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March 17, 2022

# **Pacific GeneTech plans Arkansas production facility for animal vaccine licensed from Arkansas Agricultural Experiment Station**

By John Lovett

U of A System Division of Agriculture

## Fast facts

* Pacific GeneTech licenses patented vaccine technology developed through the Arkansas Agricultural Experiment Station
* First commercialized vaccines offer alternative to antibiotics to control *Salmonella, E. coli* and coccidiosis.
* The company plans to build adjuvant production facility, vaccine development lab and business office in northwest Arkansas

(696 words)

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FAYETTEVILLE, Ark. — Arkansas Agricultural Experiment Station research on animal vaccines for economically important pathogens such as *Salmonella*, Eimeria and Avian influenza has led to a new manufacturing and business development by Pacific GeneTech.

Billy Hargis, professor with the Center of Excellence for Poultry Science and director of the John Kirkpatrick Skeeles Poultry Health Laboratory at the Milo J. Shult Agricultural Research and Extension Center in Fayetteville, co-developed the original vaccine technology platform used by Pacific GeneTech in collaboration with Texas A&M University, Ohio State University, University of Guelph in Ontario, Canada, and with support from the U.S. Department of Agriculture.

[Pacific GeneTech](https://www.pacificgenetech.com/), which was founded in Arkansas in 2009, has plans to build a production facility in northwest Arkansas to make a proprietary animal vaccine adjuvant licensed through the Arkansas Agricultural Experiment Station, the research arm of the University of Arkansas System Division of Agriculture. Through this license, Pacific GeneTech has the global rights to nine patent families with applications and issued patents in over 40 countries.

The company also plans to house its vaccine development lab and its U.S. business headquarters in the new facility. Production capability is expected in the first quarter of 2023.

“A business development of this size is further validation to the value of the research and discoveries at the Arkansas Agricultural Experiment Station,” said Jean-François Meullenet, senior associate vice president for Agriculture-Research and director of the Arkansas Agricultural Research Station. “It's exciting to see Pacific GeneTech build and expand on the breakthrough technology developed by Dr. Hargis and his colleagues.”

Hargis said the benefits of this vaccine technology over traditional vaccines is that they are long-lasting but leave no tissue lesions like oil emulsion adjuvants and can be administered orally as an inactivated vaccine.

Tim Collard, CEO of Pacific GeneTech, said their vaccines provide an alternative to antibiotics and disease-inducing live coccidiosis vaccines in poultry, and can replace multiple vaccines with one vaccine through drinking water or a spray. This reduces labor in large poultry operations where thousands of birds are grown. A reduction of pathogens in the animal improves feed-conversion ratios and minimizes chances of exposing consumers to the pathogens, he added.

Louis Bowen, Pacific GeneTech executive chairman and director of finance, said the facility would employ about 12 high-skilled workers to produce an adjuvant for vaccines that protect poultry from *Salmonella and E. coli* — bacteria that can make consumers sick — and Eimeria, a parasite that can cause a disease called coccidiosis in chickens. An adjuvant is an ingredient used in some vaccines, particularly killed vaccines, to enhance the protective effects of the vaccine.

Collard said their proprietary Aegis recombinant vaccine platform and Hercules adjuvant offer protection against multiple pathogens, including bacteria, other types of parasites and viruses. A recombinant vaccine uses the proteins of a pathogen to activate the immune system. Their vaccines reduce the need for multiple vaccines and address the problem of mutation, Collard said. They are manufactured using a fermentation process with either bacteria or yeast vectors.

“Disease prevention is critical to animal welfare,” said Shawna Weimer, director of the Center for Food Animal Well-Being. “Vaccines that reduce the need to treat sick animals with antibiotics can achieve many animal and human benefits, especially for sick animals in organic production systems, because products from antibiotic-treated animals cannot be sold in organic markets.”

Pacific GeneTech was founded in 2009 by Bowen, a 1970 University of Arkansas graduate, and former Gov. Jim Guy Tucker.

“It’s been a 10-plus year ongoing relationship where we’ve been investing back into the research, and over that period of time bringing those vaccine and adjuvant technologies toward commercialization,” Bowen said.

The company is now active in moving beyond poultry to develop vaccines for other species, Collard said.

Bowen said Pacific GeneTech’s adjuvants will be produced in Arkansas for vaccines made by Kemin Biologics and other third-party vaccine makers. Pacific GeneTech and Kemin entered an exclusive agreement in 2020 for PGT's Salmonella and Eimeria poultry vaccines.

To learn more about Division of Agriculture research, visit the Arkansas Agricultural Experiment Station website: [https://aaes.uada.edu/](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Faaes.uada.edu%2F&data=04%7C01%7Cfmiller%40uark.edu%7C5cd2aea2b12c4dfceb9c08d942da0e9d%7C79c742c4e61c4fa5be89a3cb566a80d1%7C0%7C0%7C637614326581623988%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=aepGh27NgEgSYv9mb8nggzA%2BaUdOhXMw7e6sspVov8c%3D&reserved=0). Follow us on Twitter at [@ArkAgResearch](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Ftwitter.com%2FArkAgResearch&data=04%7C01%7Cfmiller%40uark.edu%7C5cd2aea2b12c4dfceb9c08d942da0e9d%7C79c742c4e61c4fa5be89a3cb566a80d1%7C0%7C0%7C637614326581633943%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=nH1djoLMIYNT7ERwtQMektp5RVjEjY1B93nJK%2BhyjJE%3D&reserved=0).

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## About the Division of Agriculture

The University of Arkansas System Division of Agriculture’s mission is to strengthen agriculture, communities, and families by connecting trusted research to the adoption of best practices. Through the Agricultural Experiment Station and the Cooperative Extension Service, the Division of Agriculture conducts research and extension work within the nation’s historic land grant education system.

The Division of Agriculture is one of 20 entities within the University of Arkansas System. It has offices in all 75 counties in Arkansas and faculty on five system campuses.

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