Nine out of 20 farms studied proved positive for methicillin resistant Staphylococcus aureus (MRSA) colonization in a 2006-2007 study, but unanswered questions remain.

Methicillin resistant Staphylococcus aureus (MRSA) colonization has been found in pigs and people who work with them in southwestern Ontario, raising questions which only future studies will be able to answer, including whether pigs are reservoirs of MRSA for human infection.

In a four-month study ending in January 2007, researchers collected nasal and rectal swabs from 285 pigs of three different age groups from 20 different farms. Nasal swabs were collected from farm personnel and a brief questionnaire was also administered. The study, which has been published in Veterinary Microbiology, has been widely quoted.

Nine out of 20 farms studied, or 45 per cent, were positive for MRSA. Prevalence in pigs was 24.9 per cent with no difference in colonization between age groups. Twenty per cent of pig farmers tested positive for MRSA and researchers found a correlation between the presence of MRSA in pigs and humans on farms.

The study’s senior author, Dr. Scott Weese of the Department of Pathobiology, Ontario Veterinary College, University of Guelph, says that the study left researchers with a number of unanswered questions. “We need to find out how broad this is,” Weese says. “We need to find out how representative southern Ontario is compared to the rest of North America.”

He notes that there are also questions about transmission. “It’s going to be hard to control MRSA on farms, especially since we don’t know how it is spread. Do pigs get infected early? Are sows reservoirs? Are farm personnel infecting pigs? We need to figure out how transmission occurs on farms.”
Dr. Scott Weese, an associate professor in the Department of Pathobiology at the Ontario Veterinary College, University of Guelph, has three distinguished awards to his credit, even though his teaching career is less than a decade old.

He won the Ontario Distinguished Researcher Award in 2002 and the University of Guelph Distinguished Faculty Award both for the period 2004-2006 and for 2006-2008.

Dr. Weese earned his Doctor of Veterinary Medicine from the University of Guelph in 1996. He practised veterinary medicine for a year at Dufferin Veterinary Services in Orangeville before returning to the University of Guelph to complete his Doctor of Veterinary Service in 2000. That same year, he was named a Diplomate by the American College of Veterinary Internal Medicine.

His current research is focused on infectious diseases and infection control, with a special emphasis on zoonotic diseases, antimicrobial resistance and Clostridium difficile.

Dr. Weese grew up in Dresden, where he trained Standardbred horses. He currently raises rare breed (Soay) sheep.

MrSAfacts

- There are no reports of pig farmers becoming ill from these bugs over the last several decades.
- MRSA has for decades been intimately linked to infections acquired in hospital environments and especially intensive care units, where extensive antibiotic use is routine.
- U.S. data suggest that about 2.5 million healthy Americans are asymptomatic carriers of MRSA.
- MRSA is found in animals which have had little or no exposure to any antibiotics at all – for example horses and sea mammals.
- There is no food safety concern between MRSA in pigs and contamination in pork.
- It is remotely possible that food handlers, who happen to be carriers of MRSA, might contaminate pork, or anything else for that matter if proper hygiene methods are not utilized.
- Routine cooking of pork would destroy any MRSA, if indeed they did manage to get on to pork.

Funding for the 2006-07 study was provided by Ontario Pork.