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By **Robby Gardner** May 15, 2013

Beverage-Friendly Plant Proteins

Plant protein sources are sprouting up often, but they aren't always easy to formulate with. By their nature, and by the shortcomings of standard processing methods, some plant proteins can miss the mark on mouthfeel, taste, and functionality in finished products. The problems are perhaps more obvious in beverages, where plant proteins can have a hard enough time just staying suspended in water.

Plant protein suppliers are fully aware of the limitations, and they're working to eliminate them. Recent months have revealed numerous innovations that should improve consumer preferences, and maintain nutrition, of plant proteins in beverages.



Rice

When it comes to mouthfeel, rice protein may be the peskiest of proteins in powder formulas. Compared to low-molecular-weight proteins such as whey and egg, which are so small that they easily solubilize in liquid, rice protein is primarily made of insoluble, high-molecular-weight proteins. Keeping these proteins in liquid suspension is only part of the problem.

"These insoluble proteins get stuck in the crevices of your tongue and mouth," says Don Crank, R&D specialist for rice ingredients supplier Axiom Foods (Los Angeles). "They impart a grittiness in the mouth." Quite a few plant proteins have this grit, says Crank, but it's most often associated with rice protein.

Axiom Foods supplies Oryzatein brown rice protein, which is derived from whole grain brown rice, including the bran, the endosperm, and the germ layers of the rice grain. To make its Oryzatein brown rice protein more like softer, animal proteins, the company created a proprietary process that breaks rice protein into smaller chains. The process doesn't degrade brown rice's other nutrients, such as fiber, sterols, fatty acids, and vitamin A. The result is a creamier-tasting rice protein, and Axiom Foods markets it as Oryzatein SG-BN (Suspendible Grade Beverage/Nutrition). The company plans to apply this SG-BN process to other proteins, including flax, amaranth, and quinoa.

Axiom Foods is putting its creamy breakthrough not just towards rice protein concentrates, but also towards a new line of OryzOlait non-milk rice beverages. The proprietary process is a bit different here, as Crank says it involves converting pectins into starches and, ultimately, simple sugars. What results is a slightly sweet rice beverage intended to mimic the nutritional value of cow's milk. When used in finished products, OrzOlait shouldn't require the additional suspension agents, rice syrups, and other sweeteners characteristic of today's rice beverages. OryzOlait is available as a liquid or agglomerated product.

OryzOlait Bran is a higher-in-fiber option. It's sourced from rice bran only, and, at 60–70% fiber, it has appeal for gastrointestinal health benefits. Both OryzOlait products are available with added protein to better mimic the nutritional profile of cow's milk.

All of Axiom's food ingredients are produced without hexane or other chemical solvents. Organic options are available.

<http://www.nutritionaloutlook.com/article/beverage-friendly-plant-proteins-3-13114>