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A laborer plants rice paddy saplings in a field near Chennai, India, on April 20. Waste from the milling of white rice is the latest superfood to hit the U.S. market.

One Company Turns Food Waste Into Superfood

By Andrea Hayley
Epoch Times Staff

For nearly a century, bran as an ingredient in food has been solely within the purview of boring, high-fiber breakfast cereals like whole wheat bran flakes, all-bran, and oat bran. One company is challenging the food industry to rethink what bran can do for the human race.

Bran is the brown outer layer found on all cereal grains. It is the "whole" part of the whole grain. Until recently the food industry has focused on wheat bran and oat bran; raisin bran was about as exciting as the formulations got.

RiceBran Technologies is adding the option of rice bran to the bran family of ingredients. Rice bran offers consumers an alternative that is non-GMO, non-allergenic, and incredibly nutritious. These are attributes in high demand by consumers today. It is also a byproduct of milling brown rice into white rice, one that had been going to waste.

If you haven't heard of rice bran, this is likely because only 1 percent of the available rice bran in the world is currently utilized for the human food market and only 10 percent is used for animal food, according to Robert Smith, chief operating officer of RiceBran Technologies, a company that recovers rice bran and turns it into useful food ingredients. Smith was speaking in response to a question from Epoch Times on a company earnings call Aug. 11.

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Food From Trash

The biggest reason rice bran has been wasted up to now is that the lipase enzyme in rice bran causes the product to go rancid within 24 hours unless it is stabilized, and few companies have the technology to recover the highly nutritious ingredient, nor the tenacity to attempt to break open a new market for it.

Yet the world's rice millers produce 60 million metric tonnes of rice bran yearly, according to RiceBran Technologies CEO and president John Short.

Based in Scottsdale, Arizona, RiceBran Technologies is a global leader in the manufacture of rice bran based on its proprietary bran stabilizing technology that uses enzymes to preserve the nutrition. Some of the techniques used by competitors involve chemicals, microwave heating, and variations of the same.

While wheat and oat bran cereals have been marketed mainly for their fiber, which is great for keeping digestion regular, RiceBran Technologies has attempted to leverage a variety of health claims and uses for the ingredient.

Seventy percent of the nutritive value of the rice is actually in the bran layer, which includes a small portion of germ. In addition to the fiber, rice bran has a balanced amino acid profile, and is a rich source of vitamins, minerals, antioxidants, and omega-3, -6, and -9 fatty acids, according to the USDA.

Rice bran is also 14 to 17 percent protein, which makes it a good plant-based protein source. RiceBran Technologies has products that isolate this protein, making rice bran an alternative to soy and milk-based protein. The company also makes stabilized rice bran powders and defatted rice bran for human and animal food uses, as well as rice bran oils.

Michael Goose, RiceBran Technologies' new president of U.S. ingredient sales, speaking on the earnings call, referred to rice bran as nothing less than "a natural, non-GMO, superfood source."

Rice bran can allow manufacturers to meet key nutritional goals with a single ingredient listing, said Goose.

The company's most recent 10-K filing (an annual report to the Securities and Exchange Commission summarizing a company's financial performance) says their products can "demonstrate beneficial properties in areas of cardiovascular health, weight management, glucose balance, inflammatory response, and gastrointestinal health."

Our Changing Diet

The food industry is steadily moving in the direction of formulating products that speak to consumers' health concerns, and companies like RiceBran Technologies are positioning themselves to cash in on these trends. The growth in these categories of the food industry is significantly higher than the overall food industry growth trend of 3.9 percent calculated by Technomic.

The U.S. market for natural, organic, and functional foods grew more than 10 percent and exceeded $110 billion in 2014, according to the 10-K. Looking ahead, market research firm MarketsandMarkets predicts the functional food ingredient market to grow by 6 percent annually until 2020. Organic and natural food market is also expected to continue its growth trend.

Functional foods are foods that contain an ingredient (such as rice bran), which adds a health-promoting or disease preventing function. Examples are probiotic yogurts and energy drinks, or products marketed as high protein to satiate appetite. Nutraceuticals are another category in which the company sees potential. These are foods with a medicinal or dietary benefit, such as supplements.

Rice bran can be used in a large number of applications in the food industry, from functional beverages, to protein bars, to snacks, to grocery products like pasta and crackers. There is also a lot of potential for rice bran to be used as a filler in blended meat products, and in breading and batters.

The most popular rice bran derivative currently on the market is rice bran oil, which is growing in popularity as an alternative to soy, canola, or palm oil for deep-frying and other forms of cooking. Chipotle Mexican Grill uses rice bran oil as part of its commitment to avoiding food produced with genetically modified seed, and the oil is gaining market share in India and other Asian countries, where many see it as an alternative to olive oil.

A New Market

RiceBran Technologies was founded in 1998 as a publicly traded company under the name NutraCea. It became RiceBran Technologies in 2012. Despite making enormous strides forward, the company has yet to reach profitability.

Company CEO Short sees the greatest potential in rice bran for human food, where it generates the highest margins for the company. This is moving away from an earlier focus on the animal nutrition market.

Baruch Halpern, a board member for RiceBran Technologies, said theoretically the market for rice bran as a human food could be really big.

"We have the market to ourselves right now," he said.

HOW TO USE RICE BRAN AT HOME

Add it to your smoothie, yogurt, or morning oatmeal
A spoonful adds a boost of nutrition.

Drink it straight up, stirred into water
The nutritional supplement tastes nutty and a little sweet.

Add it to baked goods
When making muffins, cakes, and breads, people are substituting rice bran for a portion of the flour.

Use it to make Japanese nukadoko (fermented rice bran)
The Japanese have traditionally mixed rice bran with salt and water, and sometimes red chilies, garlic, ginger, or shiitake mushrooms, to create a paste. Whole or cut vegetables are buried in the paste, where they ferment and form healthy probiotics. The paste is reused and "cared for" daily, similarly to a sourdough starter.

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Farmers collect and put dry paddy into bags in Hau Giang Province, Vietnam, on March 2.