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Pressure BioSciences' Ultra Shear Technology Positioned for Critical Enabling Role in Global \$41 Billion (2027) Plant Protein Beverage Market

Recent Study Published by The Ohio State University Illuminates Unique Capabilities of PBI's UST Platform for Optimal Formulation and Processing of New and Existing Plant Protein-based Beverages

SOUTH EASTON, MA / ACCESSWIRE / June 14, 2022 /Pressure BioSciences, Inc. (OTCQB:PBIO) ("PBI" or the "Company"), a leader in the development and sale of broadly enabling, pressure-based instruments, consumables, and process development services to the worldwide food and beverage, biotherapeutics, and personal wellness industries, among others, today announced a pivotal peer-reviewed scientific publication highlighting the use of PBI's patented Ultra Shear Technology™ ("UST™") platform in the production of protein-enriched milk containing a novel emulsified plant-protein suspension. *J.J. Janahar, et al.*, from The Ohio State University ("Ohio State") College of Food, Agricultural, and Environmental Sciences ("CFAES") in a study published in the high impact journal *Food Hydrocolloids*, Volume 131, reported that UST successfully created stable suspensions of milk-pea protein blends in microscopic particle sizes - the objective required for commercially-suitable products, and a significant achievement that could not be reached through existing high-pressure processing (HPP) or thermal processing techniques alone.

Efforts to produce satisfying, nutritionally-efficient and sustainable food options are driving one of the fastest growing food and beverage markets worldwide. Creating cost-effective and sustainable food alternatives that appeal to the expectations and preferences of global consumers has pushed researchers to examine many alternative protein enrichment sources, including the use of almonds, oats, soy, coconuts, peas, etc. Unfortunately, many of these protein sources lack the creaminess, texture, sweetness, or other attributes that drive consumer acceptance. The blending of plant and dairy components to achieve the desired consumer appeal presents enormous market opportunities. Pea protein is of particular interest because of its high nutritional value and low cost - but it is highly insoluble in water and thus has been minimally used in protein drinks to date. PBI's proprietary UST platform combines very high pressure and precisely controlled extreme shear forces to provide food scientists the toolset needed to successfully blend dairy and pea protein (two products which naturally resist mixing) into a sensory-appealing, nutritional, and long-term stable plant protein-based beverage.

PBI and Ohio State are co-leading a Food Industry Consortium whose mission is to introduce worldwide food and beverage companies to PBI's UST platform for the production of higher quality, longer shelf-life, and safer liquid foods and beverages. PBI's UST platform is the critical tool that enables and achieves targeted reductions and dependency on

chemical additives or damaging heat relied upon in current processing methods. UST is pivotal in enabling the production of natural, organic, healthier, more nutritious, "clean-label" products that offer greater appeal to modern consumers.

Mr. John B. Hollister, Director of Marketing and Sales expanded: "Ohio State and PBI have initiated an aggressive outreach program to a number of preeminent food & beverage companies globally and expect to welcome many Consortium members during the second half of 2022. Members will help direct and focus Ohio State and PBI efforts across a diverse universe of prospective liquid food and beverage products, with emphasis on microbiology, stability, nutrition, sensory qualities, and increased bioavailability. UST applications development will also extend into nutraceutical products, such as infused water, functional sports beverages, and other health-focused products of high interest to consumers and producers." ([North Equities Video Interview - Hollister](#)).

Mr. Hollister continued: "With the recent publication of the Ohio State data, an additional and very exciting application of interest is plant protein-based beverages. As new and commercially-relevant UST applications continue to be demonstrated, and Consortium members utilize their first rights to license UST for their own use, Ohio State and PBI will both benefit from resulting royalty streams. PBI will also benefit from equipment leases and consumables sales."

Dr. Edmund Y. Ting, Senior VP of Engineering at PBI, and a pioneer in the development of high pressure-based food technologies, commented: "Many beverage ingredients that are beneficial to convenience, health, and desired sensory characteristics are not soluble in water, e.g., pea proteins. However, UST's ability to achieve micro/nano particle size suspensions of such plant proteins offers enticing solutions for the use of these essential, water-insoluble ingredients. Interestingly, such UST-processed suspensions can be optimized to provide thickening viscosity for certain products, which can result in improved stability, nutritional value, and consumer appeal. Thus, UST's ability to formulate complex micro/nano emulsions and suspensions will give manufacturers multiple additional options for health and wellness products. While we have previously demonstrated that UST makes fantastic nanoemulsions, there are even more applications where microemulsions as well as nano/micro suspensions are practical and useful for products and product concentrates."

Mr. Richard T. Schumacher, President and CEO of PBI, summarized: "The quest for finding alternative beverages that are healthier and environmentally sustainable but also appealing to the palate - such as plant protein-based drinks - is a rapidly growing market estimated to reach \$41B by 2027 ([MDC Market Report](#)). We are currently in discussions with industry leaders in this market, as well as companies that want to use UST to make high quality nanoemulsions to add vitamins, antioxidants, nutraceuticals, etc. to their beverages. The recent Ohio State results on UST-processed micro/nano plant protein milk suspensions, as well as previously released data on UST-enhanced nanoemulsions, support our confidence that UST has the potential to become an essential tool in future beverage development, as well as in other health-related and consumer markets ([TechTalks Video](#)). We continue to look forward to the planned Q3/Q4 2022 commercial release of the UST platform."

Sponsorship of UST development by the U.S. Department of Agriculture's NIFA program is deeply appreciated.

PBI's June 30th Webinar Participation

On June 30th at noon, PBI will participate as an invited panelist in a FORCE Family Office Webinar. Mr. Schumacher will represent PBI. Other panelists are also being invited. The Webinar will be sponsored by FORCE Family Office and will be moderated by Mr. Steven Saltzstein, CEO of FORCE. As further information becomes available, it will be placed on the Force Family Office and Pressure BioSciences websites. If you would like to receive an invitation, please contact us directly.

About Pressure BioSciences, Inc.

Pressure BioSciences, Inc. (OTCQB: PPIO) is a leader in the development and sale of innovative, broadly enabling, pressure-based solutions for the worldwide life sciences and other industries. Our products are based on the unique properties of both constant (i.e., static) and alternating (i.e., pressure cycling technology, or PCT) hydrostatic pressure. PCT is a patented enabling technology platform that uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels to control bio-molecular interactions safely and reproducibly (e.g., cell lysis, biomolecule extraction). Our primary focus is in the development of PCT-based products for biomarker and target discovery, drug design and development, biotherapeutics characterization and quality control, soil & plant biology, forensics, and counter-bioterror applications. Additionally, major new market opportunities have emerged in the use of our pressure-based technologies in the following areas: (1) the use of our recently acquired, patented technology from BaroFold, Inc. (the "BaroFold" technology) to allow entry into the bio-pharma contract services sector, and (2) the use of our recently-patented, scalable, high-efficiency, pressure-based Ultra Shear Technology ("UST") platform to (i) create stable nanoemulsions of otherwise immiscible fluids (e.g., oils and water) and to (ii) prepare higher quality, homogenized, extended shelf-life or room temperature stable low-acid liquid foods that cannot be effectively preserved using existing non-thermal technologies.

Forward Looking Statements

This press release contains forward-looking statements. These statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance or achievements expressed, implied, or inferred by these forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "would," "expects," "plans," "intends," "anticipates," "believes," estimates," "predicts," "projects," "potential" or "continue" or the negative of such terms and other comparable terminology. These statements are only predictions based on our current expectations and projections about future events. You should not place undue reliance on these statements. In evaluating these statements, you should specifically consider various factors. Actual events or results may differ materially. These and other factors may cause our actual results to differ materially from any forward-looking statement. These risks, uncertainties, and other factors include, but are not limited to, the risks and uncertainties discussed under the heading "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2021, and other reports filed by the Company from time to time with the SEC. The Company undertakes no obligation to update any of the information included in this release, except as otherwise required by law.

For more information about PBI and this press release, please click on the following website link:

<http://www.pressurebiosciences.com>

Please visit us on Facebook, LinkedIn, and Twitter

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