

EDITOR'S NOTE

Welcome to the first issue of DuPont's HOWARU® Newsletter. Our newsletter delves into the topics of probiotics-related science, innovation and applications. We will show you how DuPont contributes to addressing consumers' growing health needs. We will also present the latest clinical findings and data to provide powerful scientific support for your brand.

This issue will introduce the new official website of DuPont's HOWARU®, share the information of HOWARU® Protect Prenatal+, a new product for women's health, and provide news updates about our company.

TOP NEWS

DuPont's HOWARU® website goes live! Explore the science behind probiotics

DuPont's HOWARU® website goes live (www.howaru.com). This is the first product-specific website launched by DuPont Nutrition & Health in the field of probiotics, aiming to provide business partners, healthcare professionals and consumers with an easier and more convenient way to learn about the know-how and experience of DuPont's HOWARU® premium probiotics.

The first phase of DuPont's HOWARU® website is specially designed for business partners. It supports mobile and desktop web browsing to meet different user requirements and provide easy access. The website presents the web pages Understanding Probiotics, HOWARU® Products, Resources, Business Partners and Our Company.



Food manufacturers and consumers can better understand the health benefits and science behind probiotics through basic knowledge presented on the Understanding Probiotics pages. The HOWARU® Products and Resources pages provide our business partners with tools including product information, research evidence and health claims, and showcase the best practices that we have developed for each of our customers. The Business Partners page highlights our unique advantages and the value-added services that DuPont and HOWARU® can create.

Probiotics are accepted by a growing number of global consumers. According to the Natural Marketing Institute, 75% of consumers in the U.S. are aware of probiotics, reaching an all-time high. Data from Euromonitor show that between 2015 and 2020, the compound annual growth rate in Asia Pacific and South America will be 4.5% and 26% respectively. With this market growth, there is a trend of diversification in consumption and demand, with a focus on food safety and function. In this regard, DuPont's HOWARU® premium probiotics have earned a standout reputation in the industry for quality and functionality.

As a science-based company, we have over 100 years of strain fermentation and production experience and the support of more than 700 pieces of probiotics-related international literature. We are also the world's

only probiotics supplier with a nutrition and health research center. HOWARU® premium probiotics are scientifically demonstrated to have different health benefits, with high performance, high stability and high functionality as its 3 hallmarks.

HOWARU® Protect Prenatal+ debuted in U.S., delivering immune, mood and vaginal benefits for women during pregnancy

At SupplySide West 2018 held in Las Vegas on November 8-9, DuPont showcased [HOWARU® Protect Prenatal+](#) (*L. rhamnosus* HN001™, *L. acidophilus* La-14®, bovine lactoferrin), a new product to the HOWARU® Protect lineups, delivering immune system, mood and vaginal benefits for women during pregnancy.



Immune system benefits for the pregnant mother and fetus

A Probiotics in Pregnancy Study demonstrated *L. rhamnosus* HN001™ supports the development of immune system health of infants and children by significantly reducing the prevalence of eczema and allergic sensitization compared to the placebo after 2, 4, and 6 years follow-up (for further information see [HOWARU® Protect Earlylife](#)).

Helps reduce the occurrence of gestational diabetes mellitus (GDM)

Gestational diabetes mellitus (GDM) is a common disease during pregnancy. The results of Mothers in The Probiotics in Pregnancy Study indicate that there were significant differences between the *L. rhamnosus* HN001™ group and placebo group. Daily consumption

of probiotics is associated with a lower prevalence of GDM.

Helps reduce PND and anxiety

Some new mothers are troubled by postnatal depression (PND), which will affect their ability to care for her new infant and her quality of life. Mothers in The Probiotics in Pregnancy Study were invited to fill out a questionnaire that considered their psychological well-being at 1-2 months after birth. The treatment group reported significantly lower depression and anxiety scores than those in the placebo group.

Helps balance vaginal microbiota

Between 10% and 30% of women will experience bacterial vaginosis (BV) during pregnancy, which is a common cause of genital discomfort in women. Bacterial vaginosis is usually treated by metronidazole and clindamycin. However, the recurrence rate is high, because antibiotics treatment will inhibit equally all microorganisms including normal and beneficial lactobacillus.

Lactobacillus is the main flora in the vagina of healthy women. The number of lactobacilli in the vagina of women with BV is significantly lower than that in healthy women.

A study demonstrated that *L. acidophilus* La-14® and *L. rhamnosus* HN001™ can colonize the vagina for at least 1 week, following 14 days of oral ingestion of HOWARU® Protect Prenatal+ (*L. acidophilus* La-14®, *L. rhamnosus* HN001™, bovine lactoferrin), compared to the placebo group. Another human clinical study showed that HOWARU® Protect Prenatal+ is correlated with the restoration of moderate vaginosis and an improvement in symptoms of abnormal vaginal microbiota, compared to the placebo group.

DuPont is committed to helping food manufactures to achieve product upgrading and differentiation through an innovative product portfolio and in-house expertise. In our next issue, we will introduce the new findings of HOWARU® applied in oral health.

NEWS IN BRIEF

DuPont presents the value enhancement of food health at the first China International Import Expo



DuPont Nutrition & Health, as one part of DuPont's exhibition, presented how its healthy functional ingredients, especially premium probiotic solutions, bring health benefits to food products, by demonstrating healthy life concepts for different eating occasions through every life stage at CIIE. The exhibitions were brought to life through interactive presentations, such as digital interactions and comic strips.

In addition to exhibiting at CIIE, DuPont Nutrition & Health also participated in the centralized procurement signing ceremony for Large-Scale Retail Buyers Alliance of CIIE Shanghai Trading Group. Driven by health science and innovation, DuPont continues to deepen its collaboration with domestic business partners and help to improve consumers' daily and lifetime health, as well as supporting the health-oriented upgrading of the Chinese food industry.

In China, DuPont is committed to helping food manufactures to achieve product upgrading and differentiation through an innovative product portfolio and in-house expertise. Recently, in order to support the growing demands from business partners in China and the Asia Pacific region, DuPont Nutrition & Health started further expansion of its probiotics manufacturing capacity in Huairou, Beijing by more than 60% and the project will be completed in July 2019. The facility is able to provide one-stop "turn-key" services for probiotic products from concept design, formulation generation, to finished processing into consumable finished products.

Dr. Yongjing Li: Three trends boost food innovation in Asia

In late October, the International Union of Food Science and Technology (IUFoST 2018), sometimes referred to as the "Food Olympics" was held in India. Dr. Yongjing Li, Honorary Vice President of the China Society of Food Science and Technology, President of Asia Pacific, DuPont Nutrition & Health, said during the conference that food for the elderly, health foods based on probiotics and protein technology, and fermented food are the future directions for innovation in the Asian food industry.

Dr. Yongjing Li said Asia will have the world's oldest population. While facing fierce health challenges, the elderly group requires more specialization in food, such as nutrient-rich multi-protein food, soft, small portions, or targeted functionalization, and more. On the other hand, along with enhancing consumer health awareness, food safety and functional benefits are a focus. The global probiotics beverage market is on the rise, with the fastest growth in the Asia Pacific region. The consumption of vegetables protein products is growing exponentially, and food technology will further will become a key R&D focus. Foods and beverages with fermentation claims are also growing, with digestive and immune health the new focus.

DuPont offers a broad range of food protection products to help you meet the rigorous standards of your food safety programs with speed, efficiency and efficacy. With the world's leading microbial biotechnology and scientific strength in nutrition and health, DuPont develops a range of probiotics strains that are scientifically proven to bring benefits to the gut, immune system, oral health, skin, women's health, cognition, weight management, sports duration and cardiovascular health. In addition, DuPont has over 50 years of premium protein production experience and a wide range of product line-ups to meet the diversified requirements for nutritional formulations and texturized vegetable proteins.

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