



## **Study of Pulse 250 Injection System in Sheep Published in *Journal of Animal Science***

Lenexa, KS, May 1, 2008 – Pulse NeedleFree Systems, Inc. announces the publication in the *Journal of Animal Science* of a research study confirming the effectiveness of the Pulse 250™ Injection System for the vaccination of sheep. The study was led by Michelle Mousel, a research geneticist at the USDA, ARS, U.S. Sheep Experiment Station in Dubois, Idaho. The article was authored by Mousel, T.D. Leeds, S. N. White and L.M. Herrmann-Hoesing.

The article, entitled “Comparison of Traditional Needle Vaccination with Pneumatic, Needle-free Vaccination for Sheep”, can be accessed online at the Pulse website <http://www.pulse-nfs.com> or on the *Journal of Animal Science* website <http://jas.fass.org/cgi/content/full/86/6/1468> .

The study (i) discusses optimization of the Pulse 250 Injection System for subcutaneous injections of sheep, (ii) showed the antibody response from needle-free vaccination of sheep to be the same as conventional needle vaccination, and (iii) found needle-free vaccination of sheep to be much faster than conventional needle vaccination. Results of the study will be presented on Wednesday July 9, 2008 at the Joint Meeting of the American Dairy Science Association and the American Society of Animal Science in Indianapolis.

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About Pulse NeedleFree Systems: Pulse NeedleFree Systems, Inc. is the leading developer of needle-free injection systems for the animal health industry. The primary applications for Pulse’s products are vaccines, antibiotics and other injectables that are used to treat animals in large livestock operations. Our corporate headquarters are in Lenexa, Kansas and we have field service technicians located throughout the United States. Please visit our website at <http://www.pulse-nfs.com> .