

Nutrition

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TODAY'S DIGESTIVE

By Janet Poveromo

“**T**here is currently an epidemic of digestive illness in our country, an epidemic that is directly related to the foods we eat and the way we live...” said Elizabeth Lipski,

MS, CCN, in her book *Digestive Wellness*. Except for the common cold, Lipski writes, digestive problems are the most common reason people seek medical advice and they are the third largest category of illness in the US at a cost of \$41 billion per year.

So if suppliers find increased demand from manufacturers for ingredients that can promote digestive health, it should come as no surprise.

“This is a category positioned for growth, in part due to the way these products are now being reported on in marketing reports such as SPINS (a market research and consulting firm for the Natural Products Industry),” said Lisa Clark, West Coast director of sales/business development for Deerland Enzymes, Inc. (Kennesaw, GA).

Over the last year, miscellaneous enzyme products and digest formulas reached almost \$109 million for a 6.7 percent increase in sales; prebiotic and probiotic sales jumped a whopping 25.1 percent to just under \$95 million (SPINSscan Natural, 52 weeks ending 11/03/2007).

“Digestive health is no longer

lumped together with other miscellaneous conditions,” Clark added. “Brand managers can now see a realistic picture of the dollar opportunity for product line development. Also, there are still few OTC [over-the-counter] or prescription solutions to digestive conditions that are inexpensive or free of side effects.”

But those OTC options still proliferate. “The growth of prescription and OTC digestive aids has been tremendous in recent years, which highlights the pervasiveness of digestive problems, particularly in Western society,” noted Nena Dockery, technical resources manager with National Enzyme Company (Forsyth, MO).

“Unfortunately, these remedies, particularly those that inhibit gastric acid, can actually cause other problems to develop. Gastric acid is extremely important in facilitating the digestive process, controlling the ingestion of toxins and enabling the proper absorption of nutrients, such as vitamin B12 and certain forms of calcium. By inhibiting its release and functioning, deficiencies in these other areas are almost certain to eventually occur.”

Way to Go!

Dietary fiber helps to ensure the proper passage of food and waste through the digestive tract and the elimination of waste from the body, Dockery noted. “For most of our history, a large

portion of our food contained adequate fiber. However, in the late 1800s, milling processes began removing much of the fiber to produce refined flours. It was not until the 1970s that it began to be recognized that adequate fiber intake is important for the prevention of disease. Ideally, we would all consume plenty of fruits, vegetables and whole grains to provide both soluble and insoluble fiber. Unfortunately, few people consume enough fiber through their normal diet and must therefore consume a fiber supplement. Because of the amount of fiber necessary to provide a benefit, most fiber supplements are designed to be mixed with water or another beverage, though there are a few tableted and encapsulated forms available,” she said.

“Enzymes assist digestion by breaking food down into its simplest form to nourish the body,” said Tom Bohager, president of Enzymedica (Port Charlotte, FL). “Supplemental digestive enzymes are usually broken up into three basic categories; proteases, lipases and carbohydrases. Each of these plays a specific role digestively; protease breaks down or hydrolyzes proteins into amino acids, lipases break down lipids (fats) into essential fatty acids and carbohydrases break down carbohydrates into sugars. Enzymes also play a role in delivering vital nutrients to the cells of the body. When supplemental enzymes are taken with a meal the

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body will actually manufacture fewer digestive enzymes and so there is less of a burden placed on the digestive system. When this takes place, people will often experience more energy and less digestive distress."

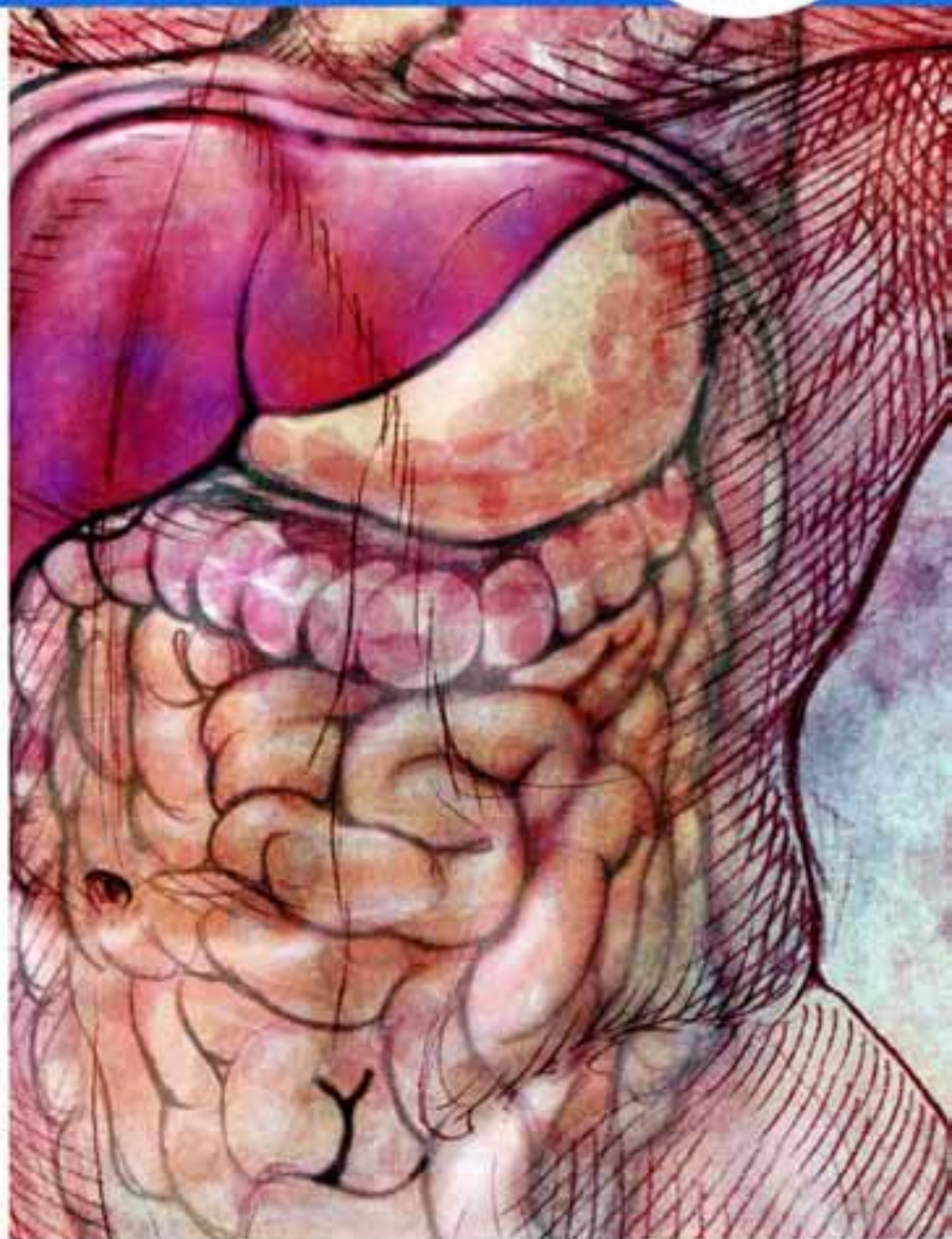
Dockery also pointed out that herbal digestive support ingredients are usually added to aid digestion and ease stomach or intestinal discomfort.

"Plants, such as ginger and peppermint, have a long history of use in traditional medicine for this purpose. Most herbal digestive products are encapsulated or tableted. Many contain a combination of herbs or are a blend of herbs and other digestive aids, such as enzymes," she said.

Probiotics

"In today's modern world, probiotics are needed more than ever," said S.K. Dash, PhD, founder and president of the Minneapolis, MN-based UAS Labs, in his book *A Consumer's Guide to Probiotics*. Dash is "Studies done at the Minneapolis VA Hospital show that the average man or woman no longer has adequate populations of friendly bacteria in their intestines. Supplementation with probiotics has been demonstrated to enhance the presence of these friendly bacteria in the intestine, leading to greater populations of beneficial bacteria and many positive health benefits."

That need has increased demand, according to Tim Gamble, vice president sales and marketing at Nutraceutix (Redmond, WA). "We are



witnessing a significant increase in demand for probiotics, now perhaps the leading ingredient in the digestive category, across the spectrum, from bulk powder to fully finished bottled products, both for commercial sale and for scientific research," he said.

Rodger Jonas, national business development manager for PL Thomas, (Morristown, NJ), said he sees that the market trend is toward greater emphasis on nutrition-based foods. "The 'digestive' category is growing rapidly with the advent of the Ganeden Probiotic (patented probiotic bacteria) that can survive numerous process conditions," Jonas said. "Most ingredient suppliers are asked for digestive related ingredients and testing has progressed at a rapid rate. The reason that the category is just beginning to explode in growth is directly related to

the issue of viable activity level after processing and in the gut. Most digestive ingredients, in the past, have not performed well when used in the manufacture of a food. The use of good bacteria to prevent deleterious bacteria from growth is another application of the digestive are a that is now a focal point. The consumer accepts 'live cultures' in yogurt products, and now a viable means to introduce ingredients that promote good digestive health are welcomed in other products as well. We should see a rapid rise in the number of products that promote digestive health in 2008 and 2009."

Consumer Recognition

Is the public recognizing the benefits of these of these digestive aids?

Not widely enough, according to Gamble. "However, we're seeing accel-

Consumer education is a huge part of bringing a digestive product to the market, said Scott Daniel, marketing manager with National Enzyme Company (NEC).



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Newcomers to Finished Products

Two synergistic finished products for digestion have recently been launched, one with probiotics, the other with enzymes. Both tout the ability to help normalize and balance metabolic function.

Institut Rosell-Lallemand (Montreal, QC) recently launched Protecflor™, a new probiotic formulation developed to manage intestinal disorders. Combining the complementary activities of documented probiotic yeast and bacteria, Protecflor™ has been designed to offer optimal intestinal support by providing two lines of defense to protect the gut. A recent in vivo study has demonstrated the synergistic effects of the probiotic yeast and bacteria components of Protecflor™ in a rat model of traveler's diarrhea (E. coli infection). Traveler's diarrhea is the principal health disorder plaguing travelers, with an estimated 12 million individuals affected every year.

Protecflor combines the *Saccharomyces boulardii* probiotic yeast, extensively documented for its efficacy in diarrhea prevention, with three specific probiotic bacteria strains: *Lactobacillus Rosell-11*, *Lactobacillus Rosell-52* and *Bifidobacterium Rosell-175*. Either alone or in combination, these three probiotic bacteria have also been documented for their effectiveness in protecting the gut and restoring a balanced microflora.

Doctor's Best (San Clemente, CA) recently introduced Best Proteolytic Enzymes into its dietary supplement line. The product supplies an optimal blend of full-spectrum proteolytic enzymes for the maintenance of good health, said Ken Halvorsrud, company president.

Studies show that various proteolytic enzymes are absorbed through the gut wall into circulation. Enzymes are required to facilitate chemical reactions throughout the body. Supplementing with proteolytic enzymes may augment the normal metabolic functions of enzymes present in the body.

erated research into probiotics in commerce, in the alternative/integrative health world and, increasingly, in traditional medicine and academia. As a result, the public will continue to be exposed to more and more compelling information on the benefit of probiotics for their digestive health, as well as their immune health and general wellness."

Bohager is optimistic. "The public is coming around. Of course those that shop in health food stores are more likely to know of the benefits of enzymes for digestive purposes. People in general are well aware that remedies that aid in overcoming some specific digestive complaints exist. For example, the symptoms of dairy or lactose intolerance as well as gas and bloating from bean or

legume consumption can be addressed with enzymes, and there are popular over-the-counter products in the grocery and pharmacy channels available."

Since probiotics are becoming more mainstream in foods, it opens up additional exploration into supplemental enzymes as well, Deerland Enzymes' Clark pointed out. Once a consumer has a positive experience with an enzyme blend, they usually don't want to eat another meal without them, she added.

Something to Chew On

Consumer education is a huge part of bringing a digestive product to the market, said Scott Daniel, marketing manager with National Enzyme Company (NEC). "The general OTC remedies are fairly well

BIO-K PROBIOTIC FOUND TO RELIEVE AAD

The Canadian Journal of Gastroenterology November issue features a Canadian medical study showing that a daily intake of Bio-K+ CL1285[®] by Bio-K (Laval, QC) is a safe and effective means of preventing antibiotic-associated diarrhea (AAD) in hospitalized patients. The probiotic used in the study is available in Canada and the US, under the brand name Bio-K+CL1285.

In the randomized, double-blind, placebo-controlled trial conducted from September 2003 to May 2004 at Maisonneuve-Rosemont Hospital in Montreal, Quebec, hospitalized patients were randomly assigned to receive either the Bio-K+ CL1285 formula or a placebo on a daily basis for the entire duration of antibiotic treatment. Among 89 randomized patients, AAD occurred in 7 of 44 patients

known (i.e., Prilosec, Tums). But remedies that prevent digestive problems still have a way to go. Prevention is still in its infancy, but it is catching on quickly. By educating the retailers and distributors, NEC is teaching people that taking a digestive enzyme before a meal can prevent those digestive discomforts associated with eating too much or eating food that 'disagrees' with you. If you take enzymes with your meal, you won't need the OTC products."

Gamble agreed there is no question that consumer education is critical. However, he noted, the message conveyed to consumers needs to be founded in science, not in marketing hype. "Fortunately in the digestive category, particularly probiotics, there is a great deal of reputable independent research and more being conducted every day. Of course, this research needs to be presented in a fashion that is

clear and compelling to the average consumer. It is exciting to see probiotics being recognized for their contribution to our health and for the potential merit of probiotic supplementation as a means of solving or preventing a variety of digestive and other health issues. Certainly, many traditional OTC approaches only lessen or cover up underlying issues that natural and safe probiotics, with further research, may prove to be a real solution for."

Jonas pointed out that since education of the consumer continues to be a requirement for new product introduction, marketing and legal staffs are working diligently to determine the viability of claims and positioning of digestive health products. "An FDA-qualified health claim is always helpful, but most of the digestive ingredients are based on structure-function claims. The onus is on the suppliers to provide more information

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(15.9 percent) in the Bio-K+CL1285 group and in 16 of 45 patients (35.6 percent) in the placebo group.

"AAD is a major concern for all patients receiving antibiotics and can lead to serious complications and extend the hospitalization time," said Pavel Hamet MD, PhD, CSPO, FRCP, specialist at Hôtel-Dieu Hospital in Montreal, and chairman of the scientific advisory committee. "This unique Canadian study is unequivocal scientific proof of the beneficial health effects of Bio-K+CL1285 formula in preventing AAD. While this study focused on hospitalized patients, it is fair to conclude that Bio-K+ would be equally effective in reducing the incidence of AAD amongst non-hospitalized patient, as well."

as relates to the efficacy of the digestive health ingredient, including process application and storage analysis. As more nutrition-related ingredients find their way to the market, the increase in clinical data also increases. It is not enough to have an ingredient that works in a laboratory environment, you must provide application detail to have the ingredient used by individual product manufacturer."

Most Bang for the Buck

"Consumers need to learn, as the quality-conscious brands are now learning, that probiotic products need to be produced by manufacturers with special expertise, processes and technologies in order to deliver on the full promise of probiotic supplementation," said Gamble. "You just can't fill a capsule with probiotics like you might for a vitamin C product and expect it to survive on the shelf, then reliably and effectively deliver viable probiotic organisms to the consumer's digestive system. Superior probiotic products, like those Nutraceutix is now routinely asked to produce for quality-conscious brands and scientific and academic research studies, must incorporate processes and technologies that heighten shelf-life and, importantly, guarantee the

delivery of viable probiotic organisms past harsh stomach acids to the intestinal tract where they do their best work for our bodies."

In a world of cost versus benefit among conscientious consumers and stretched budgets, with enzymes the "bang for your buck" is tangible, said Clark. "For most situations, the consumer will have an immediate benefit when taken with a meal when poor digestion has resulted in bloating, flatulence or upset stomach. In theory, with continued use they'll get more nutrition from their consumed foods

(often more expensive natural or organic), which should result in better overall physical health." **NIE**

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