



## Hydrolyzation is the Key

Hydrolyzation involves using specific enzymes to cleave a substance into smaller component parts. The NutraLac® extraction method is optimized to maximize the hydrolyzation of proteins, fats, and carbohydrates to achieve the highest levels of nutrient bioavailability.

- **Complex proteins** – break into smaller, more digestible, and absorbable pieces called peptides and free amino acids.
- **Fats** – break down into free fatty acids and antioxidant-rich fats that might otherwise be trapped in fiber and excreted.
- **Carbohydrates** – starches and cellulose break into less complex polysaccharides and simple sugars for greater absorption in the gastrointestinal tract.

<b>Standard Enzyme Treatment (SET) vs QN Enhanced Enzyme Treatment (EET)</b>				
	<b>% Solids</b>	<b>Dry Basis Wt.</b>	<b>Fat</b>	<b>Protein</b>
<b>SET Extraction</b>	7.14	7.45	0.93	0.83
<b>EET Extraction</b>	11.41	12.89	2.50	2.65
<b>% Increase</b>	<b>59.8%</b>	<b>73.1%</b>	<b>167.6%</b>	<b>220.9%</b>

**The more enhanced the enzyme hydrolyzation, the more bioavailable the proteins, fats, and carbohydrates are for absorption in the human digestive system.**

## What is Bioavailability?

- Bioavailability relates to the capacity of a nutrient to be absorbed into the gastrointestinal system and bloodstream, thus making the nutrient more bioactive (efficacious) in the human body for the health and well-being of the recipient.
- NutraLac® uses a patented extraction process using seven different enzymes and strategically timed temperature treatments to modify the fats and proteins in rice bran, breaking them into less complex forms that can be more readily absorbed in the human digestive system.
- NutraLac's process "pre-digests" rice bran so the human body can absorb and utilize the maximum amount of its bioavailable nutrients.
- Standard industry 100-gram analyses only measure aggregated total amounts of nutrients, not the hydrolyzed nutritional bioavailability achieved by the NutraLac® proprietary extraction process.

In a review of the NutraLac® patent by the USPTO, the examiner concluded that: ***[NutraLac] "is a novel rice bran isolate wherein the bulk properties of the protein mixture is "significantly more" than that of the native protein in rice bran... The nutritionally enhanced isolate of [NutraLac] is a mixture of hydrolyzed protein, hydrolyzed starch, and high-quality rice bran oil."***