

**Israel's largest pig farm is using UHF EPC Gen 2 tags to increase production, ensuring that each animal receives proper care, and improving the health of sows and their piglets.**

By Claire Swedberg

Aug. 18, 2009—An Israeli firm specializing in pork products is employing an RFID system at its pig farm in Galilee to track the health and productivity of its sows as they produce piglets. For the past three months, the meat producer—which asked to remain unnamed—has been using the BOSwine system, provided by Israeli RFID solutions provider [Better Online Solutions](#) (BOS), to track the amount of feed the pigs eat, as well as their weight, pregnancies and the number of piglets they produce. The system, says Oren Lazimi, the farm's operating manager, is expected to increase litter size and frequency, while also reducing the piglets' mortality rate.

BOSwine can also help the pig farm—Israel's largest—recognize a health problem much more quickly than it has in the past. And by more properly managing a pig's vaccinations and overall health, says Shalom Daskal, BOS' CEO, it can reduce the risk of an outbreak of the H1N1 virus, which causes swine flu.



*Better Online Solutions'*  
*Shalom Daskal*

Until the system was installed earlier this year, Lazimi says, the farm used pen and paper to manually track its 4,000 sows, 400 boars and 50,000 piglets. In notebooks kept at various stations across the farm, workers would jot down the animals' ID numbers (obtained by reading the numerals printed on their ear tags), along with any procedures they underwent, such as birth, vaccinations, insemination, pregnancy checkups, birthing and weaning.

There were multiple problems related to such a system, however. If a sow became unhealthy, had not received a necessary vaccination, or was not inseminated at the appropriate time, her health and productivity to deliver healthy piglets declined. In addition, it was difficult for the farm to track genetics, such as which mother and father pig produced the healthiest and largest litters. If vaccination records were not properly updated, a pig might need to receive the same shot multiple times, and if a sow's piglets were not weaned at the appropriate time, her insemination would need to be delayed.

The farm required a system that would improve the health of the mothers, create the best father-mother matches, and ensure that piglets were born thriving and in large litters.

With the BOSwine system, each female piglet weighing more than 1 kilo (2.2 pounds) at birth has an ultrahigh-frequency (UHF) passive EPC Gen 2 BOSwine tag attached to its ear, and is then slated to become a breeding sow. Male piglets from productive father boars may also be tagged and raised to be sperm-donating boars. Tags are read with a handheld or stick reader, provided by BOS.

The BOSwine software, which resides on the farm's back-end server, stores the tag's unique ID number, as well as other data related to the piglet, such as the ID numbers of its parents' tag ID numbers, the date and time of its birth, and its birth weight. After that, the software displays an alert if the RFID tag is not scanned at least once every five days as it receives some kind of treatment, Daskal says, thereby ensuring piglets do not fall through the cracks and miss necessary procedures.

Each pig then goes through a lifecycle of receiving procedures, such as vaccinations, insemination, pregnancy care, birthing, weaning and re-insemination. A healthy lactating sow, which has had the proper vaccinations—including one against flu viruses such as H1N1—will pass those antibodies on to her piglets during the 30-day period in which she nurses her newest litter.

The day before procedures are scheduled, farm employees can print a report from the BOS software indicating which pigs are due for which procedure. Those reports are made available to the farm's veterinarians and other workers, who can then prepare an area in advance—by knowing, for example, how many vaccines will be administered the following day, the number of pigs that will be inseminated, or the number of sows due to give birth.

As each pig receives its appropriate service, its tag is read with a stick reader that has a read range of approximately 60 centimeters (24 inches), which transmits wirelessly to a laptop computer that sends data to the BOS software server. The server confirms that the proper pig is receiving the correct service, and stores information regarding that procedure on that particular date. If the pig should not be receiving that service, or if another animal fails to receive the procedure for which it was scheduled, an "irregularity alert" can be sent to the software users, as well as to the staff using the readers, on the display of the laptop or the handheld reader.

According to Lazimi, the farm has tagged all of its sows and continues to tag the appropriate piglets. To date, he says, the system has reduced the piglet mortality rate from 25 percent to 18 percent, and that rate is still dropping. It has accomplished this by ensuring that each mother sow has received the proper health care prior to delivery, and that she is delivering healthy piglets she can feed with antibody-rich milk. The system has also shown its ability to increase the sows' productivity, by ensuring that a mother pig is separated from her piglets as soon as they are weanable, and is inseminated once she is deemed ready. In the future, Lazimi says, the farm also plans to provide genetics information regarding which mother-father pairings are producing the largest, healthiest litters.

"It's providing an amazing solution," Lazimi says, noting that BOSwine provides access to more detailed information regarding each pig's life, health and productivity. The farm expects to see a return on its investment within less than a year, based on the sows' increased productivity and the piglets' improved health.