

**(March 11, 2011 Stillwater, OK)** – Sahlu Ayalew, PhD, and Anthony Confer, DVM, PhD, both with the Department of Veterinary Pathobiology at OSU’s Center for Veterinary Health Sciences, recently received a U.S. Patent in connection with their Shipping Fever related research.

Ayalew, an assistant research professor, and Confer, a Regents professor and Endowed Chair in Food Animal Research, hold Patent No. 7,794,734, B2 for “*Mannheimia haemolytica* Chimeric Outer Membrane Protein PLPE and Leukotoxin Epitopes as a Vaccine or Vaccine component against Shipping Fever.”

“We took the genes for the immunodominant epitope of the outer membrane protein, PlpE, and the leukotoxin neutralizing epitope for leukotoxin and engineered them such that the engineered gene expresses one protein (chimeric protein),” explains Ayalew. “Vaccination of calves with the new protein is as effective as vaccination with the two whole proteins and eliminates the toxicity of leukotoxin. Production of the new protein requires less work and less time overall without compromising the end result.”

The next step is to market the protein to animal health companies who will use the protein in a vaccine to help prevent Shipping Fever, a common component of bovine respiratory disease (BRD). BRD in cattle costs the beef cattle industry more than \$800 million per year nationwide in lost productivity, death losses, and treatment costs. With the considerable size of Oklahoma’s cattle industry, it is estimated that BRD/Shipping Fever costs Oklahoma ranchers

as much as \$200 million annually.

Ayalew and Confer have worked together on several research projects and continue to strive to increase profitability for ranchers and to control or eliminate Shipping Fever in cattle.

*The Oklahoma State University [Center for Veterinary Health Sciences](#) is one of 28 veterinary colleges in the United States and is fully accredited by the Council on Education of the American Veterinary Medical Association. The center's [Boren Veterinary Medical Teaching Hospital](#) is open to the public and provides routine and specialized care for small and large animals. It also offers 24 hour emergency care and is certified by the American Animal Hospital Association. For more information, visit [www.cvhs.okstate.edu](http://www.cvhs.okstate.edu) or call (405) 744-7000.*

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