

Contender Is Ready For Food-Safety Fight

BIOTECH: Product's First Target is Poultry Processing

■ By BRITTANY MEILING

Pure Bioscience Inc., a company in El Cajon, has acquired \$7.9 million in private financing to continue development of its nontoxic antimicrobial, SDC, which can be sprayed directly on food to kill harmful bacteria such as salmonella and E. coli.

The lead investor in this round of financing, **Franchise Brands LLC** — a company created by the founders of **Subway Restaurants** — contributed \$4 million.

Spurred by a change in leadership and a fresh board of directors, all with extensive experience in the food industry, Pure Bioscience has redirected its target market to the food processing plants and restaurants — hoping to tackle the challenge of food borne illness.

“There is nothing more damaging to a company than being associated with an outbreak,” said **Hank Lambert**, chief executive officer of Pure Bioscience. “Risk of food borne illness keeps executives up at night.”

Food recalls can be both damaging and costly. In 2006, the FDA warned U.S. consumers to stop eating fresh spinach due to an outbreak of E. coli. The company **Natural Selection Foods** issued a voluntary recall of their spinach products, and supermarkets pulled the product from their shelves. The spinach industry took a harsh blow. Recall costs and estimated sales loss amounted to \$350 million. The industry was slow to regain consumer confidence.

The Technology

The company's new patented technology involves a molecule called the silver dihydrogen citrate (SDC). The molecule is an electrolytically generated source of stabilized ionic silver. It is colorless, odorless, tasteless and noncaustic.

“SDC is like a Trojan horse,” said Lambert. “When applied to a surface with pathogens or bacteria like raw food, the bacteria are attracted to the SDC because they view it as a food source. The silver ions then attack the DNA of the bacteria — which renders them incapable of replicating — and then they die.”

Interestingly, the bacteria cannot build up a resistance to SDC, unlike ammonia or chlorine — which is used in meat processing plants today.

The U.S. Centers for Disease Control estimated in 2011 that food borne illness affects about 48 million people per year — or one in six Americans, resulting in 120,000 hospitalizations and 3,000 deaths.

2013 Food Safety Progress Report

Disease agents	Percentage change in 2013 from 2006-08	2013 rate per 100,000 population	2020 target per 100,000 population	CDC estimates that...
Campylobacter	13% increase	13.82	8.5	For every Campylobacter case reported, there are 30 cases not diagnosed
E. coli	no change	1.15	0.6	For every E. coli case reported, there are 26 cases not diagnosed
Listeria	no change	0.26	0.2	For every Listeria case reported, there are 2 cases not diagnosed
Salmonella	no change	15.19	11.4	For every Salmonella case reported, there are 29 cases not diagnosed
Vibrio	75% increase	0.51	0.2	For every Vibrio parahaemolyticus case reported, there are 142 cases not diagnosed
Yersinia	no change	0.36	0.3	For every Yersinia case reported, there are 123 cases not diagnosed

Salmonella remains the most frequent cause of food poisoning, accounting for 38 percent of all cases. While the United States has seen a small decline in the number of salmonella illnesses in recent years, there has been little progress overall in reducing food poisoning outbreaks over the past decade, health officials say.

In the FDA's Hands

Pure Bioscience submitted its SDC product for the use in poultry processing to the U.S. Food and Drug Administration in July and expects approval in November. If the FDA approves, the company will begin preparing for food and safety plant trials by the U.S. Department of Agriculture. Lambert expects that the product will pass both FDA and USDA approval by the end of this year, allowing commercialization to launch in the first quarter of 2015.

Pure Bioscience doesn't plan on stopping with poultry processing. The company has already completed testing SDC with produce. The trials have shown promise with a significant reduction in salmonella, listeria and E. coli. The company intends to file a food contact substance notification with the FDA within the next two weeks. If all goes according to plan, Lambert estimates that Pure Bioscience will have regulatory approval by the first quarter of 2015 for the use of SDC in produce processing plants.

Finally, the company intends to move forward with beef and other meat processing plants by the second quarter of 2015.

Revenue Sources

Pure Bioscience has two avenues to generate revenue — the new development of SDC for the use in food processing

plants, and the company's already existing disinfectant products used for food contact surfaces in restaurants. Pure Bioscience has two existing restaurant clients, one of which is a global restaurant chain. Lambert indicated that the client recently completed a 650-store test and is in the process of rolling out the sanitation products for all restaurants of the chain located in the U.S. Lambert estimates the deal will amount to more than a couple million dollars annualized revenue once established.

The company reported \$820,000 in net product sales for 2013, and a total net loss of \$7.67 million for the year. The operating expenses included \$5.7 million in selling, general and administrative expenses. Lambert noted that much of the expense was due to the restructuring of the company including severance payments to former members of management, eliminating long-term debt, downsizing the facility and shipping equipment to its contract manufacturer in St. Louis, **Intercon Chemical Co.** A portion was also attributed to restricted stock units for management and board.

Lambert added that the near \$8 million in new financing will allow leadership to pursue sales strategies — including leveraging connections in the food industry, gorilla marketing and target marketing.

“This gives us greater than 12 months of operating expenses,” Lambert said. “It enables the management team to focus on building revenues instead of focusing on periodic financing and private financing — which has been a real focus for the last year.”