

Gut check for entrepreneurs

HEALTH SECTOR PROFILE

Bio-K^{PLUS}
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Alive, active, virile and ready to fight

By WARREN PERLEY

Every entrepreneur remembers his or her "money shot" moment. That eureka conversation which triggers visions of fame, fortune and, perhaps, immortality.

For Claude Chevalier, "born under an apple tree" in farm country 30 miles southeast of Montreal and growing up poor as the eldest of four children in a blue-collar family, that moment of entrepreneurial epiphany occurred as he basked in the glow of a warm summer sun sipping red wine at a sidewalk café in Paris.

Across from him on that afternoon in 1993 sat Dr. François-Marie Luquet, a world renowned French microbiologist whom Chevalier describes as the "Albert Einstein of research into lactic bacterial culture." The two men had met 10 years earlier at a dairy conference in Copenhagen when Chevalier was president of The Dairy Bureau of Canada.

Luquet holds a Ph.D. in microbiology from the Université de Caen in France and has written more than 200 scientific publications, including several books, on the subject of lactic bacteria and their probiotic effects.

Between mouthfuls of croissants and pâté, Chevalier mentioned to Luquet what a coup it would be if someone were to discover and market a powerful "probiotic" containing large amounts of "live friendly bacteria" to control harmful bacteria and viruses in the human digestive tract.

The world famous U.S.-based Mayo Clinic defines "probiotics" as "dietary supplements or foods that contain beneficial or good bacteria normally found in your body." Dr. Michael Picco, a gastroenterologist at the Mayo Clinic, writes on that organization's web site: "There is growing public and scientific interest in probiotics. Researchers are studying whether probiotics taken as foods or supplements can help treat or prevent illness such as vaginal yeast infections (and) diarrhea following treatment with certain antibiotics....Other studies have found probiotics to be helpful in managing the signs and symptoms of irritable bowel syndrome."

Most nutritional experts agree that a healthy digestive tract should have about 85 percent "friendly bacteria," compared with 15 percent harmful bacteria known as "coliform." But modern, fast-food diets high in sugar and saturated fats kill friendly bacteria. Ironically, the hundreds of millions of antibiotic prescriptions written by physicians annually to kill bad bacteria causing infections also end up killing the friendly bacteria.

This often results in digestive tract imbalances with harmful bacteria greatly outnumbering friendly bacteria, sometimes in a ratio as high as 85/15 percent, which can cause gas, bloating, intestinal toxicity, constipation, malabsorption of nutrients and fungal overgrowth, which can compromise the immune system.

This imbalance between good and bad bacteria in the gut has spawned a multi-billion-dollar global industry of probiotic health foods and supplements. The idea is that the good bacteria in probiotics are supposed to kill off and replace the bad bacteria in the gastrointestinal tract, bringing back a healthy balance of microorganisms. According to The New York Times, US retail sales of probiotic foods and supplements totaled an estimated \$764 million US in 2005 and are projected to reach \$1 billion US in 2010. In Europe, the retail sales figure for probiotic products in 2005 was 1.4 billion Euros or \$2.156 billion US, according to the online trade publication ingredientsdirectory.com.

Scientist discovers a 'Rambo'

That summer afternoon 15 years ago as Chevalier and Luquet shared their leisurely libations within a stone's throw of Notre Dame Cathedral, Luquet casually shared a decades-old secret — that he had discovered the "Rambo" of probiotics by isolating a particular bacterial strain of human origin with a Lactobacillus acidophilus base. He just didn't know how to market his discovery.



Bio-K Plus CEO Claude Chevalier flanked by his daughter, Isabèle, Vice-President of Corporate Affairs, and his son, Frank, Vice-President of Business Development, has his sights set on expansion to Mexico, Europe and Asia.

The fluently bilingual Chevalier has never been one to shy away from a marketing and promotional challenge, harking back to his university summer job in the mid-60s as the cabin steward — replete in white pants and blue blazer with gold buttons — in charge of 200 staffers catering to hundreds of American sight-seers who jammed the steamer, S.S. St. Lawrence, plying the waters between Montreal and Saguenay, Que.

After graduating from the University of Ottawa with a bachelor's degree in Phys. Ed., he obtained an M.B.A. from the University of Oregon and in the early 1970s joined a large, Toronto-based ad agency later taken over by Saatchi & Saatchi. He spent four years in the late 70s as the Marketing Manager for Bombardier, one of the world's largest aerospace and transportation manufacturers. Chevalier joined the Dairy Bureau of Canada in 1977 and resigned in 1992 after 14 years as CEO, overseeing a \$50 million annual budget to promote Canadian dairy farmers.

By the time he and Luquet renewed acquaintances in Paris in 1993, Chevalier was clearly up for a new challenge.

The first order of business was to ascertain that the strain of L. acidophilus discovered by Luquet was really as "hot" as he believed — meaning it was capable of destroying pathogenic bacteria. Chevalier brought a live strain of Luquet's

with Luquet as a minor shareholder and dug into his savings to set up R & D facilities in Montreal where Luquet fine-tuned the product, mixing in another strain of acidophilus bacteria known as L. casei.

From its conception, the company has been committed to state-of-the-art medical research using Canadian researchers who adhere to the highest international scientific standards.

Chevalier, who brought the product to market under the branding Bio-K Plus CL1285®, was proving to be an entrepreneur who could walk the talk. His new company had a monthly burn rate of \$45,000. By the time the Bio-K Plus products were in some Toronto health food stores in 1998, Chevalier had spent \$2 million of his own money. He didn't pay himself a salary until 2002 — eight years after founding the company.

But he had a story to tell, a product to sell and a patent to protect his unique, virile probiotic CL1285® formula which comes in four different formats, all certified kosher:

- 98 gram bottles of dairy-free liquid made of fermented soy in mango flavor;
- 98 gram bottles of dairy liquid made of skim milk powder and whey powder available in original, fruity and strawberry flavors.

Both the dairy and soy drink versions are guaranteed to contain a minimum of 50 billion



Dr. François-Marie Luquet discovered the 'Rambo' of probiotics.

The competitive advantage

Aside from the virility of its probiotic strain, Chevalier says that what separates his product from most of the competition is the large number of live and active probiotic bacteria present at time of consumption.

For example, each 98 gram bottle of CL1285® contains a minimum of 50 billion probiotic bacteria when consumed up to 140 days after manufacture, compared with most 100 gram containers of probiotic yogurt which guarantee a minimum of 1 billion probiotic bacteria if consumed within 30 days of manufacture.

Between 2002 and 2006, CL1285® sales began to hum with the product available in the health food sections of major supermarket chains across Canada, as well as in the trendy Whole Foods Market chain in

'The focus of Bio-K Plus on R & D has been the cornerstone of the success of its patented CL1285® probiotic in human applications.'

— Bio-K Plus CEO Claude Chevalier

sample back to Montreal, where the Institut national de la recherche scientifique (INRS), affiliated with Université du Québec, tested it.

The report came back positive. Chevalier says that the INRS found the genetic sequencing of Luquet's discovery to be "unique." Chevalier was now convinced that he had the "Mighty Mouse" of probiotic strains — one capable of destroying bad bacteria in the human gut.

It was of human origin, meaning it was discovered in the human body, unlike many probiotics which originate from other species such as hogs, bovines or chickens. Chevalier considers that to be an advantage because it is easily assimilated in the human gut.

In 1994, he incorporated Bio-K Plus International

live and active probiotic bacteria at time of consumption if consumed within 140 days of manufacture.

The third and fourth options are enteric-coated capsules in two formats — a package of 20 capsules guaranteed to contain a minimum of 30 billion live probiotic bacteria at time of consumption if consumed within 14 months and a package of 10 capsules with 50 billion live probiotic bacteria at time of consumption if consumed within 10 months.

the US. Sales volume has grown between 40 percent and 50 percent annually for each of the last four years, Chevalier says.

The Bio-K Plus brand received a boost in November 2007 when The Canadian Journal of Gastroenterology published the results of a 2003-2004 double-blind, randomized and peer-reviewed study at Maisonneuve Rosemont Hospital in Montreal indicating that CL1285® helped control an outbreak of Antibiotic Associated Diarrhea (AAD) and an associated outbreak of C. difficile.

Forty-five study patients were given placebos and 44 patients were given daily doses of CL1285® in the quantities of 49 grams (half a container) once per day for two days followed by 98 grams (one container) once per day for the duration of the antibiotic treatment.

Of the 45 patients on placebos, 16 contracted AAD. Of the 44 on Bio-K Plus CL1285®, seven suffered from AAD, meaning that they had a 56 percent reduced incidence of AAD compared with the placebo group.

In the same study, seven of the 45 patients in the placebo group went on to contract C. difficile, described on the Health Canada web site as "a bacterium which is the most common cause of infectious diarrhea in hospitalized patients in the industrialized world." Only one of the 44 patients in the Bio-K Plus group contracted C. difficile — a reduced incidence of 86 percent.

Bio-K Plus hired a research company to analyse the statistics on hospital stays for the two groups in the study. Chevalier says the report concluded that on average the Bio-K Plus group stayed in hospital two fewer days than the placebo group, which represents a saving of 28 percent in hospital costs.

Doctors recognize its value

Dr. Pierre-Jean Maziade, a specialist in infectious diseases and head of the medical biology laboratory at Pierre Le Gardeur Hospital, just east of Montreal, said in a recent interview that since February 1, 2004, every patient in his hospital who is prescribed antibiotics has also received daily doses of Bio K-Plus CL1285® for the duration of the antibiotic treatment. That works out to 3500 patients per year or 14,000 patients in the four-year period between February 2004 and February 2008.

"In the six months before we started the Bio-K Plus program in February 2004, we had 91 patients contract C. difficile, 20 of whom died," Maziade said. "Now we have about 30 cases a year of C. difficile, resulting in about one fatality annually. The CL1285® is one of the major reasons that we have been able to control outbreaks of AAD and C. difficile in our hospital."

Dr. François Martin, a gastroenterologist who taught for many years at the Université de Montréal and is currently head of scientific regulatory affairs for Bio-K Plus, said in an interview that CL1285® has also shown promise in "in vitro studies" to combat a potentially deadly staph infection known as MRSA. "At this point, we need to do clinical research with patients," he said.

With a close-knit staff of 60 people at its 65,000-square-foot office in Laval, just north of Montreal, and family members in key management positions, Chevalier says Bio-K Plus is poised to expand its product distribution to Mexico, Europe, India and China in the near future. Daughter, Isabèle, 30, is Vice-President of Corporate Affairs, and son, Frank, is Vice-President of Business Development. Chevalier's wife, Monique Roy, is in charge of special projects.

As if he didn't have enough challenges, Chevalier decided in March 2007 at age 64 to scale the tallest free-standing mountain in the world — Mount Kilimanjaro in Tanzania. The idea for the adventure originated with his son, Frank, 28, who accompanied him with 27 other Canadians as part of a fundraiser for Make a Wish Foundation for terminally ill children. The group's climb raised \$325,000.

He trained for three months, scrambling up 5,000 steps daily with a 12-kilogram backpack on tree-lined Mount Royal in the centre of Montreal. He later clawed and groped his way up the 19,340-foot peak in Africa with the help of strategic infusions of glucose and his own favorite daily regimen of Bio-K Plus CL1285®.

Our intrepid entrepreneur's impression of the view from the top of the world? "Thrilling, extraordinary, exhilarating!"

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Photo: Rodney Hall, Punctuation Grafix



Bio-K Plus products on the market are guaranteed to have the same concentration of friendly probiotic bacteria, with the same results, as the products tested in clinical studies. It's available in health food stores, as well as in specialized sections of supermarkets and pharmacies.