



A new age: antibiotics to probiotics

As I See It , Robert D. Campbell
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We entered the Antibiotic Age less than 100 years ago. Since the dawn of time, millions died of infections who could have been saved but for a simple dose of this medical miracle. It is no secret that as the use and overuse of antibiotics occurred, "bugs" became resistant and the search has commenced to find other "silver bullets" to deter the effects of disease. Let's take a look at how this started and what has happened over a much shorter time than it took antibiotics to be discovered. The outlook is extremely interesting, worldwide!

Antibiotics are substances derived from a microorganism able to inhibit or kill another microorganism. In the late 1920s, Alexander Fleming, a British bacteriologist, found a blue-like mold growing on a grapefruit he had placed outside his laboratory window in order to keep it cool since he had no refrigerator. Being a scientist, he cultured the mold and found that it had the unique property of killing certain bacteria. He put it aside as a curiosity until in 1940, in the midst of bombs falling on London and people dying of wound infections, he decided to resurrect the mold he called penicillin, but found he had no way of making large dosages. He flew inconspicuously to the United States in 1940 and talked to the presidents of Chas. Pfizer & Co. and American Cyanamid, who had large chemical plants. Pfizer at that time made citric acid, a food acidulant, in deep tank fermentation which proved an ideal production method for antibiotics. Enough penicillin was made by 1944 to save thousands of lives when the Allies landed on the beaches of Normandy. This started the Age of Antibiotics because soon there was Streptomycin, Terramycin, Bacitracin, Neomycin and many others. Unfortunately, as their use spread throughout the world, so too did the bug's ability to counter the effects of the antibiotics as they were severely overused from nose sprays to animal feeds. Since the end of the 20th century the world has awaited for a replacement and the new age has finally come.

Probiotics brings us back again to "live microorganisms" which, when administered in adequate amounts, confer health benefits. Probiotic bacteria reduce the risk of certain diarrheal diseases, assist lactose intolerant people and enhance the immune function. Whereas we endured the antibiotic era and found that bacteria had built up a resistance, the world has entered an age wherein new products are being developed worldwide at an accelerating rate and resistance is no longer a problem.

Probiotics means "for life" and the name is used to refer to beneficial bacteria which promote the body's natural immunity, keep us healthy and help our digestion. For example, our gastrointestinal tract is home to more than 400 different species of "good" bacteria which promote harmony in a healthy body.

For a quick look at newly promoted products consider: Kraft's "Liv Activ" cheese to combat the discomfort of irregularity or bloating and "Promis Activ," tasty 3-ounce fruit-flavored drinks which contain natural plant sterols with chemically proven claims to help remove cholesterol from the body. On the U.S. market in the past two years, "Benecol and Promise" (formerly "Take Control") table spreads that contain sterol esters, claim to lower cholesterol. In November 2006, 59 European health ministers endorsed the World Health Organization's charter to fight obesity, calling for laws to ban advertising of less-healthy foods to kids. In South Korea, Maeil Dairy's new organic children's cheese, made from skim milk, contains iron, calcium, DHA, inositol and various nucleotides good for brain, bones, teeth and confers immunity. In Spain, Danone introduced "Danonino Petite" yogurt drink in mini-shot bottles with omega-3 DHA for young adults to improve mental and vision development, brain function and learning.

Satiety, related to a sense of fullness and loss of hunger, is the hottest and likely sustainable global weight-control trend with products carrying claims for appetite suppression, lasting satisfaction and sustained energy. Dutch Lipid Nutrition's "Pinno Thin" suppresses appetite by stimulating the release of a satiating hormone. In Norway, "Coffee Slender" is an innovation with an extract from green coffee beans that helps people lose weight by lowering peak blood levels after meals. Breakfast foods containing extra protein and fiber help provide a feeling of fullness. Examples are Quaker Oats Co.'s "Quaker Weight Control" instant oatmeal and Dannon's "Light and Fit Crave Control" yogurt.

Foods and beverages that promote "inner beauty," healthy skin, nails and hair from inside out are another opportunity. Vittel's "Contre Beaute" water promises to preserve the beauty of your skin and enjoyed sales of \$100 million in 2007. Coca-Cola and Nestle are jointly planning to introduce "Lumae," a new beauty drink in 2008 which will contain: vitamins C and E, aloe vera, coenzyme Q 10, beta carotene, astaxanthin and collagen.

Functional foods and beverages that enhance brain health, mental sharpness, cognitive and enhanced learning in children are counted as the third largest functional food category after heart-healthy foods and digestive aid products.

Opportunities? Consider that by 2050, Western and Eastern Europe are projected to have 37 million fewer people than today while Africa will have as many as one billion more. India will overtake China in terms of population before 2050 to become the two largest populations in the world. Needless to say, there are opportunities ahead!

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