

Database Management: National ID and Electronic Information Systems

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For years, swine breeders have relied on manual biological accounting systems to monitor breeding activity and progress on their farms. Pigtales was the first biological accounting system to use pocket diary cards for recording events in swine production. This method consists of using pocket-sized cards to record weekly events such as the breeding, farrowing, and weaning of a sow and her litter. Data on the cards is then either faxed or mailed to the Pigtales Breeder system, where it is entered into a computer which generates weekly production reports anywhere from five to 30 pages in length. Breeders can use these reports to track productivity on their individual farms. Currently, Pigtales facilitates production on approximately 575 farms throughout the United States using this manual diary card system.

However, errors in data collection are one of the highest contributors to cost in the farm information management process. These costs are both visible--in the time needed to sort out errors and re-collect data; and invisible--in the inefficiency that results from making management decisions based on undetected erroneous data.

After years of collecting data by the manual method, Pig Improvement Company began studying how computer technology could be used to automate the diary card system. Pigtales pioneered the revolutionary concept which would change the way breeders track productivity.

Over the past two years, Pigtales has been developing and testing Pigtales Instant Data (ID) System software for hand-held computers and electronic ID (EID) scanners. The Pigtales ID System dramatically improves data collection accuracy and promotes better field management decisions. Tracking animals with the ID System eliminates identification errors.

An electronic transponder is attached to an animal's ear, just as an ear tag would be. The EID number embedded in each transponder is permanent and cannot be altered. The ID System is then used to scan the transponder, identify the pig, and retrieve all relative data on that animal. The scanner reads this number electronically, error-free, eliminating human data entry errors. Next, the information is uploaded to the host computer at Pigtales, via modem, where the weekly production reports are generated.

The Pigtales ID System has been designed to record daily activities as they would be recorded manually in the diary. A farm can use the new system with or without the electronic identification tags and still be compatible with the Pigtales swine records system. The important difference is that with EID, all information is verified at the point of entry. Also, using the hand-held computer keyboard can reduce error rates in data entry to negligible levels through the use of menus and lists which prompt the user in

data collection. For example, a sow cannot be bred until she's been weaned and all her pigs are accounted for through death loss or fosterings. This kind of on-the-spot data validation can be used in collecting dozens of types of data to improve overall quality and accuracy.

The system allows timely and accurate retrieval of other data also, such as breeding date and boar; farrowing date, number, and sow condition; and weaning date and numbers. The development of in-farm data capture means that the producer acquires data in an accurate way for timely processing and reporting, for more responsive management. It can also prompt the gathering of additional data that otherwise would not have been done.

Pigtales ID System saves time. First, the ability simply to scan in an EID number instead of writing it down after reading from a visible tag yields a sizable time savings in even a moderately-sized herd. Often, visible eartags need to be cleaned before they can be read. Secondly, data collection programs on the ID System are menu-driven, offering the user choices that require pushing only one or two buttons--much faster than writing down information. Thirdly, when finished with data collection, the producer can simply upload the data to the master application program on the host computer. All tedious data correction through written notes is eliminated, along with related reentry errors.

Pigtales has numerous sow sites installed with EID tags. The longest running trial is in a herd of 368. Tag loss totaled 7.06% in year 1. The herd has a group housed gestation facility. Tags are being reused from cull animals into replacements with application of a new tag stud. There were no tag interrogation failures during the trial.

By using the system to take inventory, time savings can be tremendous; therefore, inventories can be done more frequently, improving efficiency and overall accountability. The ease of accurately identifying animals makes it possible to track them as they are moved from one location to another. Within PIC production and multiplication, the improved timeliness and accuracy of production data and inventory control can yield a very significant improvement in forecasting.

The Pigtales ID System promotes better field management decisions. By uploading collected data from the Pigtales ID System to the host database, herd analysis can always be performed with the very latest information. Data from the host database can also be downloaded to the ID System, so the field operator will always have current data for on-the-spot assessment of animals in the barn or field. This can facilitate immediate corrective action based on the entire picture of an animal that is otherwise available only in the host database located at Pigtales.