Delivering Clean Label to the Transitioning Omnivore

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Foodscape Group Founder
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What We’ll Cover Today

- Clean Label Definitions & The Consumer
- Plant Based Operating Context
- Marketplace Examples
- Wrapping It Up
CLEAN LABEL DEFINITIONS & THE CONSUMER
Clean Label means what exactly?

- Clean Label has no formal or regulatory definition.
- Some product attributes which may track with Clean Label have regulatory definitions and some do not.

Attributes:
- Fresh
- Raw
- Natural
- Minimally Processed
- Nothing Artificial
- Non-GMO
- Organic
SURVEY DATA: 302 U.S. GROCERY SHOPPERS

**Signs of Clean Label**
- 68% USDA Organic
- 61% Found in the part of the store where I expect to find fresh foods
- 58% Contains only familiar ingredients
- 51% Made with ingredients that come from plants or animals
- 50% Found in a store where I expect products to have a clean label
- 48% Is a brand that I expect to have a clean label

**Signs of NOT Clean Label**
- 55% Made with ingredients that sound like a chemical
- 52% Seems highly processed
- 45% Contains artificial ingredients
- 44% Contains GMOs
- 43% Contains artificial sweeteners

Source: Cargill/Decision Analyst, Transparency & Simplicity White Paper
LET’S ASK LINKEDIN FOLLOWERS...

- Real, recognizable ingredients. No junk. No ingredients disguised with *tricky names like “natural flavors”*...Minimal number of ingredients.

- A short ingredient deck *free from artificial colors and preservatives* - The definition is fluid and has been creating a headache for commercial baking. There is no FDA definition unlike organic or gluten-free.

- No fillers, no salt, no sugar, no maltodextrine, no sorbitol, no polypropylene glycol. No MSG, DSG, I+G.... I can go on...
Gums are lab formulated and come hidden in compound ingredients. Even a manufacturer doesn't know of them.

Nothing artificial.

I am over the marketing jargon on the front where they can claim no HFCS but then have an equally harmful ingredient like an artificial sweetener or chemical dye listed on the back.

...clean labels are often used to cynically whitewash junk food that may be high in added sugar, sodium, and/or fat. A truly clean label shouldn't be misleading in the sense that it shouldn't be used for a product that is heavily processed or objectively unhealthy.

Personally I don't care if a label is clean or not because most of the food I buy has no label.

Source: Dr Cheatham's LinkedIn Followers
CLEAN LABEL: MANY LISTS...

UNACCEPTABLE INGREDIENTS FOR FOOD

There are many definitions out there for ‘natural food products’ and many opinions on what food additives to avoid. Among other criteria, we draw a line when it comes to hydrogenated fats and artificial colors, flavors, preservatives and sweeteners. This guides us every day in choosing what to put on our shelves so you can feel confident about what you put on your plate.

Below is the list of ingredients that we find unacceptable in food. In other words, we won’t sell a food product if it contains any of these. Based on new findings, the list may change, but we can proudly say that compromising our standards is also unacceptable.

The No No List

- Acetaminophen
- Aspartame
- Artificial Colors
- Artificial Flavors
- Artificial Sweeteners
- Artificially Flavored
- Artificially Sweetened
INDUSTRY & CONSUMER: Terminology

- Best consider ‘clean label’ more of an industry umbrella term
- Consumers tend to use term ‘clean eating’ especially on @Instagram and other social media platforms
PUTTING ‘CLEAN LABEL’ IN CONTEXT

- And compared to ‘clean label’ or ‘clean eating’...searches on ‘keto’ are much higher
- Notice those keto peeks!
CLEAN LABEL INTERSECTS SUSTAINABILITY

- Products with less than 10 ‘recognizable’ ingredients PLUS a sustainability claim growing most

Source: Nielsen,
PLANT BASED OPERATING CONTEXT
FOODSCAPE METATRENDS: THE DATA PROCESS

- **Source Data:**
  - Analyzed 125 trends reports...
    - Sources for trends reports include grocery store chains, digital marketing agencies, consumer insights groups, media organizations, consumer websites, etc.
    - Eliminated duplicate reports, reports using old or plagiarized data, and reports showing bias as a marketing tool for one ingredient/product
  - Logged 2150 raw data points
  - Distilled down to TOP 10 metatrends, including sub-trends for each

- **Timeframe:**
  - Reports released in late 2018 through January 15, 2019

- **Global Distribution:**
  - Only English language reports included
  - Reports sourced from 12 countries, with 55% coming from US sources
TOP 10 METATRENDS

1. Plant Forward
2. Taste The Globe
3. Eco Eats
4. Non-Diet Diets
5. Gutsy Health
6. Me, Myself & I
7. CBD Rules
8. Comfort & Cognition
9. Tech Support
10. Not So Sweet Treats
PLANT FORWARD: SUBTRENDS

- DAIRY ALTERNATIVES
- MEAT ALTERNATIVES
- ALGAE
- CHICKPEA | AQUAFABA
- CAULIFLOWER
- BEETS
- SESAME | TAHINI
- NEW | ANCIENT GRAINS
- MUSHROOMS
- SEA VEGETABLES
### WHO EATS PLANT FORWARD?

<table>
<thead>
<tr>
<th>VEGETARIAN</th>
<th>VEGAN</th>
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<tbody>
<tr>
<td>Estimated that from 2 to 10% of a ‘developed country’s population’ is vegetarian</td>
<td>Estimated that 0.5% of global population is vegan</td>
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**BUT - Don’t Be Fooled**
83% of consumers are adding more plant-based foods into their regular diets
THE TRANSITIONING OMNIVORE

- Animal Based Foods, Beverages and Ingredients
- Plant Based Foods, Beverages and Ingredients
“Consistent evidence indicates that, in general, a dietary pattern that is higher in plant-based foods, such as vegetables, fruits, whole grains, legumes, nuts, and seeds, and lower in animal-based foods is more health promoting and is associated with lesser environment impact than is the current average U.S. diet.

A diet more environmentally sustainable than the average U.S. diet can be achieved without excluding any food groups.”
SUSTAINABILITY:
NEXT DIETARY GUIDELINES FOR AMERICANS?

- Dietary choices have a significant role in contributing to environmental impacts, which could be lessened by consuming fewer overconsumed animal products and more plant-based foods while reducing excess energy intake and the amount of food wasted.

- Discussion of sustainability within governmental dietary guidance is common in many countries, is consistent with previous US guidelines, and is within the scope of authorizing legislation.

Source: Position of the Society for Nutrition Education and Behavior: The Importance of Including Environmental Sustainability in Dietary Guidance
MARKETPLACE EXAMPLES
Based on the Transitioning Omnivore...

- MEAT ALTERNATIVES
- SEAFOOD ALTERNATIVES
- DAIRY ALTERNATIVES
Foresters predict global market for alternative meats such as tofu, tempeh, textured vegetable protein, seitan, quorn and other plant based sources will reach $5.2 billion by 2020...noting a CAGR of 8.4% during the period 2015-2020.
PRODUCT EXAMPLES: MEAT ALTERNATIVE

INGREDIENTS

Water, Pea Protein Isolate, Expeller-Pressed Canola Oil, Refined Coconut Oil, **Contains 2% or less of the following:** Cellulose from Bamboo, Methylcellulose, Potato Starch, Natural Flavor, Maltodextrin, Yeast Extract, Salt, Sunflower Oil, Vegetable Glycerin, Dried Yeast, Gum Arabic, Citrus Extract (to protect quality), Ascorbic Acid (to maintain color), Beet Juice Extract (for color), Acetic Acid, Succinic Acid, Modified Food Starch, Annatto (for color).

All ingredients from Non-GMO sources.

**Original Brat**

Water, Pea Protein Isolate, Refined Coconut Oil, Sunflower Oil, **Contains 2% or less of:** Rice Protein, Faba Bean Protein, Natural Flavor, Potato Starch, Salt, Fruit Juice (For Color), Vegetable Juice (For Color), Apple Fiber, Methylcellulose, Citrus Extract (To Protect Quality), Calcium Alginate Casing.

**THE BEYOND BURGER**

THE REVOLUTIONARY PLANT-BASED BURGER THAT LOOKS, COOKS, AND SATISFIES LIKE BEEF.

- **20G PLANT PROTEIN**
- **NO SOY OR GLUTEN**
- **NO GMOs**
- **YES WAY!**
PRODUCT EXAMPLES: MEAT ALTERNATIVE

DO YOU PRODUCE HEME BY GENETIC MODIFICATION?

Yes. We genetically engineer yeast to make a key ingredient: heme. The process allows us to produce the Impossible Burger at scale with the lowest achievable environmental impact.

We start with the gene for a protein called leghemoglobin, a heme protein that is naturally found in the root nodules of soy plants. Leghemoglobin is similar to myoglobin, the heme protein that is exceptionally abundant in animal muscles, binds oxygen and gives meat its unique flavor and aroma.

We add the soy leghemoglobin gene to a yeast strain, and grow the yeast via fermentation. Then we isolate the leghemoglobin, or heme, from the yeast. We add heme to the Impossible Burger to give it the intense, meaty flavor, aroma and cooking properties of animal meat.

By producing our heme in yeast, we avoid digging up soy plants to harvest the root nodules, which would promote erosion and release carbon stored in the soil. This enables us to produce heme sustainably at high volume and make plant-based meat for millions of people, offsetting the environmental impact of animal agriculture.

Full Ingredient List:
Water, Textured Wheat Protein, Coconut Oil, Potato Protein, Natural Flavors, 2% or less of: Leghemoglobin (Soy), Yeast Extract, Salt, Konjac Gum, Xanthan Gum, Soy Protein Isolate, Vitamin E, Vitamin C, Thiamin (Vitamin B1), Zinc, Niacin, Vitamin B6, Riboflavin (Vitamin B2), Vitamin B12
Safety Evaluation of Soy Legemoglobin Protein Preparation Derived From Pichia pastoris, Intended for Use as a Flavor Catalyst in Plant-Based Meat.

Fleischer RT*, Shrub SM, Adamiak F*, Metwally DP, Klinkenberg S

Abstract

The legemoglobin protein (LegH) from soy (Glycine max) expressed in Pichia pastoris (LegH preparation, LegH Prep) imparts a meat-like flavor profile onto plant-based food products. The safety of LegH Prep was evaluated through a series of in-vitro and in-vivo tests. The genotoxic potential of LegH Prep was assessed using the bacterial reverse mutation assay (Ames test) and the in-vitro chromosomal aberration test. LegH Prep was nonmutagenic and nonclastogenic in each test, respectively. Systemic toxicity was assessed in a 28-day dietary study in male and female Sprague Dawley rats. There were no mortalities associated with the administration of LegH Prep. There were no clinical observations, body weight, ophthalmological, clinical pathology, or histopathological changes attributable to LegH Prep administration. There were no observed effects on male reproduction in this study, but the suggestion of a potential estrous cycle distribution effect in female rats prompted a second comprehensive 28-day dietary study in female Sprague Dawley rats. This study demonstrated that female reproductive parameters were comparable between rats treated with LegH Prep and concurrent control rats. These studies establish a no observed adverse effect level of 750 mg/kg LegH, which is over 100 times greater than the 90th percentile estimated daily intake. Collectively, the results of the studies presented raise no issues of toxicological concern with regard to LegH Prep under the conditions tested.

It’s right for there to be controversy about this, in my opinion. But it has a lot more to do with the FDA than it does Impossible Foods. The Impossible Burger is one of many examples of food that is available in the United States that didn’t undergo regulatory scrutiny, and that is bound to make a lot of consumers anxious. That’s where the controversy comes from. The FDA didn’t approve the key ingredient of the Impossible Burger, the approval didn’t need to be sought in the first place, they sold the Impossible Burger anyway, and it’s completely legal.
PRODUCT EXAMPLES: ‘CELLULAR MEAT’

Cells are building blocks of all food we consume and at Memphis Meats they are the foundation of our approach. We make food by sourcing high-quality cells from animals and cultivating them into meat — think of a farm at a tiny scale. We cut some steps from the current process (like raising and processing animals) and bring nutritious, tasty meat to your table.
PRODUCT EXAMPLES: ‘FLEXITARIAN’ BLENDS

The Better Meat Co.’s first product, Albina 100, is an all-natural, plant-based protein with a clean label that seamlessly blends at one-third into ground pork products like sausages, meatballs, chorizo, dumplings, and more.
Ahimi® is made from fresh tomatoes, non-GMO soy sauce, filtered water, sugar and sesame oil.

“This is not an extruded protein isolate; we start with fresh Roma tomatoes. There’s a complex mechanical proprietary process we use with all our vegetables to eliminate the flavor - the acidity in tomatoes, the sweetness of carrots and the bitterness of the eggplant - and create a firmer texture that mimics the experience of biting into raw fish. And from there we can layer on any flavor we want. We sell it frozen and chefs can thaw and cut it the same way they would raw fish.”

“Our products are also attractive from a cost perspective [tomatoes and carrots are significantly cheaper than tuna and salmon] and restaurants can make significant cost savings and show their commitment to sustainability and innovation.”
Our vision is not new. In fact, in 1931, Winston Churchill boldly predicted that “We shall escape the absurdity of growing a whole chicken in order to eat a breast or a wing, by growing these parts separately under a suitable medium... The new foods will be practically indistinguishable from the natural products from the outset, and any changes will be so gradual as to escape observation.”

BlueNalu has identified the technical and business means that will enable the vision of Winston Churchill to finally be realized. BlueNalu will be the pioneer in “cellular aquaculture™”, in which living cells are isolated from fish tissue, placed into culture media for proliferation, and then assembled into great-tasting fresh and frozen seafood products.
The global dairy alternatives market is expected to reach $41 billion by 2025 at a 16.7% CAGR during the forecast period.
PRODUCT EXAMPLES: DAIRY ALTERNATIVES

**Ingredients:**
- ALMONDMILK (FILTERED WATER, ALMONDS), COCONUTMILK (FILTERED WATER, COCONUT CREAM), CALCIUM CARBONATE, NATURAL FLAVORS, POTASSIUM CITRATE, SEA SALT, SUNFLOWER LEcITHIN, GELLIAN GUM, VITAMIN A PALMITATE, VITAMIN D2, D-ALPHA-TOCOPHEROL (NATURAL VITAMIN E).

**Ingredients:**
- ORGANIC ALMONDMILK (FILTERED WATER, ORGANIC ALMONDS), ORGANIC CASHEWS, SEA SALT, GELLIAN GUM, NATURAL FLAVOR.

**Ingredients:**
- Organic almonds, Himalayan salt, filtered water.
ONLY is a dairy-free delicacy with probiotics. The delicacy is based on rich ingredients: oats, legumes and seeds. Nutritious ingredients that we all have in our own kitchen and can pronounce their names without stabilizers, without colors and without flavorings. This product is marketed in Israel only and distributed by Strauss.

No ‘additive’ shortcuts

Another point of difference is Yofix’s ‘clean label’ offering – a term associated with products containing few, authentic ingredients.

Whereas some dairy-free products use gums and thickeners to stabilise them, Grun told us “clean label is our overall approach”.

“We don’t add any thickeners, we don’t add emulsifiers, we don’t add any flavouring. It’s a [true] clean label approach and we think that’s what people want to see.”
PRODUCT EXAMPLES: DAIRY ALTERNATIVES

Made with real vanilla and absolutely no added colors, gums, or sugars.

Ingredients:
(*=organic) ¹ Coconut Water*, Coconut Cream*,
¹Vanilla (Vanilla Extract, Vanilla Bean Seeds,
Lemon Juice Concentrate), Plantains, Pili Nuts*,
Coconut Powder*, Cassava Root*, Lime Juice*,
Himalayan Salt*, Live Vegan Cultures

Made with plant-based, real food ingredients like Pili nuts, young plantains, coconut, and cassava.

50 billion live probiotic cultures. Natural prebiotics. Resistant starch from young plantains.

How do you make animal-free dairy proteins?

We’ve developed a type of yeast that can produce dairy proteins (casein and whey). Using biotechnology, we give this yeast a “blueprint” that allows it to ferment sugar and create real dairy proteins. This is the very same blueprint, in the form of DNA, which cows use every day.

Our proteins are made in a process akin to craft brewing, using fermentation similar to how vegetarian rennet, vanilla, insulin, and many other everyday products are made.

Our process is much cleaner and more resource-efficient than animal farming, and it’s the cornerstone of our new approach to dairy.

Does your milk contain GMOs?

We relied on genetic engineering to create a type of yeast that produces dairy proteins. This is how vegetarian rennet, vanilla, insulin, and many other everyday products are made. We carefully filter and purify our dairy proteins to ensure they’re free of any yeast before adding them to our food products.
WRAPPING IT UP
REMEMBER, ALWAYS BELOVED EXCEPTIONS

INGREDIENTS: ENRICHED BLEACHED WHEAT FLOUR [FLOUR, REDUCED IRON, "B" VITAMINS (NIACIN, THIAMINE MONONITRATE (B1), RIBOFLAVIN (B2), FOLIC ACID)], WATER, SUGAR, CORN SYRUP, HIGH FRUCTOSE CORN SYRUP, PARTIALLY HYDROGENATED VEGETABLE AND/OR ANIMAL SHORTENING (SOYBEAN, COTTONSEED AND/OR CANOLA OIL, BEEF FAT), WHOLE EGGS, DEXTROSE. CONTAINS 2% OR LESS OF: SOY LECITHIN, LEAVENINGS (SODIUM ACID PYROPHOSPHATE, BAKING SODA, CORNSTARCH, AND MONOCALCIUM PHOSPHATE), MODIFIED CORN STARCH, GLUCOSE, WHEY, GLYCERIN, SOYBEAN OIL, SALT, MONO AND DIGLYCERIDES, POLYSORBATE 60, CORN STARCH, SODIUM STEAROYL LACTYLATE, NATURAL AND ARTIFICIAL FLAVOR, SORBIC ACID (TO RETAIN FRESHNESS), POTASSIUM SORBATE, XANTHAN GUM, CELLULOSE GUM, ENZYME, WHEAT FLOUR, YELLOW 5, RED 40. 520752 CONTAINS WHEAT, EGG, MILK AND SOY.
AND SOMETIMES...BEST TO NOT TINKER
SEE CLEAN LABEL AS OPPORTUNITY

- Clean Label has no single definition or single list of yes/no ingredients, but that doesn’t mean it can be ignored – know your customer/consumer!
- Best take the time to investigate and devise your own Clean Label POV as an informed supplier, manufacturer, brand, entrepreneur, etc.
- Recognize that Clean Label efforts present an opportunity for greater internal alignment between Innovation/R&D and Marketing/Communications
- Clean Label efforts are typically best done on the enterprise level, not tidying up a single SKU
- Be sure to consider sustainability in the Clean Label equation – and remember, there may be different ‘clean’ standards in the meat/dairy alternative categories in particular!
THANK YOU & QUESTIONS

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