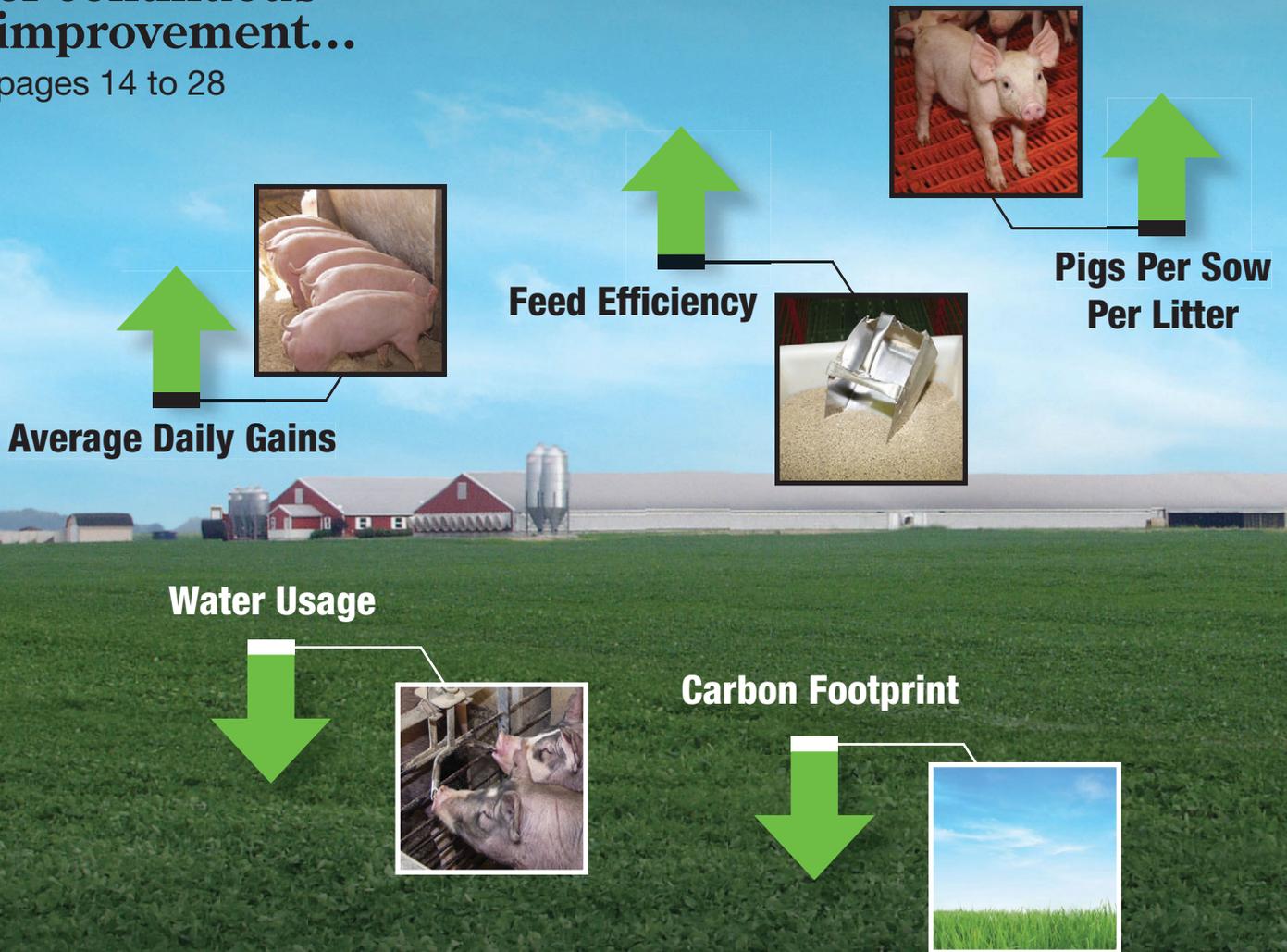




SUMMER 2012 • VOL. 31 NO. 2

Pork's SUSTAINABLE FUTURE

Data reveal decades of continuous improvement...
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- 8** Fair Oaks educational project update
- 12** Lost in translation: What do consumers hear?
- 32** Foreign animal disease checklist for your farm



**Average
Daily Gains**



**Water
Usage**



**Feed
Efficiency**



**Pigs Per Sow
Per Litter**



**Carbon
Footprint**

Pork's SUSTAINABLE Future

Data reveal decades of continuous improvement

By Mike King

Consider these statistics: A 35 percent decrease in carbon footprint, a 41 percent reduction in water usage and a 78 percent drop in the land needed for 1,000 pounds of pork produced. Amazing numbers, especially if you consider that U.S. pork production nearly doubled over the last half-century.

No matter how you measure it, the pork industry has made great strides in becoming more sustainable over the past 50 years. Whether it's how many more pigs a sow weans per litter, how much grain is needed to produce a pound of pork or how pork's carbon footprint continues to get smaller and smaller, America's pork producers have a good story to tell – and the data to support it.

"I'm not surprised by the progress made over the last half century by the pork in-

dustry," said Everett Forkner, president of the National Pork Board and a producer from Richards, Mo.

"I've seen a lot of change on my own farm over the years as I evaluated and implemented new technologies," Forkner said. "I've always been interested in ways to improve the way I raise pigs, protect the environment and produce a better product for consumers."

According to Steve Meyer, president of Paragon Economics in Adel, Iowa, and a Pork Checkoff consultant, it's that kind of mind-set of seeking continuous improvement that has laid the foundation for much of the pork industry's success over the years.

"By the willingness of producers to adopt new technologies and ways of managing pigs more efficiently, we've clearly seen positive effects

in the trend lines of nearly every measurement of pork production," Meyer said.

Numbers Tell the Story

Across the board, it's hard to find any production measure that has not seen an overall trend of improvement.

**U.S. producers raised more pigs
per litter in 2011 (9.97) than
per sow in all of 1978 (9.95).**

This certainly holds true for the standard metric of pigs per litter, which was about 8.83 as recently as 2000. Fast forward to 2011 and that figure had jumped to 10.03.

To get an even better perspective, Meyer likes to go back to 1979, the year in which productivity's upward

trend (Figure 1) became more pronounced. The industry averaged only 7.1 pigs per litter that year after bouncing around that figure for several years.

Starting a few years earlier, in 1973, higher feed prices drove the need for improved productivity, with producers placing more emphasis on litter size. Also, advanced breeding systems and specialized sow lines began to be used by more producers. The upshot is over 30 years of remarkable improvement.

The average number of litters per breeding animal per year was 1.46 in 1979, but it has increased to an average of 2.00 over the past five years (Figure 2).

“Further, the variation in litters per breeding animal during the calendar year has been reduced dramatically since the mid-’90s,” Meyer said. “This evening out of farrowings across seasons has been driven primarily by two things – fewer sows being farrowed outside and a large increase in specialized, controlled-environment facilities.”

According to Meyer, the net result of the two trends has been a steady improvement in pigs saved per breeding animal per year – a key metric in determining producers’ efficiency and profitability. As can be seen in Figure 3, this number now exceeds 20 compared with barely 10 in the 1970s.

More Pigs Per Litter Today Than Per Sow in 1978

“What does this translate to in simple terms?” Meyer said. “U.S. producers raised more pigs *per litter* in 2011 (9.97) than they did *per sow* in a all of 1978 (9.95).”

On the grow-finish side of production, the data show good progress also has been

made with market pigs.

According to Iowa State Enterprise Records, pigs in 1982 went to market at about 225 pounds and had a feed efficiency of 3.82 lbs. of feed per pound of gain.

By 2000, PigCHAMP records revealed that finishers were much more efficient at 3.09, even as market weights

Figure 1: Pigs Per Litter Per Year

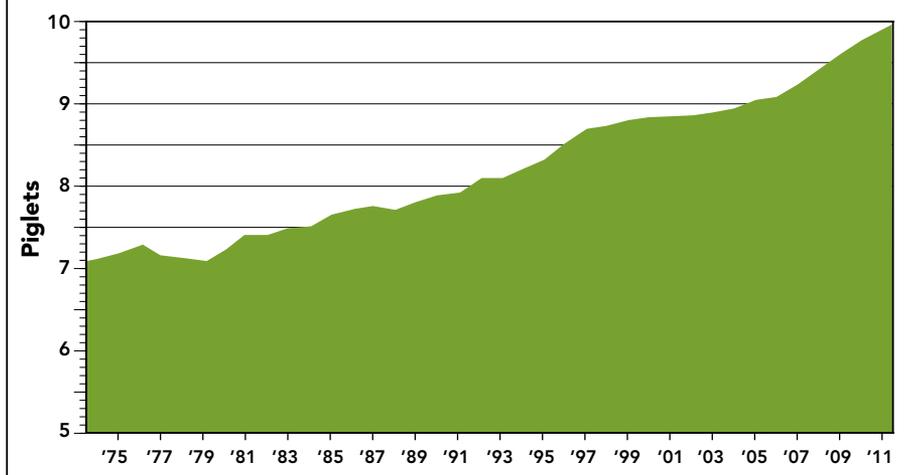
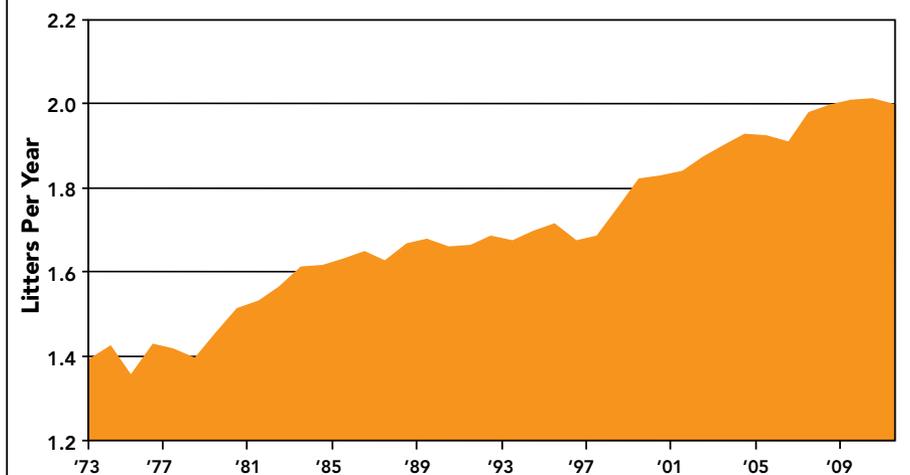


Figure 2: Litters per Breeding Animal Per Year



reached 250 lbs. In more recent data shared by Meta-Farms at the 2012 American Association of Swine Veterinarians meeting, producers are regularly seeing sub-3.0 feed efficiencies (about 2.95) even as they grow their market pigs to an average weight of about 265 pounds.

According to Chris Hostetler, director of animal science for the Checkoff, producers should expect to achieve even greater production efficiencies in their herds in the years ahead.

“There’s no indication that we have reached the biological limit or genetic potential of our animals,” he said. “There’s always room for improvement and ways to do a better job of managing pigs. That’s why the Checkoff continues to fund research to seek real-world solutions to farm-level production issues.”

Meyer agrees that another key contributor to today’s highly productive U.S. hog farms is higher market

weights. Today, the average market pig weighs about 274 pounds live, or 206 pounds carcass, compared with 242 and 172, respectively, in 1979.

This reflects a 13 percent increase in live weight and a 19 percent increase in carcass weight. This means fixed costs are spread over more pounds of pork, reducing average total costs. And market hogs now yield 3.7 percent more carcass weight per pound of live weight than in 1979.

“These positive trends highlight the overall progress that producers have made over the years with better genetics, better management, better facilities and better nutrition,” Meyer said.

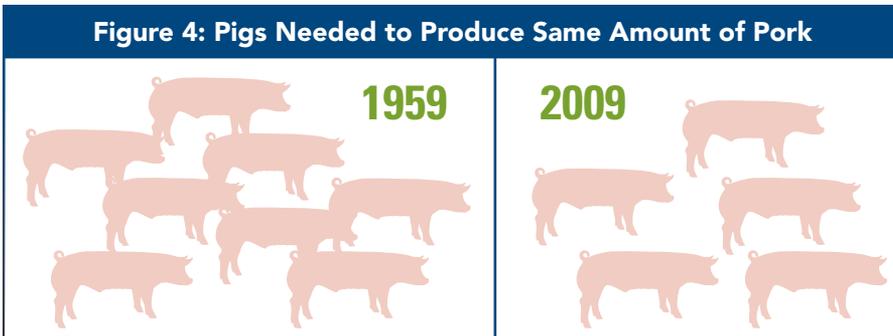
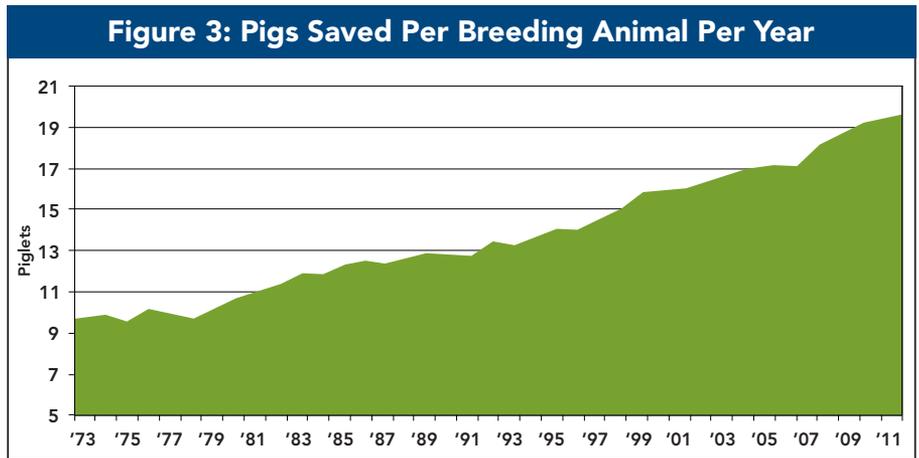
Like all farmers, pork producers have sought ways to improve their herd’s efficiency year after year. However, what they may not have envisioned is how that unrelenting quest has culminated in achieving high marks in one of today’s newest metrics – food’s carbon footprint.

Smaller, Greener Footprint

In a brand new Checkoff-funded study, researchers analyzed how the industry’s gains in production efficiency over the last 50 years have affected pork’s environmental impact. Everything affecting pork’s footprint at the farm level was included in the model, including feed, water, energy, land and crop-nutrient resources needed to produce pork.

Using available data from 1959 to 2009, the researchers confirmed what producers know – the industry became much more efficient during this time. But the extent of this improvement may be surprising to some as the carbon footprint per pound of pork shrunk by 35 percent in that 50-year time span, while pork production nearly doubled.

The trend line for pigs saved per breeding animal per year has continued its upward march beginning in the late 1970s.



No metric better illustrates the overall efficiency gains made on the farm over the last 50 years than this one. This illustration shows how it only takes five pigs today to produce 1,000 pounds of pork compared with eight pigs in 1959.

The study also underscores just how much more efficient the industry is today compared with 50 years ago. Specifically:

- Market hogs numbers increased 29 percent.
- The breeding herd is 39 percent smaller.

Likewise, efficiency gains in the amount of pork produced per head have skyrocketed. It now only takes about five pigs (breeding to market)



**Water use
reduced
41%**
per lb.
carcass wt.



**Land use
reduced
78%**
per 1,000 lbs.
carcass wt.



**Carbon
footprint
reduced
35%**
per lb.
carcass wt.

“With the innovations we continue to see from Checkoff-funded research, coupled with our dedication to live the principles of the We CareSM initiative, I’m confident we can meet the challenge ahead.”

– Everett Forkner, National Pork Board President

to produce 1,000 lbs. of pork compared with eight pigs in 1959 (Figure 4).

From a feed and water perspective, today’s pigs require fewer resources than they used to. The study finds that acreage required for feed has gone down by 78 percent per 1,000 pounds of dressed carcass. Meanwhile, water usage has shrunk by 41 percent per pound of dressed carcass.

“This model clearly shows how much effect producers have had on reducing the carbon footprint on their farms by improving the overall efficiency of their animals and by adopting new production technology over time,” said Allan Stokes, the Pork Checkoff’s director of

environmental programs.

“This will probably be very eye-opening to those who may not realize the animal-management skills and environmental stewardship that producers practice on their farms every day,” Stokes said.

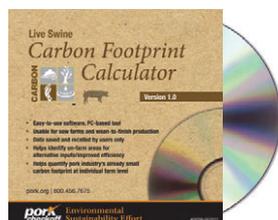
Facts Are Stubborn Things

The overall success of the U.S. pork industry may be surprising to the uninitiated,

but these facts and figures paint a clear picture of decades of continued improvement and sustainability. And, as the nation’s second president, John Adams, put it, “facts are stubborn things.”

“As a pork producer, I’m proud of the accomplishments we’ve made as an industry,” Forkner said. “But today’s competitive market demands that we do even more to improve how we produce pork.”

He added, “With the innovations we continue to see from Checkoff-funded research, coupled with our dedication to the We CareSM initiative, I’m confident we can meet the challenge ahead.”



Carbon Footprint Calculator...

Producers have been calculating their farms’ carbon footprint for the last year thanks to the innovative Checkoff-funded Live Swine Carbon Footprint Calculator. For your free copy, go to pork.org/sustainability or call (800) 456-7675.

PRODUCTION Benchmarks Offer Insights

By Chris Hostetler



Chris Hostetler is director of animal science for the Pork Checkoff.

Producers use production benchmarks to better understand performance and industry trends on their own farms. However, very little of this type of information exists publicly. That's why the Pork Checkoff funded an ongoing process to quantify U.S. production benchmarks and trends for farrowing, nursery, finishing and wean-to-finish traits.

The data gathered represent about 1.8 million sows and their pigs from 2005 to 2010 from farms that are considered medium to large in size. Farrowing, nursery, finishing and wean-to-finish data were analyzed.

The analysis showed progress in several key areas, as shown below, including:

- Piglets per mated female per year increasing from 21.5 to 23.6,
- Pigs born alive per litter

increasing from 10.77 to 11.83

- Pigs weaned per litter increasing from 9.30 to 10.08.

Some 86 percent of the increase in pigs per mated female per year was due to an improvement in the number of pigs weaned per litter, while the increase in litters per mated female per year only accounted for 14 percent.

Litters per mated female did not change substantially during this time, remaining relatively flat from 2.31 to 2.34. Improving this measure by minimizing non-productive sow days may be one way producers can increase pigs weaned per mated female per year without further increasing litter size.

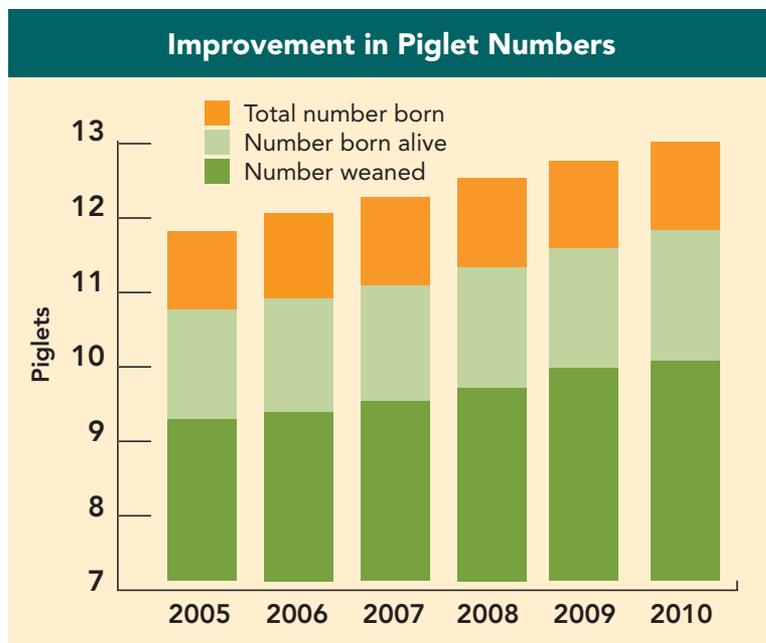
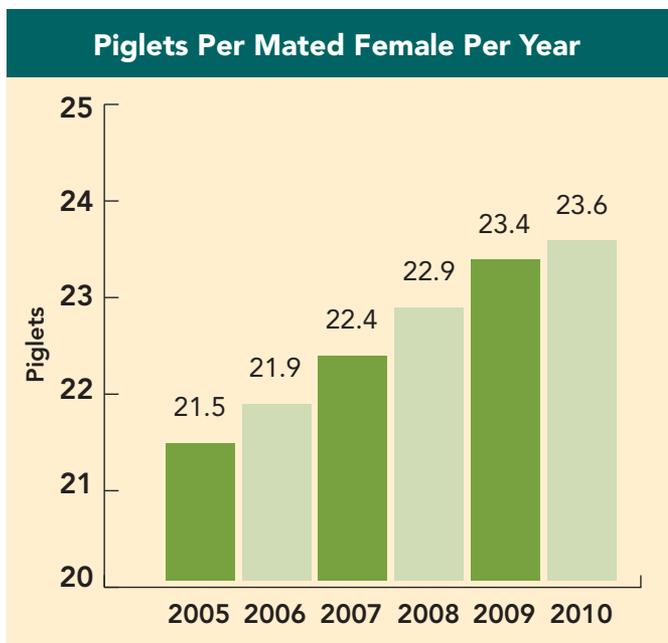
Piglet pre-weaning mortality remained relatively constant from 2005 to 2010, despite the common belief

that pre-weaning mortality increases dramatically as litter size increases. The difference between piglets born alive and piglets weaned represents piglet mortality. The difference between these two measures remained the same, as shown below right in the light green. This means piglet mortality as a percentage did not change.

72 Hours of Opportunity

Reducing pre-weaning mortality through improved management, especially in the first 72 hours after birth, also may increase pigs weaned per mated female per year. However, just weaning more pigs isn't always the answer if the quality of the pigs is poor since this may compromise productivity in grow-finish.

In the Checkoff-funded



analysis, weaning age increased from 18.9 to 20.6 days, contributing to piglet weaning weight increasing from 12.0 to 12.9 lbs. This shows that producers continue to wean high-quality pigs even at larger litter sizes.

However, the average daily gain of nursing piglets decreased slightly. Increasing lactation length may present a challenge for sows to meet the nutritional demand of larger, older litters even though lactation feed intake did increase.

New Protocols for Lactation?

Producers may consider strategic creep feeding or feeding a different lactation diet during the third week of lactation when the demands of the litter are greatest. This represents a substantial change in the way sows are currently fed, but this practice may work in some situations.

In the analysis, sow lactation feed intake increased from 13.5 to 14.6 lbs. per sow per day, which may indicate improved lactation management. Gestation feed intake decreased from 5.13 to 5.01 lbs. per sow per day.

No Magic Weaning Age

This analysis shows that producers recognize that pigs are more productive if weaned at a slightly older age and heavier weight. This will probably hold true up to a certain point, but weaning larger, older litters may hurt sow longevity if sows have to use body reserves to support these older, heavier pigs.

Producers should take a balanced approach when

Overall Industry Averages: Sow Production Traits from 2005-2010	
Trait	Average
Piglets per mated female per year	23.20
Litters per mated female per year	2.36
Total number born	12.46
Number born alive	11.33
Number weaned	9.83
Piglet weaning age, days	19.50
Weaning weight, lbs. per pig	12.60
Lactation feed intake, lbs. per day	14.40
Gestation feed intake, lbs. per day	5.15

determining weaning age. The "best" answer is unique to every farm given differences in genetics, management, nutrition, health and facilities.

Later Phases of Production

Looking at nursery and wean-to-finish pigs:

- Nursery pigs – entry age increased from 19.2 to 20.5 days, with entry weight going from 12.2 to 12.9 lbs., ADG increasing from 0.81 to 0.84 lbs.

- Wean-to-finish pigs – entry age increased from 18.5 to 20.0 days, with entry weight going from 12.5 to 13.7 lbs., ADG going from 1.51 to 1.52 lbs.

In finishing facilities:

- ADG increased from 1.62 to 1.76 lbs.

- Average market weight went from 259 to 264 lbs.

- Mortality decreased from 6.7 to 5.2 percent.

There were no improvements in finishing caloric efficiency, and wean-to-finish caloric efficiency worsened. This may be due to feeding diets with greater amounts of fiber primarily from DDGS. Additional research could give producers tools to improve caloric efficiency.

For More Information...

Producers can use this information when assessing productivity and when making decisions that affect management practices or profitability. For more details, go to pork.org or call (800) 456-7675. 

Overall Industry Averages: Nursery, Finishing and Wean-to-finish Production Traits from 2005-2010			
	Nursery	Finishing	Wean-to-Finish
Entry age, days	19.4	66.4	19.3
Entry weight, lbs.	12.5	52.9	12.8
Exit age, days	65.7	186	183
Exit weight, lbs.	51.3	264	262
Average daily gain, lbs.	0.84	1.77	1.52
Feed efficiency	1.56	2.83	2.59
Caloric efficiency	2,323	4,242	4,287
Mortality	3.6	5.0	7.6

Checkoff Helps Put Research Results in Your Farm's Tool Belt

By Dr. Paul Sundberg



Dr. Paul Sundberg is vice president of science and technology for the Pork Checkoff.

Before in this column, I have written about the time and energy producer volunteers invest in ensuring that Pork Checkoff research funds are fairly and objectively applied to projects that will do the most good for the pork industry. Here I want to explain what happens after producer-led committees select projects for funding in order to provide credible research results that you can use on your farm, such as the research study highlighted on pages 18 and 19.

Contracts – The Checkoff has a contract with each researcher that spells out payment schedules, intellectual property rights, required reports, publication, reviews, etc. Contracts are usually for one year since Checkoff funding is a yearly cycle. If the researcher makes the case to the producer committee that more than one year is needed, multiple-year projects can be funded.

Reports – A report midway through a project lets us know if there are any problems. Is the researcher making progress? Is the project on time?

We also get a more detailed final report when the project is completed, covering the project's objectives, how they were addressed, what was the project's outcome and what the outcome means to the industry.

The reporting is such an important part of the process. Checkoff staff are assigned to each individual project to ensure that it stays on track. They approve the initial budget,

and if there ever are any issues with the project, they work with the researcher to address them. And they read, review and sign off on each report.

Reviews – The review is very important in ensuring that the researcher did the research that they said they would do. But, and this is very important, we don't have editorial review of the reports. The report is from the researcher about the research, and he or she is the author and is responsible for what is in it.

In order to add as much scientific weight to a project as possible, the contract specifies that the researcher is encouraged to submit the project results for publication in a peer-reviewed journal. That is an additional review process where other scientists look at the work and critique it. If it passes muster with them, it gets published in a journal for the body of scientists and others to see.

Credible research – Our goal is research completed in a timely manner that delivers information to producers. We want to be transparent in the process so there isn't any perception of manipulation or favoritism in funding. We work toward credible results that have academic weight.

The credibility issue keeps us from trying to direct a project to give the "right" answer and keeps us objective in selecting, funding and communicating research. Also, as long as the researcher does what is said in the proposal and the con-

tract, our responsibility is to let producers know the results regardless of the outcome.

Communication – We post Checkoff-funded research results on pork.org as soon as final reports from research projects are approved. The Checkoff's *Research Review*, a bimonthly e-letter, also shares research results that can be applied on the farm with producers and others.

We also require researchers to help communicate that their projects were funded by the Pork Checkoff. We want producers to know that their Checkoff investment is helping fund research that benefits the industry... and pork producers' operations.

If you'd like to receive the *Research Review*, call (800) 456-7675. Also visit pork.org and click on the "Research" tab to review results of Checkoff-funded research. 

The bimonthly Research Review provides updates on Checkoff-funded research via email. Call (800) 456-7675 to be included.



Research REVIEW
Results from your Pork Checkoff investment in research and technology

Welcome
Welcome to this issue of Research REVIEW brought to you by Pork Checkoff. The purpose of this e-newsletter is to give you a user-friendly way to learn more about research funded by the Pork Checkoff, what it means to the industry, and where to go if you want more information. We hope you find this publication useful. Feel free to forward to others. Archived issues are found [here](#).

- ANIMAL SCIENCE**
Includes pork quality, reproduction, nutrition and genetics
- ANIMAL WELL-BEING**
Includes animal assessment, handling and transportation, sow housing, euthanasia and animal space requirements
- ENVIRONMENT**
Includes manure management, air quality, water quality, water use/conservation and carbon footprint
- HUMAN NUTRITION**
Includes dietary nutrition, food preparation technology and ingredient health implications
- PORK SAFETY**
Includes pre- and post-harvest safety issues, pathogens and intervention technologies
- PUBLIC HEALTH**
Includes antibiotic use and resistance, disease transmission, risk assessment and worker health and safety
- SWINE HEALTH**
Includes domestic and foreign swine diseases, swine ID, biosecurity, disease surveillance and emergency preparedness.

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- Flip feeder design for easy cleaning
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You Can't Manage What You Don't **MEASURE**

By Darcy Maulsby

Brent Scholl isn't just thinking about his pigs when he tracks their medication records. "I want to provide safe, nutritious food and build trust with consumers," Scholl said. "Records verify that we're doing the right things."

This starts by following label directions for medications and tracking withdrawal times to ensure that no residues remain in the pork, noted Scholl, who works with his brother to run a wean-to-finish farm near Polo, Ill. Good records also provide a valuable teaching tool for Scholl's nephew, an Illinois State University student who helps on the farm.

Records keep the lines of communication open, said Phil Borgic, who works with 10 employees at his farrow-to-finish operation near

Nokomis, Ill.

"Records hold everyone accountable and help us focus on the well-being of our animals," said Borgic, who uses forms available through the Checkoff's Pork Quality Assurance® Plus (PQA Plus®) program to streamline the process. "Record keeping is just part of the culture here."

Today's successful pork producers keep a variety of useful records, including daily observation logs, medication and treatment records, employee training records, a euthanasia plan and an emergency action plan.

Measure to Manage

"You can't manage what you don't measure," said Ken Stalder, an Iowa State University Extension swine specialist and animal science professor. "Good

record keeping is not only an essential part of doing business, but it's an important part of the pork industry's **We CareSM** principles."

A third-party verification process for PQA Plus has found that producers do a good job of caring for animals, but there is room for improvements in record keeping. Producers keep medication records, for example, but may not include all the information that the U.S. Food and Drug Administration requires, such as the initials of the person who administers the treatment, said Sherrie Niekamp, director of animal welfare for the Checkoff.

To simplify the process, the Pork Checkoff provides a number of standard record keeping forms at pork.org and in the PQA Plus handbook. Recently, more than 4,000 flash drives containing the forms were distributed to producers at pork industry trade shows.

Part of Your Daily Routine

Borgic, who has been raising hogs for nearly 40 years, keeps clipboards by the door of each farrowing room and places one by the medication storage area in the gestation barn.

"With the medication records, we can make sure that individual animals receive the treatment they need," said Borgic, who files the paperwork at each farm



"Records hold everyone accountable and help us focus on the well-being of our animals," says Illinois producer Phil Borgic.

Tips to Complete a Treatment Record

Meeting the U.S. Food and Drug Administration's requirements for swine medication and treatment records doesn't have to be complicated. The "Pen or Individual Pig Treatment Record" form from PQA Plus reminds you to include:

- The date
- Animal/pen/barn ID
- Weight
- Reason for treatment
- Number medicated
- Product name
- Amount of drug given
- Advising veterinarian
- Route (intramuscular, subcutaneous, intranasal, water or feed)
- Initials of person who administered treatment
- Withdrawal days
- Date withdrawal completed
- Date and treatment results

For record keeping forms from the Pork Checkoff, go to pork.org. Click on "Certification" and then look for the PQA Plus section. Click on "Program Materials" and scroll down to "Frequently used forms" to select what you need.

Keeping Records Helps Cut Costs and Enhance Animal Well-being

where his barns are located.

Scholl, vice chair of the Checkoff's Swine Welfare Committee, relies on computerized records, although he also writes down notes when he's working in the barns. When he's back in the office, he enters this data into the computer.

"Record keeping just becomes part of the daily routine," said Scholl, who can easily review the records with his veterinarian.

And how long should you retain records? It depends on the nature of the information, according to Steve Larsen, director of pork safety at the Pork Checkoff. Medication and treatment records should be stored for 12 months after an animal is treated, he said.

"Reviewing these records with your veterinarian can help you refine your herd health program and potentially reduce medication usage," Larsen said.

Other important records, such as a euthanasia plan and an emergency action plan, should be kept on file permanently and reviewed periodically, said Niekamp, who added that updated record-keeping solutions will be emphasized in PQA Plus version 2.0, which will be released in 2013 (page 25).

"We're always looking for ways to improve record keeping, so it becomes a tool that helps producers run their farms more efficiently," Niekamp said. 🌱

Just how much more efficiently can you run your hog farm when you have accurate records? Ken Stalder, Iowa State University Extension swine specialist and animal science professor, shares his perspective.



Ken Stalder

Q

How can careful record keeping save producers money?

A

If you need to give pigs medication, for example, good records help you track whether the animals are responding appropriately to the treatment. Using medications as judiciously as possible and preventing overuse can save you money while protecting your pigs' health.

Q

How do accurate records enhance animal well-being?

A

By documenting disease symptoms you observe in your pigs, you can work more effectively with your veterinarian to provide the right treatment and administer the correct dosage. By showing that medications are being used appropriately, accurate records also help ensure that the pork industry will continue to have access to the medications that producers need to keep animals healthy.

Q

In what ways can accurate records help producers protect their business?

A

From a compliance standpoint, records are vital in the case of a residue violation. You need to be able to verify the actions you took on your farm. You can't just keep records in your head.

Q

How can record keeping help farmers build trust with today's consumers?

A

There's more interest among consumers about where their food comes from, and they want to know their food has been produced in the best way possible. This requires more transparency from producers, and careful records can contribute to this transparency. Records also fit with the pork industry's **We CareSM** ethical principles, which guide producers' efforts to provide safe, nutritious food.

Next Step in Professionalism

Pork Checkoff introduces a new Certified Swine Manager program

Whether you are an automobile technician, landscaper, Realtor or construction worker, continuous education and certification are essential. This fall, the Checkoff will introduce a Certified Swine Manager program to take pork producers to the next step in professionalism.

“This program, developed with the U.S. Pork Center of Excellence, is another tool to help develop the knowledgeable, skilled employees who are invaluable to the success

of the pork industry,” said Jim Lummus, manager of producer learning and performance for the Checkoff.

He added, “We hope producers will realize its importance and incorporate it into their leadership development programs. By making a commitment to better educate yourself, you are making a powerful statement to your producer peers, channel partners and consumers.”

While there are limited opportunities for continuing



education in pork production, the industry’s **We CareSM** ethical principles embody continuous improvement and an interest in developing knowledgeable employees. In conjunction with this goal, the new program will:

- Define a core body of knowledge needed to achieve standards in pork production
- Establish educational standards and provide resources to acquire knowledge
- Offer certification to validate knowledge gained and work accomplished

Continuing education has always been a hallmark of the pork industry.

Register for Fall Pork Production Classes



The Certified Swine Manager program outlined above will not have educational requirements, but materials and resources will be offered to help producers prepare for the certification exams. The U.S. Pork Center of Excellence (USPCE), with the Pork Checkoff, is leading an effort to develop a community college curriculum for pork production workers.

The Professional Swine Manager (PSM) curriculum will include classroom sessions, delivered

via Internet by community college instructors experienced in pork production. Hands-on learning at a farm site and facilitated by a senior production manager will be part of the program.

The courses will qualify for credit toward an associates degree, with the first courses offered this fall. Courses include Introduction to Swine Production, Sow Farm Management, Wean/Finish Management, Employee Management, Facility Operations, Production Records, and Internship/Work Experience.

The PSM curriculum provides the means to offer economical, reliable training to employees. It also targets community or technical college students interested in becoming involved in pork production after graduation.

“Completing the curriculum will help participants find employment and advancement opportunities in pork production, as well as aiding in passing the certification exams to become a Certified Swine Manager,” said the Pork Checkoff’s Jim Lummus. “And it’s a win for the pork industry, with more skilled, trained individuals in the workforce pool.”

For details, call USPCE at (515) 294-5231 or the Checkoff at (800) 456-7675.

Levels of Recognition

To become a Certified Swine Manager, individuals will have to pass assessments that verify the knowledge, skills and abilities for competent performance in swine production. Assessments will include a test and an on-the-job evaluation of mastery of production competencies in all production phases, including farm and personnel management, breeding and gestation, farrowing and wean-to-finish.

For more information, call (800) 456-7675. 



Used in seven out of every 10 nursery pig treatments in the U.S.¹, Denagard® (tiamulin hydrogen fumarate) is the trusted source for broad-spectrum control of respiratory and enteric challenges*, especially when fed along with CTC.

But the benefits of using Denagard don't stop in the nursery. When fed into the grower phase and through to finish, Denagard + CTC leads to healthier pigs with heavier finishing weights, up to 5.7 lbs heavier!² Research shows pigs fed Denagard + CTC in all production phases have better health and growth performance than pigs not medicated or fed Pulmotil®, CTC or OTC treatments alone.^{2,3}

Contact your local Novartis Animal Health representative, call 800-843-3386 or visit www.us.denagard.com for additional details on the usage of Denagard in all phases of your operation.

Warning: Observe label withdrawal times. Keep out of reach of children. Avoid contact with skin. Direct contact with skin or mucous membranes may cause irritation.

Caution: Do not feed undiluted. Do not use in feeds for animals other than swine. The effects of tiamulin on swine reproductive performance,

pregnancy and lactation have not been determined. Swine being treated with Denagard should not have access to feeds containing polyether ionophores (e.g., lasalocid, monensin, narasin, salinomycin and semduramicin) as adverse reactions may occur. If signs of toxicity occur, discontinue use.



Denagard®
tiamulin hydrogen fumarate

Take pride

¹Brumm MC, Veske P, Loula TJ. Impact of in-feed antibiotic regimens on pig performance and expression of clinical and subclinical diseases. Paper presented at: 2012 AASV Annual Meeting; March 10 - 13; Denver, Colo.

²Johnson RW. The Energy Cost of Illness in Swine. Paper presented at: Swine Energetics, University of Illinois Pork Industry Conference; December 4 - 5, 1996; Urbana-Champaign, Ill.

³Document 02.2011 GfK Kynetek Data

⁴Erlanson K, et al. Impact of Denagard® plus chlortetracycline in pigs on improving disease control as measured by improved growth performance. Paper presented at: 2012 AASV Annual Meeting; March 10 - 13; Denver, Colo.

⁵Mechler D, Hammer JM, Jacela JY. A comparison of Denagard®/CTC and Pulmotil® on nursery pig growth performance and economic return. Paper presented at: 2011 AASV Annual Meeting; March 5 - 8; Phoenix, Ariz.

The label contains complete use information including cautions and warning. Always read and follow the label and use directions.

Denagard is a registered trademark of Novartis AG, Basel. Pulmotil is a registered trademark of Eli Lilly and Company.

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PQA Plus® Tweaked for 2013

By Jordan Williams

Consumers and pork-chain customers have more than a passing interest in how today's pork is raised. That's why Illinois pork producer Phil Borgic is pleased that the revamped Pork Quality Assurance® Plus (PQA Plus®) program set for 2013 will address the changing needs of pork producers, packers, retailers and consumers.

"Pork producers are being asked to verify and continuously improve our certifications and knowledge base," said Borgic, who is on the Checkoff's PQA Plus task force. "Planned updates to the 2013 PQA Plus program are credible and will enhance the program."

Enhancements to the PQA Plus program, which will be rolled out at the 2013 World Pork Expo, include:

- **Testing** – Open-book test questions will relate to animal well-being and pork safety.

"The addition of a testing component will demonstrate producers' commitment to continuous improvement and education and enhance the pork industry's credibility," said Dinah Peebles, manager of certification programs for

the Pork Checkoff.

- **Online certification** – First-time certifications will still need to be obtained through face-to-face training with a PQA Plus advisor or trainer. However, individuals who wish to renew their PQA Plus certification will be able to do so online.

- **Site assessment** – After completing a site assessment in the revised PQA Plus program, producers will need to submit a corrective action plan for all non-compliances and follow up with the PQA Plus advisor to receive site assessment status. Site assessments will remain at the three-year renewal time frame.

Trusted Experts Put PQA Plus to the Test

Ensuring that the revised PQA Plus program will be as useful to producers as possible requires extensive input from many respected sources. The Pork Checkoff's subject committees – Swine Health, Animal Welfare, Public Health and Producer Safety, Pork Safety, Quality and Human Nutrition, Environment and Producer Services – have been discussing details of the PQA Plus

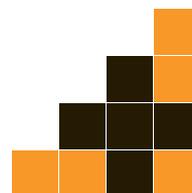
task force's direction.

Producer-led committees also are providing input on the wording of the revamped PQA Plus program.

The Checkoff's board of directors will finalize and approve the new PQA Plus program, which will be submitted to USDA's Agricultural Marketing Service for final approval.

Borgic, a long-time supporter of PQA Plus, looks forward to the revised program, which plays a key role in the industry's **We Care**SM initiative.

"Continuous improvement is essential to the pork industry's success," Borgic said. "The revisions will offer an important way for producers to show our commitment to providing a safe, quality product while promoting animal well-being and protecting the environment." 



PQA PLUS[®]
Our Responsibility. Our Promise.

Verification Process Builds TRUST

Pork Quality Assurance® Plus (PQA Plus®) is all about continuous improvement, and the third-party verification process that began in 2011 is showing producers' commitment to swine care. As of March, more than 16,000 sites had been independently assessed through PQA Plus.

Pork Board employees, has access to individual site records once the verification is completed.

Operations selected at random – Ninety pork production sites will be selected at random from the database of PQA Plus-assessed sites for third-party verification this year. The sites will receive a packet of information with details about the process and have the opportunity to decline.

“However, producers are strongly encouraged to participate in the verification survey,” said Dinah Peebles, manager of certification programs for the Pork Checkoff.

“By doing so, this sends a strong message to customers and other stakeholders that pork producers recognize their commitment to produce safe food and provide the best care for their animals,” Peebles said.

No cost – Costs for the verification are paid for by the Pork Checkoff.

The third-party verification process is designed to:

- Measure the effectiveness of the program
- Collect and aggregate the anonymous data to identify ways to improve the program's content and training methods

- Demonstrate to pork industry partners and consumers how hog farmers continuously work to improve their practices.

“The verifications help stakeholders gauge producers' commitment to the **We Care**™ ethical principles,” Peebles said. “In short, there is much at stake for all industry members.

For more information about PQA Plus or the third-party verification process, email pqaplus@pork.org or call (800) 456-7675. ☑

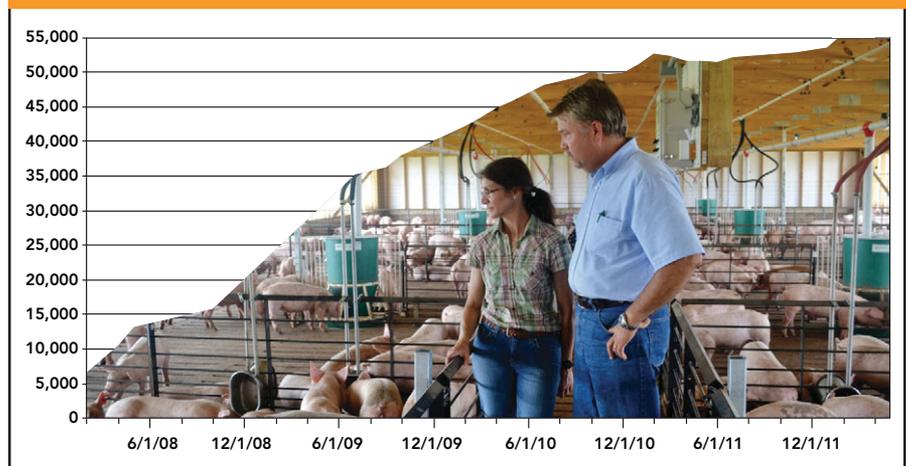


The validity of those assessments is bolstered by a third-party verification process, which includes a random sample survey of 90 sites each year. This process is conducted by Validus Ventures and the Grading and Verification Division of the Agricultural Marketing Services Livestock and Seed Program.

The on-farm survey process to verify the integrity of the PQA Plus program includes:

Third-party data – All data from the verification process are entered into the third-party database anonymously. No one, including the verifiers or the National

PQA Plus® Certified Individuals



Checkoff Research Continues to Find SOW HOUSING Solutions

The Pork Checkoff has funded \$1.2 million in scientific research on sow housing over the last decade that shows a number of production systems can work well for pigs. However, the sow-housing issue continues to make headlines.

To date, eight states have enacted legislation limiting gestation stall use. Also, there has been a flurry of announcements from pork industry customers seeking to require suppliers to provide pork from sows housed in groups rather than gestation stalls.

According to Sherrie Niekamp, the Checkoff direc-

tor of swine welfare, Checkoff studies related to gestation housing have ranged from evaluations of space allowances for group-housed sows, to an analysis of the cost of sow housing conversion, which researchers have projected to cost the pork industry \$2.7 billion to \$3 billion based on changes in the net present value of existing facilities.

“In any pork production system, the most important tool a producer has is the ability to provide care of each animal,” Niekamp said. “We hope this information will help producers fine-tune and improve the way they take care of sows by using science to evaluate housing systems.”

There are four main literature reviews that summarize the available science comparing individual housing to group housing. The reviews help the industry provide science-based answers on this issue.

- *The Welfare of Intensively Kept Pigs*, commissioned by the European Union 1997, recognizes that **there are advantages to using individual housing versus group housing.**

- A 2001 Australian study led by Dr. John Barnett showed that **the design of the swine housing system is more important to animal well-being than the housing system,** per se. It also empha-

sized that public perception issues should not be confused with animal welfare.

“In addition, this literature shows that the focus on housing systems may be to the detriment of recognizing the importance of another key factor in the pigs’ environment – the stockperson,” Niekamp said.

- A 2004 literature review commissioned by the Pork Checkoff and led by Dr. John McGlone at Texas Tech University concluded that **gestation stalls or well-managed pens produce similar states of well-being for pregnant gilts and sows,** in terms of physiology, behavior, performance and health.

- A literature review published in 2005 by the American Veterinary Medical Association concluded that **all sow housing systems now in use have advantages and disadvantages,** and there is no simple or objective way to rank housing systems for overall welfare.

Based on the literature review analysis, the Checkoff’s Animal Welfare Committee has shifted funding priorities beyond comparing individual housing and group housing.

“The Checkoff is now focusing on improving key factors to optimize specific elements of particular housing systems (see sidebar),” said Niekamp. 🐷

Delegates Act on Sow Housing

At the Pork Forum held in March in Denver, the Pork Act delegates passed an advisement to support a comprehensive strategy of education and outreach to address sow challenges and questions. This will include:

- Funding additional research to optimize sow housing systems and helping pork producers make informed decisions
- Providing producers with information and education to implement responsible sow housing
- Ensuring pork-chain customers understand consequences of their marketing decisions

Animal well-being, animal science and veterinary medicine experts will help develop the comprehensive strategy. An interim report will be provided to delegates at the 2013 Pork Forum, with a final research report to be submitted at the 2014 Pork Forum.