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What Manufacturers Want in Food Ingredients

Steve Peirce

The food industry is going through constant change as companies try to maintain or create higher profits, while cutting costs. The cost cutting is coming in many forms which include reduced research & development, decreased staff size, relying on suppliers for more support and know-how. This presentation will look at three specific areas:

1. State of the market
2. What the manufacturer is asking for
3. What is available (in the marketplace)

The State of the Market

During 1996 all food manufacturers that use corn, wheat, soybean and other related grains experienced wide price swings and significant profit robbing issues:

- * Ingredient cost increases; wheat, soy, corn
- * Increased manufacturing costs; labor, utilities, and equipment
- * Stronger competition; faster introductions, smaller R&D staff, changing product lines
- * Firm to decreasing food prices

What the Food Manufacturer is Asking For

The 'big four' requests when dealing with ingredients:

1. Functionality - added texture, lubrication, mouthfeel, etc.
2. Flavor/Taste/Color - enhanced taste or appearance
3. Cost Reduction - help eliminate other ingredients and cut costs
4. Label Statement - reduce chemical sounding names on the label

Functionality

Most food manufacturers have several choices of products to choose from when looking for functional ingredients. Functionality characteristics include the following:

- * Texture
- * Creaminess
- * Mouthfeel
- * Water holding capacity
- * Water activity

A change in functionality is needed when you move a full fat food into the fat free sector.

Components of Key Food Ingredients

As producers look for functional ingredients, they often look to various classes of ingredients based on the functionality of various compounds (i.e. protein, fat or ash). The *Nu-RICE*® ingredients offer a unique combination of components that can be used as a foundation ingredient on which to build a finished food product. In many applications fewer ingredients are required, which can provide cost saving benefits that will be discussed later (Table 1).

Flavor/Taste

The primary issue that consumers are looking for in food is good taste and flavor. In evaluating flavor and taste, the food producer considers the following:

- * Consumer acceptance
- * Broad scale appeal
- * Align with a traditional flavor
- * Trendy is okay
i.e.: clean, crisp, strong, bold - just not heavy. This is true with the many new ethnic foods and their strong/unique flavors while not heavy with fats.

Table 1. Comparison of Ingredients

	<i>Nu-RICE</i> ®	Soy	Starch	Oil	Phosphates
Protein (%)	15-18	90	0	0	0
Fat (%)	2-32	1	0	100	0
Carbs. (%)	40-60	1	97	0	0
Ash (%)	10-15	5	3	0	97

Americans want more for less

Americans are demanding more taste and flavor, plus a list of other characteristics.

- * More flavor with less fat
- * More flavor with less calories
- * More flavor with less artificial (ingredients)
- * More nutrition in all foods

Consumer Surveys

While consumers make demands, many of them are not practicing eating habits that result in weight control and good health; therefore, they want the food manufacturer to make specialty foods that can be over consumed without negative effects.

- * 98% "Nibble between meals"
- * 87% Pick a snack based on taste
- * 38% Pick a snack based on nutrition
- * 87% Believe good diet & nutrition play a role in prevention of serious illness
- * 66% Have made dietary changes in an effort to maintain good health

Cost Reduction

By identifying unique and specialized ingredients, the food manufacturer can accomplish most of the desired goals while saving money.

- * Substitute ingredients
 - replace a more expensive item
- * Multifunctional ingredients
 - one does the work of two - four items
 - cut incoming transportation costs
 - fewer logistical issues and less warehouse space
- * Processing aid
 - reduce manufacturing time

- lower operating temperatures
- more output on existing equipment
- delay capital expenditures

Components of Key Food Ingredients

As food manufacturers look to reduce the cost of foods, many have seen benefits in using a multi-purpose ingredient that can provide many, if not all, of the cost savings listed above. The *Nu-RICE*® ingredients are patented and offer unique benefits not typically found in any of the classes listed below.

Label Statement

As food producers look to reduce cost, provide enhanced flavors and all of the other demands from consumers, they also have to provide "clean labels." The public desires more natural sounding ingredients that are easy to pronounce and understand their origin. Since the enactment of the NLEA (National Labeling & Education Act), consumers are more aware of food ingredients and the fat content. Many companies have not realized this point; however, when the consumer has a choice between foods with "user friendly" vs. "chemical sounding" ingredients, they will select "user friendly."

- * Reduction in Fat
 - fat-free, lowfat
- * Added nutrients/fortified
- * Cleaner label
 - fewer ingredients
 - non-chemical sounding ingredients

Label Impact on a Frozen Dairy Product (Emulsifier & Stabilizers)

With **Nu-RICE**®

Rice Extract

Original Label Items

Guar Gum
Mono & Diglycerides
Locust Bean Gum
Cellulose Gum
Polysorbate 80
Calcium Carrageenan

What is available (in the marketplace)

With this list of needs, desires and demands from the consumer, the food manufacturer must be aware of what is available in the marketplace. There is a great deal of new technology being introduced, especially in the area of fat reduction. However, extreme uniqueness comes from items like the **Nu-RICE**® ingredients that can provide positive nutrition and functionality with a wide variety of applications.

1. Product and Technology

Nutrients

- B & E vitamins
- minerals
- proteins, carbohydrates & oils

Functionality

- emulsification -- creates mouthfeel
- fat mimicker -- water binding

Applications

- extrusion aid -- low-fat chocolates
- fat replacer
- dough conditioner
- stabilizer
- nutrient fortification

2. Mainstream vs. Healthier Foods (Good For You Foods)

Based on the current mind set of the consumer, it is not hard to see why the pendulum is swinging away from synthetic foods and moving toward more natural foods. Fitness and foods became popular in the 80s which brought about the legislative changes in 1994 (NLEA). Consumer awareness is at an all time high with respect to fat, cholesterol, nutrition and ingredient content.

Consumer Surveys

With consumer awareness at peak levels, you can see that people are still eating; however, many are thinking about what they eat. Most people are of the opinion that good diet and nutrition play a role in prevention of serious illness and disease, and over 65% have made dietary changes to maintain good health.

- * 98% "Nibble between meals"
- * 87% Pick a snack based on taste
- * 38% Pick a snack based on nutrition
- * 87% Believe good diet & nutrition play a role in prevention of serious illness
- * 66% Have made dietary changes in an effort to maintain good health

Presentation Summary

In an ever changing food industry, I think you now have an idea of the basic issues being demanded of food producers. Food manufacturing is one industry that will always be with us; however, it will constantly be changing. The changes will be fueled by consumer demands on quality, taste, cost, packaging and convenience. How well a company (both the manufacturer and the ingredient supplier) responds, will determine how long they remain in business.

- * The state of the market
 - changing & competitive
- * What the manufacturer is asking for
 - cost savings & strong results
- * What is available (in the marketplace)
 - multifunctional ingredients and technical support

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