RiceBran Technologies
Form 10-K
April 01, 2013

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

For the year ended December 31, 2012

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission File Number 0-32565

RiceBran Technologies
(Exact name of registrant as specified in its Charter)

California (State of Incorporation)	87-0673375 (I.R.S. Employer Identification No.)
6720 N. Scottsdale Road, Suite # 390 Scottsdale, AZ (Address of Principal Executive Offices)	85253 (Zip Code)

Registrant's Telephone Number, Including Area Code: (602) 522-3000

Securities registered under Section 12(b) of the Exchange Act:
NONE

Securities registered under Section 12(g) of the Exchange Act:
Common Stock, no par value
(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No x

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of

the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

Indicate by check mark if disclosure of delinquent filers in response to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act.

Large accelerated filer			Smaller reporting
o	Accelerated filer o	Non-accelerated filer o	company x

Indicate by check mark if the registrant is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act of 1934, as amended). YES o NO x

As of June 30, 2012, the aggregate market value of our common stock held by non-affiliates was $12,882,263.

As of March 15, 2013, there were 209,378,597 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the registrant's Definitive Proxy Statement for its annual meeting of shareholders, which Definitive Proxy Statement will be filed with the Commission not later than 120 days after the registrant's fiscal year ended December 31, 2012, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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FORWARD-LOOKING STATEMENTS

This Annual Report includes forward-looking statements that involve substantial risks and uncertainties. These forward-looking statements are not historical facts, but are based on current expectations, estimates and projections about our industry, our beliefs and our assumptions. Words such as “believes,” “anticipates,” “expects,” “intends” and similar expressions are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements. These forward-looking statements are not guarantees of future performance and concern matters that could subsequently differ materially from those described in the forward-looking statements. Actual events or results may also differ materially from those discussed in this Annual Report. These risks and uncertainties include those described in “Risk Factors” and elsewhere in this Annual Report. Except as required by law, we undertake no obligation to revise any forward-looking statements in order to reflect events or circumstances that may arise after the date of this Annual Report.

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PART I

ITEM 1. BUSINESS

General

RiceBran Technologies ("we," "us," "our," or the "Company"), a California corporation, is a human food ingredient and animal nutrition company focused on the procurement, bio-refining and marketing of numerous products derived from rice bran. We have proprietary and patented intellectual property that allows us to convert rice bran, one of the world's most underutilized food sources, into a number of highly nutritious human food and animal nutrition products. Our target markets are human food and animal nutrition manufacturers and retailers, as well as natural food, functional food and nutraceutical supplement manufacturers and retailers, both domestically and internationally. We have developed a bio-refining approach to processing raw rice bran into various value added constituents such as stabilized rice bran (SRB), rice bran oil (RBO), defatted rice bran (DRB) and a variety of other valuable derivative products from each of these core products.

The report of our independent registered public accounting firm that accompanies the audited consolidated financial statements for the years ended December 31, 2012 and 2011, contains a going concern explanatory paragraph in which our independent registered public accounting firm expressed substantial doubt about our ability to continue as a going concern. We have experienced significant losses and negative cash flows and have an accumulated deficit of $204.4 million as of December 31, 2012. Further, although we are focusing on raising additional funds to operate our business, there can be no assurances that these efforts will prove successful (see Note 1 to the consolidated financial statements included herein).

We have three reportable business segments: (1) Corporate; (2) USA, which manufactures and distributes SRB in various granulations along with other products derived from rice bran via proprietary and patented enzyme treatment processes; and (3) Brazil, which extracts crude RBO and DRB from rice bran, which are then further processed into a number of valuable human food and animal nutrition products. The Corporate segment includes selling, general and administrative expenses including public company expenses, litigation, and other expenses not directly attributable to other segments. No Corporate allocations are made to the other segments. General corporate interest is not allocated. For further information on segment results see Note 18 to the consolidated financial statements included herein.

The USA segment consists of two locations in California and two locations in Louisiana all of which can produce SRB. One of the two Louisiana SRB facilities, located in Lake Charles, has been idle since May 2009 (see Note 8 to the consolidated financial statements included herein). The USA segment also includes our Dillon, Montana Stage II facility which produces RiSolubles (a highly nutritious, carbohydrate and lipid rich fraction of SRB), RiFiber (a fiber rich derivative of SRB) and RiBalance (a complete rice bran nutritional package derived from further processing SRB). The manufacturing facilities included in our USA segment have proprietary and patented processing equipment and technology for the stabilization and further processing of rice bran into finished products. In 2012, approximately 50% of USA segment revenue was from sales of human food products and approximately 50% was from sales of animal nutrition products.

The Brazil segment consists of our Irgovel operations located in Pelotas, Brazil. Irgovel manufactures RBO and DRB products for both the human and animal food markets in Brazil and internationally. In refining RBO to an edible grade, several co-products are obtained. One such product is distilled fatty acids, a valuable raw material for the detergent industry. DRB is sold in bulk as animal feed and compounded with a number of other ingredients to produce complex animal nutrition products which are packaged and sold under Irgovel brands in the Brazilian market. In 2012, approximately 46% of Brazil segment product revenue was from sales of RBO products and 54%

was from sales of DRB products.

Our combined company is a vertically integrated manufacturer, product developer, and marketer of products based on bio-refining rice bran for use in a broad range of human food and animal nutrition products. We generated revenues of $37.7 million in 2012 compared to $37.0 million in 2011. We reported a net loss of $11.1 million for 2012, compared to a net loss of $10.9 million reported for 2011. We have domestic net operating loss carry forwards, or NOLs, in excess of $100 million for federal tax purposes that are available to offset future taxable income. These NOLs expire at various dates from 2018 through 2032 (see Note 13 to the consolidated financial statements included herein).

We hold the U.S. registered trademarks RiSoluble and RiBalance. We also hold the Irgovel trade name. In addition to our trade names and trademarks, we hold 23 issued patents and have several patents pending related to usage of and therapeutic endpoints for rice bran products and derivatives, including patents to a method to treat high cholesterol, to a method to treat diabetes and on a process for producing higher value fractions (HVF) from SRB (see Patents and Trademarks section below).

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Our corporate headquarters is currently located at 6720 N. Scottsdale Rd., Scottsdale, AZ 85253. As of December 31, 2012, we occupy approximately 9,000 square feet of corporate office space in Scottsdale, and 28,000 square feet of laboratory, warehouse and production facilities in West Sacramento, California. Additionally, we own SRB manufacturing facilities in Mermentau and Lake Charles, Louisiana and a Stage II production facility in Dillon, Montana. Two other rice bran stabilization facilities are co-located within supplier rice mills in Arbuckle and West Sacramento, California. Our Irgovel subsidiary is comprised of several facilities on approximately 19 acres in Pelotas, Brazil. These facilities include a plant for extraction of RBO from rice bran, RBO refining processes, compounded animal nutrition manufacturing, consumer RBO bottling, distilled fatty acid manufacture and support systems including steam generation, maintenance, administrative offices and a quality assurance laboratory. Our Irgovel facility is currently undergoing a major expansion that is expected to be fully operational in the second half of 2013.

History

We originally incorporated on March 18, 1998, in California, as Alliance Consumer International, Inc. and beginning in December 2001 were operating as NutraStar Incorporated. In October 2003, NutraStar Incorporated changed its name to “NutraCea” and the common stock began trading on the OTCBB.

In October 2005, we acquired The RiceX Company (RiceX) in a merger transaction with RiceX surviving the merger as our wholly-owned subsidiary. In the merger, the shareholders of RiceX received shares of our common stock in exchange for 100% of the shares of RiceX common stock. Our acquisition of RiceX provided us with our first SRB manufacturing plant in West Sacramento, California, and our Stage II facility in Dillon, Montana.

In December 2007, we formed Rice Rx, LLC, and Rice Science, LLC, in which we held a 50% and 80% interest, respectively, at December 31, 2010. We formed Rice Rx, LLC and Rice Science, LLC with a partner, to develop, acquire, and commercialize certain SRB isolates. Effective in March 2011, Rice Rx LLC and Rice Science, LLC became our wholly-owned subsidiaries.

In February 2008, we acquired Irgovel, our rice bran oil processing plant in Pelotas, Brazil. In January 2011, we sold approximately 35.6% of our ownership of Nutra SA, LLC (Nutra SA), the 100% owner of Irgovel, to AF Bran Holdings-NL LLC and AF Bran Holding LLC (Investors) (see Note 5 to the consolidated financial statements included herein). During the remainder of 2011, the Investors exercised their rights to acquire additional membership interests in Nutra SA and at December 31, 2012 and 2011, held a 49.0% interest in Nutra SA.

In November 2009, NutraCea (the Parent Company) filed a voluntary petition for relief under Chapter 11 of the United States Bankruptcy Code. The Parent Company managed its assets and operated its business as “debtor-in-possession” under the jurisdiction of the bankruptcy court from November 2009 until NutraCea exited Chapter 11 proceedings in November 2010, under an amended plan of reorganization. In January 2012, we made the final distributions to our unsecured creditors under the amended plan of reorganization and all creditors under the amended plan were paid all amounts due to them, including interest.

In October 2012, NutraCea changed its name to “RiceBran Technologies.” Our common stock is currently trading over-the-counter under the symbol “RIBT.”

Products & Industry Background

We have developed a bio-refining approach to processing rice bran, which is the portion of the rice kernel that lays beneath the hull (also known as the husk) and envelopes the endosperm (white rice). Rice bran contains about 65% of the nutritional value of rough rice. However, without stabilization, the nutritional value of rice bran is lost shortly after the milling process. This is due to the lipase enzyme-induced rancidity that is activated during the rice milling

process. Without stabilization, this nutrient rich resource – rice bran - has historically been sold as low value animal feed or disposed of as waste.

In our rice bran bio-refining processes, we first stabilize the rice bran and then sequentially extract core and derivative products from rice bran with the goal of converting feed to food to nourish a global population expected to grow from 7 billion people at the end of 2011 to more than 9 billion people by 2050. Application of our bio-refining approach has enabled us to develop a variety of nutritional food products, including our primary products SRB, RBO and DRB. Our customers include major global companies that produce, market and sell products into the following domestic and international market sectors - consumer food products, animal nutrition, functional food ingredients, nutritional supplements and healthcare.

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In the SRB bio-refining stream, we use proprietary and patented machinery and technologies to deactivate the lipase enzyme and stabilize the rice bran while preserving the nutritional value of the bran, giving it a minimum shelf life of one year and allowing for further processing of derivative products. Other competing stabilization processes have the ability to inactivate the lipase enzymes to various degrees and therefore provide some level of stability. However, unlike these other competing processes, our SRB stabilization process thoroughly inactivates these enzymes leading to extended shelf stability while preserving the large array of antioxidants and other nutrients found in raw rice bran. We believe our SRB equipment and related stabilization technology is the best available globally.

In the RBO bio-refining stream, the process begins with a non-proprietary stabilization process followed by the extraction of RBO, leaving DRB as the initial co-product. The RBO extraction process utilized at our Brazilian facility uses a solvent extraction process to separate the oil from the raw rice bran resulting in crude RBO and DRB. Rice bran oil (RBO) is a vegetable oil that has many uses. In crude form, it has multiple industrial and animal nutrition applications. Additional refinement of the oil can involve degumming, neutralization, bleaching, de-waxing and deodorizing. This subsequent refining process yields a variety of valuable human food and animal nutrition products including distilled fatty acids and other high value products. Refined to human edible grade level, RBO becomes a high quality cooking oil and human food ingredient.

In the DRB bio-refining stream, the core product is used as animal feed and sold in bulk form. In addition, DRB can be compounded with other ingredients such as corn and soy to produce high quality, branded animal nutrition products sold under the Irgovel brand in Brazil. Further processing of DRB produces a human food ingredient that has functional properties in baked goods and meats as well as use in frying applications that result in reduced oil uptake. We believe that bio-refining of DRB is one of several processes with potential for concentrating protein from rice bran.

By definition, nutraceuticals are products from natural sources that have biologically therapeutic effects in humans and animals. Our overall bio-refining approach produces core products (SRB, RBO and DRB) that are good sources of these compounds. Such compounds would include vitamins, antioxidants, polyphenols, phytosterols, oryzanols, macro and trace minerals, tocotrienols - a highly potent antioxidant form of vitamin E, and gamma-oryzanol, which is found in significant amounts in rice bran. Among other things, these compounds act as potent antioxidants. SRB and its derivatives also contain high levels of B-complex vitamins and beta-carotene, a vitamin A precursor. SRB also contains high levels of carotenoids and phytosterols, a balanced amino acid profile and soluble and insoluble fiber which promote colon health.

As the market becomes more aware of the value of our ingredients and proprietary formulations we believe demand for our products will increase materially. Since SRB, RBO and DRB are approved food products, we believe that their benefits can be obtained through multiple avenues as food products, dietary supplements and nutricosmetics. Many nutrition and health professionals have taken an interest in our nutritional ingredients as a means of offering alternative or complementary approaches for maintaining a healthy and active lifestyle. The health benefits of our products have been demonstrated through extensive research and clinical studies, and we are committed to supporting evidence-based studies that demonstrate the nutritional and health benefits of our products.

Detailed explanations and product sheets with specifications for our complete product range are available on our websites at www.ricebrantech.com and www.irgovel.com.br.

The Importance of Rice

Rice is the staple food for over half of the world's population, and is the staple food source for several of the world's most populous countries. Asia accounts for roughly 90% of global rice production, with its primary producer being

China. China is the world's number one rice producer, outputting approximately 197 million metric tons of paddy rice annually. Globally, the United States ranks about 10th in production of rice at approximately 11 million metric tons annually. World rice production constitutes more than one quarter of all cereal grains produced worldwide. The United States accounts for less than 2% of the world's rice production. The vast majority of world rice tonnage (approximately 90%) is produced in 13 countries with aggregate populations of 3.2 billion people (according to the USA Rice Federation, Rice Notes). Approximately 75% of all rice production occurs in China, India, South East Asia, Africa and South America. Combined, these regions have a population of 2.3 billion people (nearly 50% of the world's population), and an average per capita gross domestic product of $2,000 (less than one tenth of the U.S. average).

Malnutrition is a common problem in this group of nations, particularly for people located in rural villages where subsistence rice farming is a primary livelihood. Transportation and storage are poor. Consequently, locally grown rice is consumed locally and the amount of food available varies widely over time with changes in seasons and weather. Children are especially susceptible to variations in local agricultural output due to their heightened nutritional needs and dependency on others for food. Per capita rice consumption in many of the poorer rice belt countries exceeds one pound per day.

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Rice Processing and Rice Bran Stabilization

When harvested from the field, individual rice kernels are stored in common receiving locations such as farm silos for future delivery to grain dryers or area rice mills. At this stage, large quantities of individual rice kernels are collectively called “paddy rice,” or “rough” rice. In this form, the rice kernel is fully enveloped by the rice hull, which serves as a protective cover, shielding the inner rice kernel from damage.

After storage and drying, if necessary, paddy rice is cleaned of foreign material (scalping, de-stoning and aspiration) just before it enters the first stage of milling, or paddy husking. In the paddy husker, the hull is removed from rough rice by differential speed rubber rollers. Loosened hulls are carried off by aspiration. After husking, a paddy separator uses a reciprocating motion to separate normal brown rice kernels (caryopsis) from unhusked kernels which are returned to the paddy husker.

In the second stage of milling, the outer brown layers of bran are removed from the inner white starch endosperm by an abrasive or frictional milling process which produces a milled, white rice kernel. After milling, white rice is typically sorted by size to remove broken pieces of rice kernels from whole kernels, as well as color sorting to remove discolored kernels. Additional stages may be required (per customer specifications) to polish the white rice to a smooth surface.

Raw rice bran collected from the milling process is composed of rice germ and several sub-layers (pericarp, testa, nucellus and aeurone) surrounding the white starchy endosperm. Commercial rice bran makes up approximately 10% of rough rice by weight. Rice germ, an especially nutrient rich material, makes up approximately 10% of commercial rice bran by weight.

As brown rice is milled into white rice, the oils present in raw rice bran come into intimate contact with native lipase enzymes that are naturally present in the rice kernel. These lipase enzymes initiate a rapid hydrolysis of the oil, converting oils (triglycerides) into monoglycerides, diglycerides and free fatty acids (FFA). As the FFA content builds in raw rice bran, the bran becomes unpalatable and off flavors (rancidity) begin to develop. If left unchecked, enzymatic degradation at normal room temperatures can increase the FFA levels to 5-8% within 24 hours and can continue at a rate of approximately 4-5% per day thereafter. Enzymatic degradation is the most serious form of degradation of raw rice bran. Rice bran stabilization is the process of carefully deactivating native enzymes to prevent the increase of FFA otherwise caused by lipase enzyme activity. Stabilization is critical in the preservation of the nutritional value of the bran, an important nutrient source that is largely used as animal feed or otherwise wasted.

There have been a number of attempts to develop rice bran stabilization techniques, including the use of chemicals, microwave heating, or variations of existing extrusion technology. We believe each of these efforts results in an inferior product that either does not remain stable for a commercially reasonable period of time, or the nutrients in the bran are lost to processing, thereby significantly reducing the nutritional value in the bran.

The Stabilization Process

Our stabilization process uses proprietary innovations to create a combination of temperature, pressure and other conditions necessary to thoroughly deactivate enzymes without significantly damaging the structure or nutrient content of bran. This means that higher value compounds in bran, such as oils, proteins and phytonutrients are left undamaged and are available for utilization. Our process does not use chemicals to stabilize raw rice bran.

Our stabilizers are designed to be installed on the premises of any conventional rice mill so that pneumatic conveyor systems can immediately carry the freshly milled, raw rice bran to our stabilizer. Process logic controllers maintain exact process conditions within the prescribed pressure/temperature regime. In case of power failure or interruption of

the flow of fresh bran into the system, the electronic control system is designed to purge the equipment of materials in process and resume production only after proper operating conditions are re-established.

Stabilized bran (SRB) leaving our system is then discharged onto cooling units specifically designed to control air pressure and humidity. Cooled SRB can be loaded into bulk hopper trucks for large volume, local customers, or sent by pneumatic conveyor to a bagging unit for packaging into 50 lb and 2,000 lb sacks.

Each stabilization module can process approximately 2,000 pounds of bran per hour and has a capacity of over 5,700 tons per year. Stabilization production capacity can be doubled or tripled by installing additional units sharing a common conveyor and stage system, which we believe can handle the output of the world's largest rice mills. We have developed and tested a smaller production unit, which has a maximum production capacity of 840 tons per year, for installation in countries or locations where rice mills are substantially smaller than those in the United States.

Additional patented processes involve enzyme treatment of SRB to effect separation of a lipid and carbohydrate rich water soluble fraction and a fiber and protein rich water insoluble fraction. In this process SRB, in an aqueous slurry, is treated with amylase enzyme, centrifugally separated and the two fractions dried on drum driers.

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The Bio-Refining Process

In the bio-refining process, raw bran is obtained from a number of rice mills and transported to a facility within which it is first stabilized via extrusion and then solvent extracted to produce crude RBO and DRB. Crude RBO is subsequently processed in a number of steps designed to sequentially remove non-oil constituents. The final outcome of these steps is a highly refined, edible RBO that has superior flavor and functional properties. In addition, the various co-products of crude RBO processing, distilled fatty acids for example, are refined and sold as products in their own right. DRB is finely ground and packaged for use as a versatile food ingredient in many applications. DRB may also be compounded with other ingredients such as a vegetable proteins, carbohydrates, vitamin premixes and minerals to produce an array of nutritionally targeted animal feeds for various species. The bio-refining process is being continuously researched as we examine the technical and commercial feasibility of producing additional products derived from both RBO and DRB.

Benefits of Our SRB, DRB and Rice Bran Oil

Stabilized Rice Bran (SRB) is a rich source of protein, oil, vitamins, antioxidants, dietary fiber and other nutrients. The approximate composition and caloric content of our SRB is as follows:

Fat	18-23%
Protein	12-16%
Total Dietary Fiber	20-30%
Soluble Fiber	2-6%
Moisture	4-8%
Ash	6-14%
Calories	3.2 kcal/gram

Rice bran is unique in the plant kingdom. Its protein is hypoallergenic and contains all of the essential amino acids, the necessary building blocks of protein in the body. Rice bran contains approximately 15-20% oil, which has a favorable fatty acid composition and excellent heat stability. Rice bran oil contains essential fatty acids and a broad range of nutraceutical compounds that have been demonstrated to have therapeutic properties.

Defatted Rice Bran (DRB) contains many of the same nutritional and functional benefits as SRB, except that the oil has been removed. This is important for several ingredient applications where SRB's oil content could present food formulation challenges. By removing oil from SRB, nutritionists have greater options to formulate DRB into breakfast bars, calorie reduced foods, low fat baking applications and batter and breadings for frying applications. Additionally, DRB is ideally suited for downstream enzymatic processing, transforming DRB into an ideal feedstock for protein concentrates and fiber concentrates.

Rice bran oil (RBO) as extracted from stabilized rice bran can be utilized in a variety of edible and industrial oil applications. With proper processing, RBO becomes high quality cooking oil possessing beneficial high temperature frying characteristics. RBO has a unique fatty acid content that imparts improved oxidative stability as compared to other vegetable oils such as soy or cottonseed giving it advantages when used in food applications. The RBO extraction process utilized at our Brazilian facility uses a conventional solvent extraction process to separate oil from raw bran, resulting in crude RBO available for sale to industrial markets or other processors. Additional refining processes done in Brazil can involve degumming, neutralization, bleaching, de-waxing and deodorizing. A bio-refining process approach results in numerous marketable co-products in addition to the actual end product.

Nutraceuticals are food constituents that have human therapeutic effects. Some of these compounds include a highly potent anti-oxidant form of Vitamin E called "tocotrienols," and gamma oryzanol, which is found in rice bran in large

quantities. These compounds are potent antioxidants that have been shown to aid in reducing damage from free radicals in the body. Our SRB also contains very high levels of B-complex vitamins, betacarotene (a vitamin A precursor), other carotenoids and phytosterols, as well as both soluble and insoluble fiber.

Business Strategy

Our goal is to become a significant global producer and marketer of SRB, DRB, RBO and their derivatives. We produce these products in manufacturing facilities we own or through other arrangements (see Supply and Manufacturing section below). We intend to vigorously protect our process and products through both trade secret protection and through patent and trademark protection (see Patents and Trademarks section below). We believe that clinical support for SRB, RBO and DRB products will further enhance the value of our products as nutraceuticals and functional food ingredients. Finally, we intend to aggressively market our products in multiple market segments including human food ingredients, nutraceuticals, animal nutrition and functional foods and beverages. In pursuit of these goals, we have focused and will continue to focus our marketing and development efforts worldwide.

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Sales and Marketing

As of December 31, 2012, we have a senior vice-president of sales, a vice-president of animal nutrition sales, one sales director and five domestic sales representatives. Our senior vice-president of business development assists the sales team with technical application issues. In addition, we have exclusive and non-exclusive distributor relationships with distribution and channel partners in several major markets around the world. In September 2011, we entered into an exclusive, co-branded distribution agreement with BENEO-Remy N.V. (Beneo) covering our SRB products in Western Europe, Middle East, Africa, Russia, Turkey, India, Australia and New Zealand, among other markets. That agreement grants rights to distribute our other products in those same markets on a non-exclusive basis.

Because of the potential significance for SRB and DRB inclusion in meat and poultry, we have engaged specialized meat and poultry consultants in the U.S. to assist in meat and poultry application research and development, make potential qualified customer introductions, provide marketing support and conduct customer training programs. In addition, we have enlisted the services of a strategic protein application expert from Europe to help research and establish manufacturing processes, identify new SRB and DRB meat applications, and assist our international distributors in key international markets.

In 2012, approximately 8.1% of revenues from the USA segment were to regions outside of the United States while approximately 27.2% of our Brazil segment revenues were to regions outside of Brazil.

Functional Food Ingredients

The global functional food market may be as much as $60 billion, depending on how this market is defined, and we believe that it represents a significant opportunity for us. Premium ingredient manufacturers are in high demand and we are strategically positioned to take advantage of this growing and sustainable market opportunity. Our proprietary technology and product patents represent extremely valuable assets for achieving strategic leverage in this industry segment.

Our SRB, DRB, RBO and derivatives are economical, natural food products that contain a unique combination of oil, protein, carbohydrates, vitamins, minerals, fibers, and antioxidants that enhance the nutritional value of popular consumer products. Foods that are ideally suited for the addition of our SRB and DRB to their products include processed meats, cereals, baked goods, breadings, and batters. The inclusion of DRB in breadings and batters results in a reduction in oil uptake, higher moisture retention, improved nutritional profiles, and reduced costs.

In 2008, we received USDA/FSIS approval to include SRB and DRB as enhancers in meat products such as meat and poultry sausages that contain binders, nugget-shaped patties, meatballs, meatloaf, and meat and poultry patties. Our products replace functional ingredients like soy protein isolate, soy protein concentrate, modified food starch, pea protein and mustard flour at a significantly reduced cost. With strong application benefits such as reduced cost per unit, increased product yield, and reduced purge, our SRB has a strong marketing position in the US meat market and an even stronger position outside the US where non-meat ingredients make up a larger percentage of meat products.

Nutraceuticals

Nutraceuticals are plant-derived substances with pharmaceutical-like properties, including vitamins and dietary supplements. Our products can be used to provide certain specific nutrients or food components (including antioxidants, oryzanols, vitamin E, vitamin B, and fiber) and general nutritional supplementation. Our ingredient products are primarily sold to consumer nutrition and healthcare companies, nutritional supplement retailers, and multi-level personal product marketers.

Animal Nutrition

Our SRB and DRB are marketed as feed ingredients in the U.S. and international animal nutrition markets. Our SRB and DRB are used as equine feed ingredients and have proven to provide a safe, all natural energy source which assists in lowering glycemic response, improving stamina through being a ready available low starch energy component, and improving overall coat bloom through its essential fatty acid and amino acid profiles. Show and performance horses represent the premium end of the equine market and are a key target for our animal nutrition products.

In our Brazil segment, we also blend DRB with other ingredients to produce a variety of feed formulations targeted to certain animal species such as horses, beef cattle, dairy cows, pigs and sheep.

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Rice Bran Oil Processing Derivatives

Raw rice bran contains approximately 15-20% oil. Through a solvent extraction process, the oil is removed from bran resulting in crude RBO and defatted rice bran (DRB). Crude RBO is further refined to a finished grade edible oil that is primarily sold as a high end vegetable oil for cooking, as well as a human food ingredient for various products. Virtually every refining step produces valuable co-products that are of great interest to industrial customers. One of the more important co-products is known as distilled fatty acids which are being sold to several industrial customers. In 2012, we began drying wet gums to produce food grade lecithin, unique in that it is free of genetically modified organisms (GMOs) and non soybean based. We continue to expand our marketing of RBO both domestically in Brazil and globally. We estimate that the global market for vegetable oils is approximately 160 million tons annually and will continue to grow as the world's underdeveloped societies move towards westernized eating habits and populations increase in general.

Customers

In 2012, three customers accounted for approximately 40% of USA segment revenues. In our Brazil segment, three customers accounted for approximately 38% of segment revenues. Although the loss of a customer could have a material adverse effect on our revenues and results of operations, we continue to diversify our customer base in an attempt to mitigate the concentration of customers. Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of trade accounts receivable and notes receivable. We perform ongoing credit evaluations on our customers' financial conditions and generally do not require collateral.

Supply and Manufacturing

Initial production of SRB

In the U.S. we purchase raw rice bran from three suppliers. These include Farmers' Rice Cooperative in West Sacramento, California, ADM Rice in Arbuckle, California, and Louisiana Rice Mill in Mermentau, Louisiana. We idled the plant located adjacent to Farmers' Rice Milling Company in Lake Charles, Louisiana in May 2009. Pursuant to our agreements, our stabilization machinery is physically located within or adjacent to the rice processing plants and the rice bran is directly transferred to our machinery for stabilization without the need for shipping. The relationship with the rice mills are symbiotic, as the rice manufacturer searches for raw rice bran marketing channels while we have ready access to raw bran. We believe suitable alternative supply arrangements are available if needed.

Stage II Production of SRB

Based on product demand, we ship SRB from one of our California facilities to our plant in Dillon, Montana for further processing into RiSolubles, RiBalance and RiFiber. We have equipment at the Dillon, Montana facility with capacity to produce 5,000 tons per year of RiSolubles and RiFiber.

Every human food product that we manufacture is produced under published FDA and USDA regulations for "Good Manufacturing Practices." We have extensive processes and programs to oversee product quality. Product samples for each product code are frequently analyzed for adherence to a predetermined set of product microbiological and attribute specifications and each lot is released only when it demonstrates its compliance with specifications.

Production of RBO and DRB

In Brazil, we purchase raw and par-boiled rice bran from a number or rice mills located short distances from our processing facility in Pelotas. Timing of delivery for raw bran to an RBO bio-refinery is not as stringent as for an

SRB bio-refining process, although we make every effort to process bran as soon as possible after milling to maintain the quality of our crude RBO. We currently process a relatively small percentage of the raw rice bran available in the adjacent rice growing regions in Brazil and contiguous rice growing regions of Uruguay and Argentina.

Results of Trials and Scientific Research

The beneficial attributes of SRB, including our RiSolubles and RiFiber nutritional supplements, have been studied and reported by several laboratories, including Medallion Laboratories, Craft's Technologies, Inc., Southern Testing & Research Laboratories, and Ralston Analytical Laboratories. We have no affiliation with any of the laboratories that performed these studies but did pay for certain portions of these studies. These analyses have verified the presence of antioxidants, polyphenols, and phytosterols, as well as beneficial macro and trace minerals, in our SRB products. Antioxidants are compounds which scavenge or neutralize damaging compounds called free radicals. Polyphenols are organic compounds which potentially act as direct antioxidants. Phytosterols are plant-derived sterol molecules that help improve immune response to fight certain diseases.

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A 57-subject clinical trial conducted by Advanced Medical Research, with our funding, suggested that consumption of our RiSolubles nutritional supplements may lower blood glucose levels of type 1 and type 2 diabetes mellitus patients and may be beneficial in reducing high blood cholesterol and high blood lipid levels. If warranted, we may develop products which address the use of SRB products as medical foods for, and to potentially make health benefit claims relating to, the effects of dietary rice bran on diabetes and cardiovascular disease.

Through several consulting physicians, we have relationships with several medical institutions and practicing physicians who may continue to conduct clinical trials and beta work for our products. Some of these previous clinical trials are reviewed in an article published in the March 2002 issue of the Journal of Nutritional Biochemistry. The trials produced positive results by showing that the levels of blood lipids and glycosylated hemoglobin were reduced. Subsequently, three domestic and six international patents were issued to us on the strength of these clinical trials.

In December 2007, we formed Rice Science, LLC (RS), a Delaware limited liability company, with Herbal Science Singapore PTe. Ltd. (HS) to develop nutraceutical extracts and pharmaceutical chemistries from our SRB. HS utilizes sophisticated methodologies in the identification and isolation of specific biologically active compounds that have been tested for effectiveness against specific disease conditions. In March 2011, our partnership with HS ended with us acquiring the membership interest formerly owned by HS, leaving RS as our wholly owned subsidiary. We are hopeful that the research already performed will result in 29biologically active SRB extracts for use in the nutraceutical and functional food industry.

In 2008, RS conducted a significant amount of research. The initial thrust of this work was the development of extracts from SRB that would be effective in addressing inflammation and pain. A number of SRB extracts have been tested with two identified as having significant in vitro activities. A blend of these two extracts was created to produce a third extract that exhibits a high level of in vitro inhibition of Cox 1, Cox 2 and Lox 5 enzymes. This extract was used in a pharmacokinetic study to determine uptake kinetics of key bioactives into human serum. Results indicated that the bioactive compounds were rapidly assimilated. The next step would be to conduct a human clinical trial if funds were available. A number of active compounds were identified and modeled. RS filed patent applications for the extracts along with each of the specific active compounds.

Late in 2007, the Cancer Biomarkers Group in the Department of Cancer Studies and Molecular Medicine, University of Leicester in Leicester, UK published a research paper evaluating the effect of our SRB in ApcMin mice (British Journal of Cancer (2007) 96, 248-254). The mice were genetically modified to serve as models for mammary, prostate and intestinal carcinogenesis. They reported that consumption of SRB (30% in the diet) reduced the numbers of intestinal adenomas in these mice by 51% compared to the same mice on a control diet. The results suggest that SRB might be further evaluated as a chemo-preventative intervention in humans. These results led to us filing a patent application on “Methods for Treatment of Intestinal Carcinogenesis with Rice Bran.”

Patents and Trademarks

We hold eight U.S. patents relating to the production or use of Nutraceutical or HVF products. The patents are:

1. Patent Number 5,512,287 “PRODUCTION OF BETA-GLUCAN AND BETA-GLUCAN PRODUCT,” which issued on April 30, 1996 and expires in 2014.

2. Patent Number 5,985,344 “PROCESS FOR OBTAINING MICRONUTRIENT ENRICHED RICE BRAN OIL,” which issued November 16, 1999 and expires in 2018.

3.

Patent Number 6,126,943 “METHOD FOR TREATING HYPERCHOLESTEROLEMIA, HYPERLIPIDEMIA, AND ATHEROSCLEROSIS,” which issued October 3, 2000 and expires in 2018.

4. Patent Number 6,303,586 B1 “SUPPORTIVE THERAPY FOR DIABETES, HYPERGLYCEMIA AND HYPOGLYCEMIA,” which issued October 16, 2001 and expires in 2018.

5. Patent Number 6,350,473 B1 “METHOD FOR TREATING HYPERCHOLESTEROLEMIA, HYPERLIPIDEMIA AND ATHEROSCLEROSIS,” which issued February 26, 2002 and expires in 2020.

6. Patent number 6,558,714 B2 “METHOD FOR TREATING HYPERCHOLESTEROLEMIA, HYPERLIPIDEMIA AND ATHEROSCLER