

Sows on wire: Research points to lower mortality, faster weight gain

ST. LOUIS, Mo. — Although most aspects of pork production have been vastly improved over the past decade, the farrowing phase has been a glaring exception. According to USDA figures, the number of pigs weaned per litter has actually declined, to 7.09 in 1979 from a peak of 7.3 between 1966-70.

Much of the decline can be attributed to death loss in the farrowing quarters. In fact, American hog farms have fared poorly in comparison with other countries when it comes to mortality rate. While death loss in the U.S. farrowing facilities is averaging approximately 20.7 percent, the figure for Australian producers is just 14.3 percent, while Canadian hog farms are in between the two at 17.7 percent death loss.

But, according to one swine authority, hog producers can take several relatively inexpensive steps in the farrowing room to reduce death loss and give young pigs a faster start.

Most hog producers will agree the farrowing phase is one of the most important points in a young pig's life," says Ray Washam, manager of swine research at Ralston Purina Company. "Since the pig at birth and again at about 3 weeks of age is at its low point in terms of immunity, and is entering a high point in terms of development, any improvement made during the farrowing or nursery period can have a most positive effect."

Washam points to research conducted recently by Ralston Purina which indicates the use of elevated farrowing crates can reduce farrowing room mortality by upwards of 25 percent.

Much of the death loss among baby pigs can be linked to scours,"

he says. "Most scouring problems develop when newborn pigs are lying on cold damp farrowing and nursery room floors."

Over the past two years, research was done comparing elevated crates with wire flooring against conventional crates with either wood, concrete or metal slatted floors.

"In on-farm tests involving more than 17,000 farrowings with 3-week weaning, partial slat facilities had a pig mortality of 17 percent versus 12.9 percent in total elevated wire floor facilities. That's a 24.1 percent reduction in death loss, and 38 more pigs weaned per litter," he points out.

Washam said he expected the marked improvement because the principles of elevated crates are similar to those of cage nurseries, a concept Purina has been researching since the 1960's.

"Whenever you can separate a baby pig from its body waste, you've taken a giant step towards disease prevention," he states. "The use of woven wire in both farrowing crates and nursery cages keeps the area drier and warmer and makes it less receptive to disease-carrying bacteria." Drier footing also means better traction, less spraddle legs and fewer joint infections, he adds.

Since 3-week old baby pigs have few disease-fighting antibodies and little subcutaneous fat, Washam said he believes the cage nursery environment helps the pigs through this critical stage of growth.

To prove his point, Washam points to research conducted at Purina's Research Farm at Gray Summit, Mo., which showed that the use of cage nurseries can reduce baby pig mortality to 1.25 percent or less, and get pigs up to

50 lbs body weight at nine weeks of age.

"Conventionally raised pigs experienced an average daily gain of 0.67 pounds," he reports. "This fell far short of the 0.82 pound average daily gain standard for the caged nursery pig." Weight per day of age comparisons produced a similar edge for the caged pig: 0.79 pounds versus 0.63 pounds for the conventional pig.

Sixteen comparative feeding experiments also revealed a feed conversion advantage for the caged pig, Washam says.

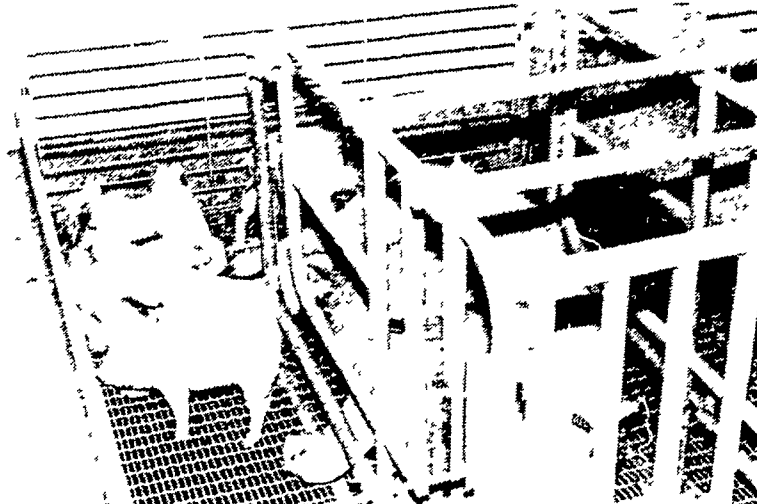
"We put a total of 1472 pigs in cage and conventional nurseries, on identical feeding programs from 14.3 lbs. average weight until they reach 26 lbs.," he recalls. "Our records showed that the pig in the standard cage nursery converted every 1.65 lbs of feed into a pound of gain, as compared with a 1.82 ratio for the pig in the conventional nursery."

"One of the most startling results we found with the use of cage nurseries," continues Washam, "was that baby pigs were much cleaner and less stressed than pigs raised in a conventional nursery, even if the cages were stacked two or three high. The wire flooring is a major contribution factor."

The swine research manager contends wire flooring in the farrowing crate is beneficial to the sow as well.

"Outside of the fact that better footing will result in less baby pigs being crushed by falling sows, woven wire floors provide a smoother air flow, which means the sow can be kept more comfortable with less ventilation," he states.

Although Purdue University has not conducted any tests comparing the pig benefits of elevated crates,



"By elevating farrowing crates and replacing wood or concrete floors with woven wire, producers can keep their baby pigs warmer, drier and separated from their body wastes," says Purina's Ray Washam.

their Hobart W. Jones has found the raised crates to be real labor savers.

"By raising the crates in our farrowing houses 18-20 inches above floor level, we've found it much easier to flush or scrape out waste material," he says, adding that Purdue has been utilizing elevated crates in their facilities for more than 15 years.

Jones said he feels elevated crates give the producer considering remodeling more flexibility in design and cost analysis.

"Rather than going to the expense of ripping up floors to install a pit in converted buildings, it's much easier and less expensive to raise the crates and flush or scrape the wastes to one end," he says.

Jones notes many producers have found this method to be quite successful.

"Producers who are on exceptionally flat poorly drained ground or who wish to have im-

mediate access to their waste for fertilizer purposes, have installed a holding pit under the crates," he says. "If you don't mind the odor, it's a concept worth considering."

The Purdue elevated crates use a combination of wooden planks and wire mesh flooring. Crates are approximately 6½ feet long, with one foot in the front and 2½ ft. behind the sow covered with woven wire.

The remainder of the flooring consists of wood planks, running perpendicular to the wire across 3 to 4 crates. Both sections of wire flooring within the crate are welded onto wire frames.

"Wire in front and back allows both body and feed wastes to fall away from the crates," says Jones. "The wood is beneficial from a cost standpoint, and allows us to concentrate supplemental heat on a specific area because of its heat retentive qualities."

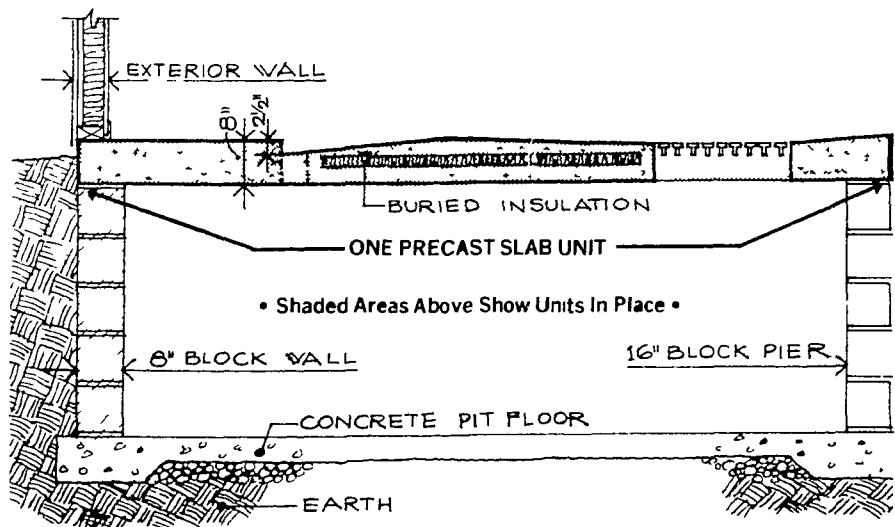
In terms of durability, Jones

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