

# RIBUS<sup>®</sup>

The logo features the word "RIBUS" in a bold, blue, sans-serif font. A registered trademark symbol (®) is located to the upper right of the "S". A green stem with several leaves, colored in shades of green and yellow, extends from the right side of the "S" and curves upwards and to the left, passing behind the letters.

# Overview

- Clean Label Excipients
- How are Early Adopters Doing (Globally)?
- Expanding Clean Label – 2017 and Beyond...



# 2011: RIBUS Brings Clean Label Excipient Options to the Market

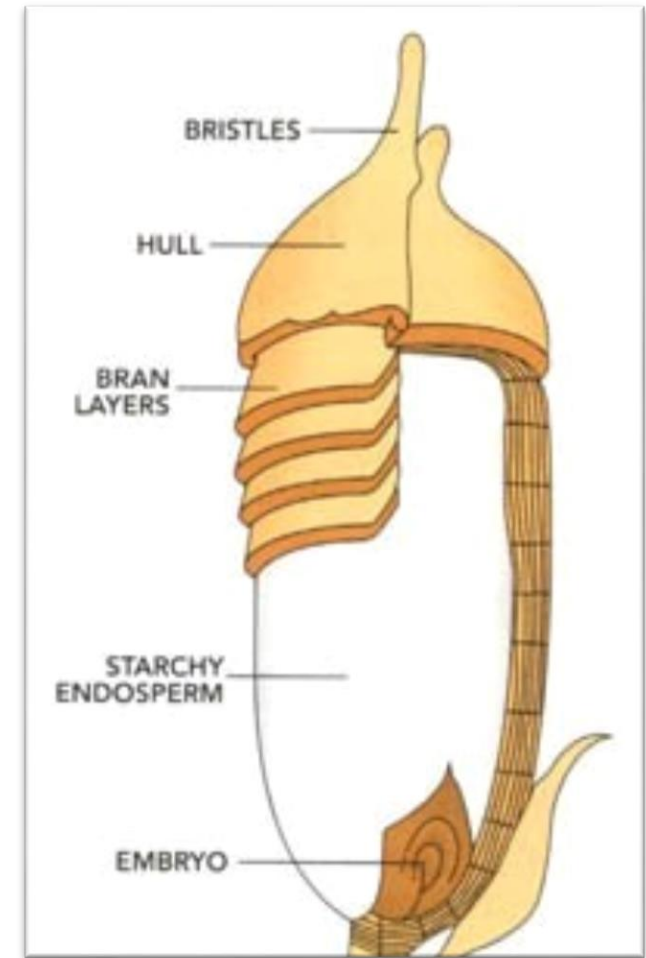


## Anatomy of a Rice Plant

20% Hulls => Nu-FLOW®

10% Bran => Nu-RICE®

70% => White Rice



Sustainable utilization of 100% of the rice

# The Original Clean Label Ingredient Company

**Generation 1**



**Generation 2**



**Generation 3**

More to come...binders and filler



# RIBUS Delivers Clean Label Reality



# How Far Have Clean Labels Come?



# Innovation Provides Clean Label Declarations

Function	Historic Industry Standards	Clean Label Declarations	RIBUS Ingredient
Flow Agent	Silicon Dioxide Tri-Calcium Phosphate	Rice Hulls or Rice Fiber	
Lubricant	Mg Stearate Stearic Acid	Rice Extract Blend	
Hydration Aid	Soy Lecithin	Rice Extract	
Binder	HPC, PVP	2017 Expected Launch	
Filler	MCC, Sorbitol, Lactose	2018 Expected Launch	

# Organic Clean Label Lubricant: Nu-MAG™



- Organic or Natural
- Enhanced Functionality
- Label as “Rice Extract Blend”
  - Nu-RICE®
  - Nu-FLOW®
  - Gum Arabic
  - Sunflower Oil



*“Nu-MAG™ performed as well as Mg Stearate...”*

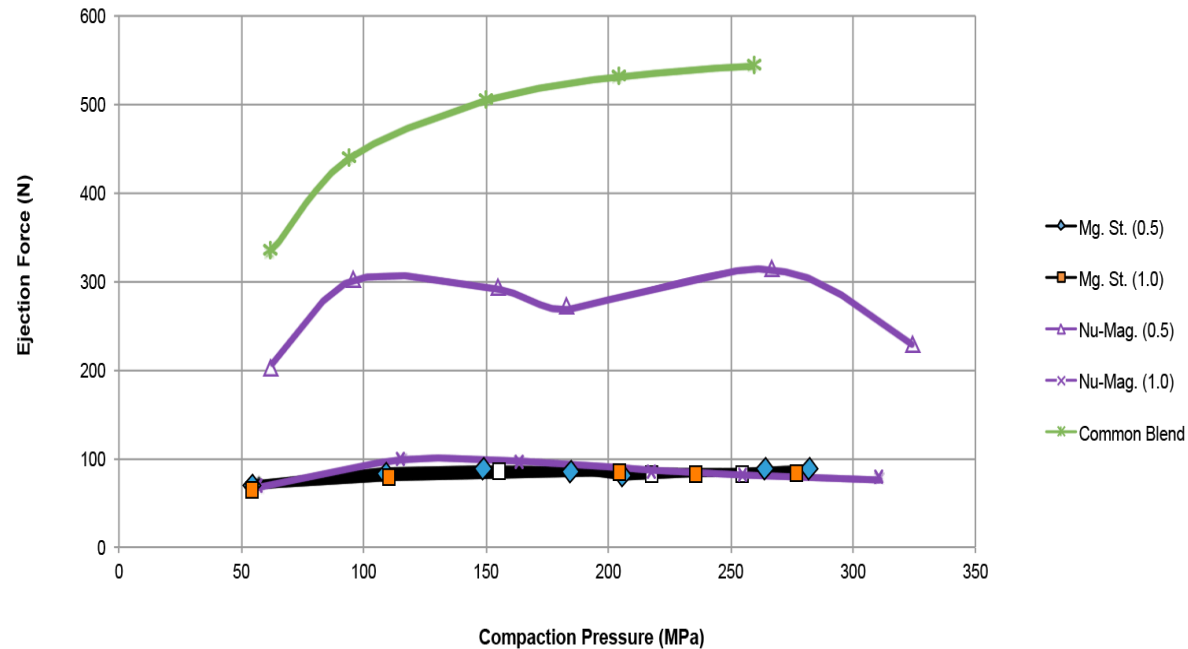
-Robert Sedlock, Natoli Institute, Long Island University



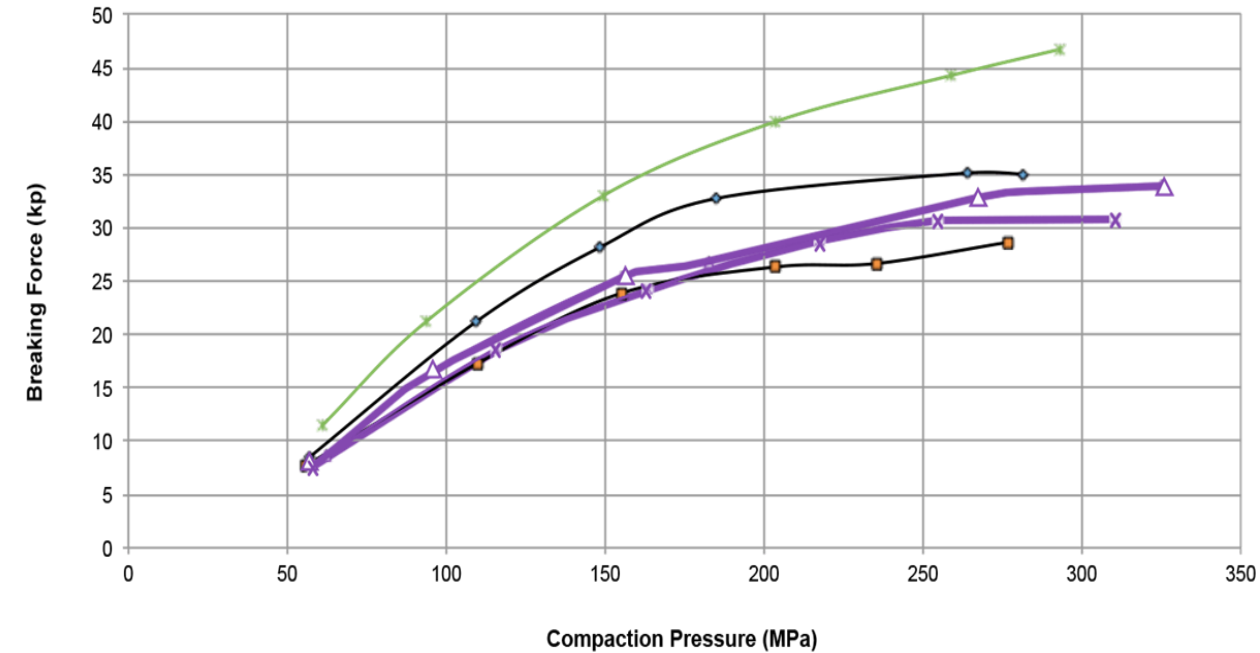


# Ejection Force and Hardness are Comparable

Ejection Force vs. Compaction Pressure



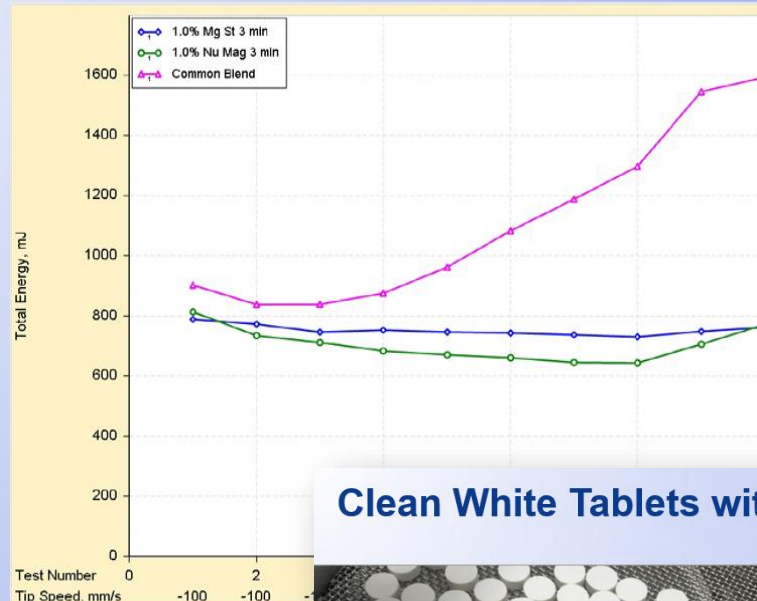
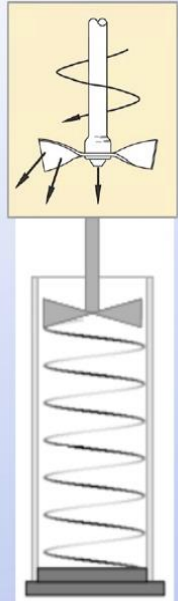
Breaking Force vs. Compaction Pressure



Test conducted by, Natoli Institute at Long Island University.

# Additional Data

## POWDER FLOW (ENERGY REQUIREMENTS)

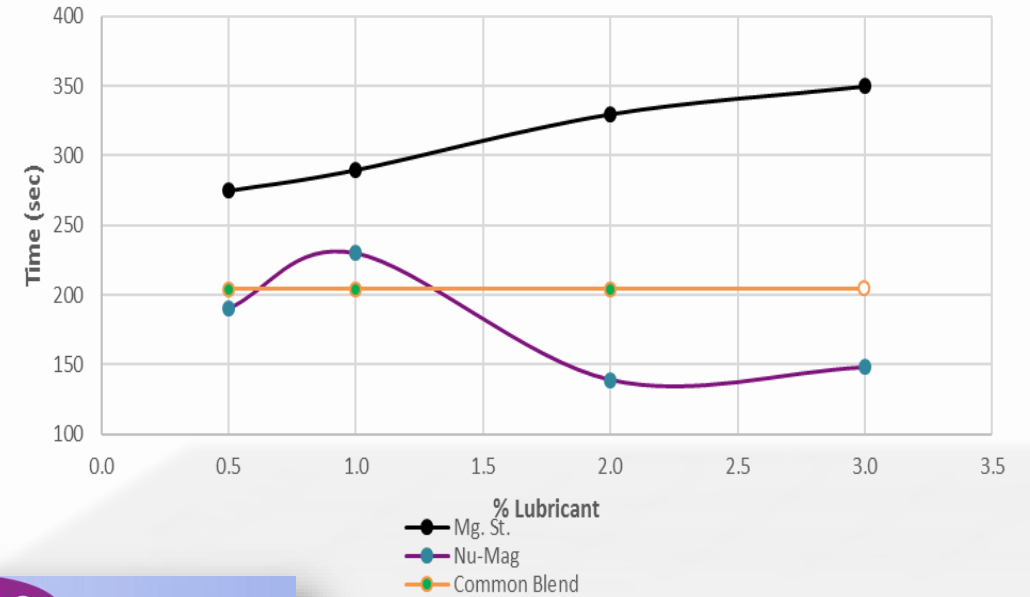


## Clean White Tablets with 1% Nu-MAG

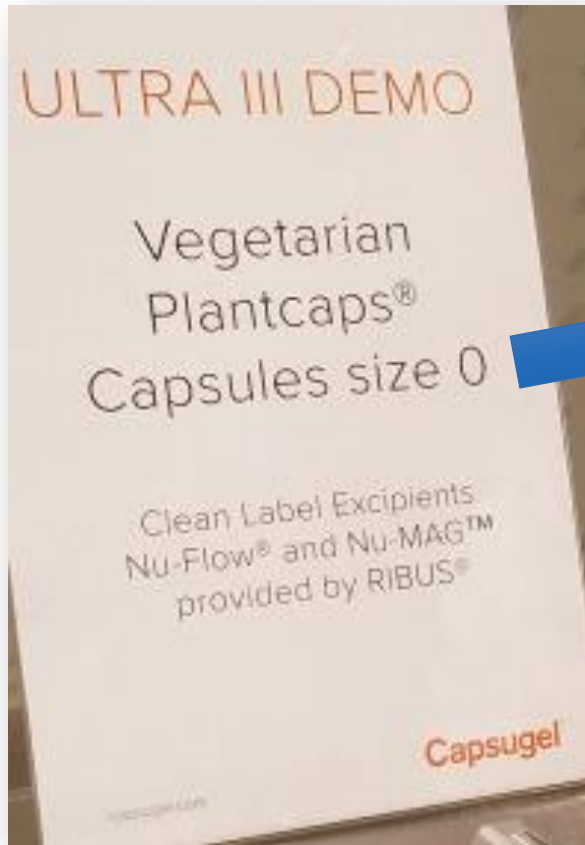


1% Nu-MAG™, paddle feed, 3 minute mix.

## Disintegration Time



# Capsugel + RIBUS at Vitafoods



# Clean Label Capsules



## Plant based Excipients for Plant based Capsules...

### Organic Limitations

- EU does NOT allow Mg Stearate or Stearic Acid
- USA becomes "Made With" if Mg Stearate is used and Stearic Acid is Not allowed in Organics



# Early Adopters

## INDUSTRY application

*Gemini favors  
plant-based  
excipients to  
propagate  
clean-label  
supplements*



*The company has  
developed more than 500  
products using the  
alternative ingredients.*

As appeared in July 2017 Tablets & Capsules.



# Ingredients Distributed & Finished Products Exported



# RIBUS Excipients: Wide Application Use

Botanicals

Minerals



Vitamins

Multi's

# RIBUS' Clean Label Transition over 25 Years

Food

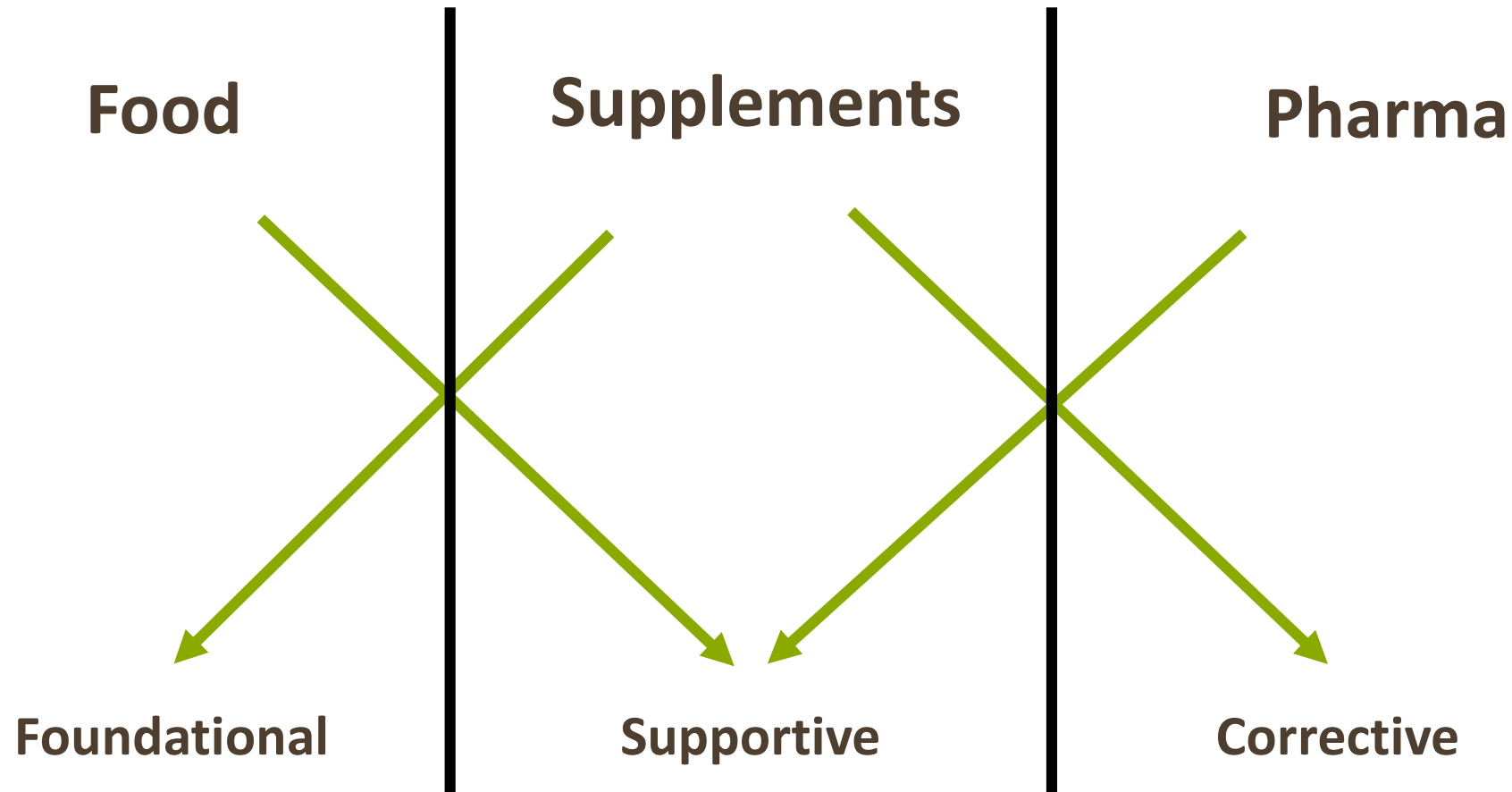


Supplements





# Spectrum of Human Health Inputs



# Excipients GRAS vs. GRAB

## **GRAS: Safe**

- Safe to consume
- Synthetic, Natural or Organic
- Nutrition is NOT an issue

## **GRAB: Beneficial**

- Safe to consume
- Typically Natural or Organic
- Nutrition IS an issue
- “Bi-Functional”
  - Clean Label not just Free-From
  - Each ingredient adds value  
Functionality + Nutrition

# Excipient Nutrition Comparison

100 g	Nu-RICE*	MCC	Nu-FLOW*	SiO <sub>2</sub>	Nu-MAG*	Mg Stearate
<b>Fat</b>	18-22 g	0	0-2 g	0	19-25 g	93 g
<b>Protein</b>	13-18 g	0	1-4 g	0	5-8 g	0
<b>Fiber</b>	12 g	93-98 g	70-79 g	0	41 g	0
<b>Ash</b>	11-14 g	1-2 g	19.3 g	32 g	8-13%	4 g
<b>Calcium</b>	2.4 g	-	57 mg	0	960 mg	0
<b>Copper</b>	880 mcg	-	-	0	352 mcg	0
<b>Iron</b>	12.4 mg	-	10.3 mg	0	5 mg	0
<b>Magnesium</b>	1,000 mg	-	-	0	400 mg	4,000 mg
<b>Phosphorus</b>	3,000 mg	-	38.7 mg	0	1,200 mg	0
<b>Potassium</b>	1,600 mg	-	-	0	640 mg	0
<b>Silica</b>	0	-	17.7 g	32 g	4 g	0

\*RIBUS' ingredients are available as Natural or Certified Organic.

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<b>Protein</b>	13-18 g	0	g	0	5-8 g	0
<b>Fiber</b>	12 g	93-98 g	70-79 g	0	41 g	0
<b>Vitamins</b>	4 mg	0	0	0	2 mg	0
<b>B1</b>	0.06 mg	0	0	0	0	0
<b>B2</b>	42.8 mg	0	0	0	18 mg	0
<b>B3</b>	6.5 mg	0	0	0	3 mg	0
<b>B5</b>	2.6 mg	0	0	0	1 mg	0
<b>B6</b>	44 mcg	0	0	0	18 mcg	0
<b>B7</b>	1.6 mcg	0	0	0	-	0
<b>B12</b>						
<b>Folate</b>	68 mcg	0	0	0	27 mcg	0

\*RIBUS' ingredients are available as Natural or Certified Organic.  
GRAB – Every input item has a Nutritional Benefit.

# Examples of GRAB Thinking



Directions: Adults, take 2 capsules daily preferably with food, as a dietary supplement or as directed by your doctor.

Supplement Facts		
Serving Size: 2 Capsules		
Servings Per Container: 30		
Amount Per Serving		% DV
Garlic ( <i>Allium Sativum</i> )	10 mg	*
Grape Seed Extract ( <i>Vitis Vinifera</i> )	300 mg	*
Olive Leaf Extract ( <i>Olea europaea</i> )	600 mg	*
Rice Bran Extract (Nu-Rice®)	160 mg	*
Rice Concentrate (Nu-Flow®)	160 mg	*
Spinach ( <i>Spinach Oleracea</i> ) (Stem/Leaf)	20 mg	*
Tomato ( <i>Lycopersicon esculentum</i> ) (Fruit)	20 mg	*

\*Daily Value (DV) not established.

Other Ingredients: Hydroxypropyl Methylcellulose.

# Examples of GRAB Thinking



**Suggested Use:** Adults, take 3 capsules with water, preferably with meal, as a dietary supplement, or as directed by a doctor. **X**

Supplement Facts		
Serving Size: 3 Capsules		
Servings Per Container: 30		
Amount Per Serving		%DV
Calcium (from Natural Eggshell Membrane [NEM®])	60 mg	5%
NEM® Natural Eggshell Membrane	500 mg	*
Theacrine (as TeaCrine®)	125 mg	*
Rice Bran Extract (Nu-Rice®)	95 mg	*
Rice Concentrate (Nu-Flow®)	60 mg	*
Hyaluronic Acid (from Sodium Hyaluronate)	30 mg	*
SCP-II Complex™ (Salmon Nasal Cartilage Type II 40%)	25 mg	*
*Daily Value (DV) not established.		
Other Ingredients: Hydroxypropyl Methylcellulose (vegetarian capsule).		
Contains: Egg and Fish (Salmon)		



# Clean Label Alliance™

## CLEAR PATH TO CLEAN LABEL DIETARY SUPPLEMENT EDITION

As the consumer demand for clean label continues to grow, the more important it is to discuss and offer solutions. Marketing and sales teams want to be at the forefront of industry trends, while production teams are being forced to change their products to accommodate the growing clean label requests. However, formulators need ingredients that function and provide the same level of performance. Leading suppliers to the supplement industry have teamed up to provide support to their common customers, offering a **clear path to clean label supplements.**



**BOSCH**



**Capsugel**

**RIBUS**

# The Clean Label Alliance...

## Organized to Grow Customer Satisfaction

### Services Offered

Product Planning

Tech Support

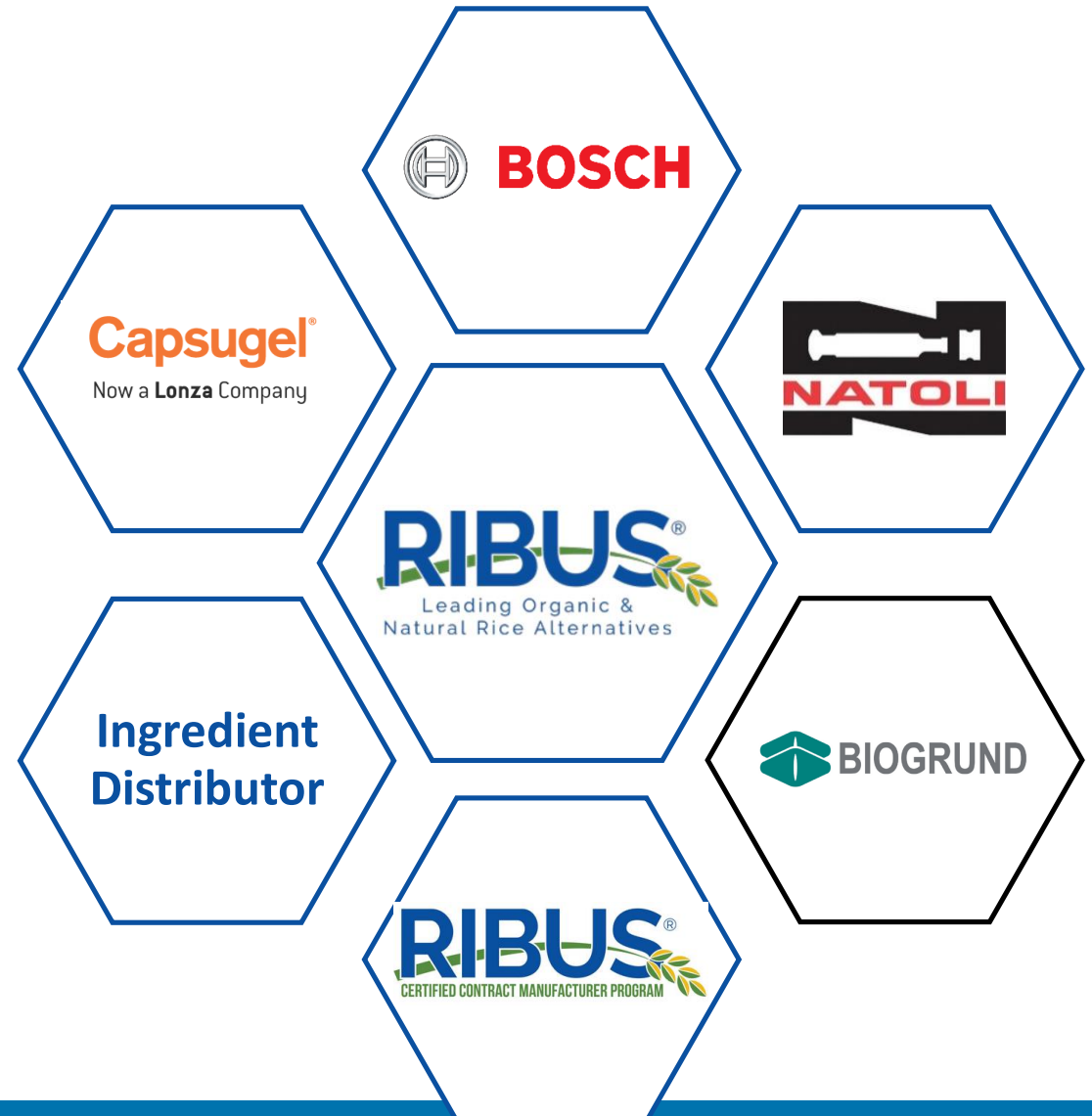
Equipment

Formulation

Ingredient Sourcing

Operations

Other Needs





# Newest “RIBUS Certified Contract Manufacturer”







**Thank You!**  
visit us at booth  
**H-123**