	✓	√	✓	✓			
Non-GMO	✓	√	✓	✓			
Vegan	✓	√	✓	✓	√		
Naturally Cholesterol Free	✓	√	✓	✓	√		
Hexane Free	✓	√	✓	✓		✓	✓
Phytoestrogen Free	✓	√	✓	✓		✓	√
Clinically Shown to Build Lean Muscle & Aid Exercise Recovery	√	√				√	√
Clinically Shown that Leucine Absorbs Faster than Leucine from Whey protein	✓						
Organic Readily Available	✓		✓	✓	√		
High BCAAs**	✓	√				✓	√
High Omegas			✓	✓			
Naturally Hormone Free	✓	√	√	✓			
Environmentally Friendly	✓	√	✓	✓	√		



Plant Protein Myth Busting

Visit PlantProteinMonth.com for Shareables





LOSE WEIGHT, FEEL GREAT!







ALLERGIC TO DAIRY/WHEY

Plant Protein = The Solution









SOURCE: NIDDK/US DEPARTMENT OF HEALTH AND HUMAN SERVICES



SOURCE: AMERICAN JOURNAL OF NUTRITION

Questions? Contact:

Colin Kiat
(424) 216-7534
Colin@AxiomFoods.com

