



# IOWA SELECT FARMS

By Lisa Lupo

Photos by Brent Isenberger Photography

## Science-Based Quality, Safety, and Welfare Practices Protect Animals and Consumers

**A**nyone who has regularly visited food or beverage processing plants is accustomed to a range of food safety precautions prior to entering—from the donning of a hair net in virtually every facility to the wearing of company-issued coveralls and boots in meat plants. However, the biosecurity levels of operations such as the sow farms of Iowa take the words sanitation and decontamination to an entirely new level. The process begins with a complete “shower in,” washing from hair to toetip—including the hair-band with which to tie back wet, now completely unstyled hair. Then, after stepping

into the clean side, donning farm-provided clothing, from undergarments to coveralls and boots, and (in my case) using a clean-side notepad and pen for note-taking—having had to leave my potentially bacteria-laden tools on the other side.

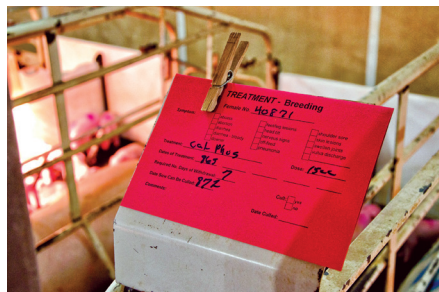
These strict biosecurity practices, as well as the indoor pens and breeding and farrowing stalls of Iowa Select Farms, are as much for the welfare of its animals as they are for the welfare of the people who will eventually consume the meat.

**ANIMAL WELFARE.** Throughout its more than 550 swine farms across rural Iowa, including boar studs, breeding and farrowing farms, and nursery and finishing farms, Iowa Select Farms' SelectCare Program ensures the humane treatment and well-being of its animals through:

- A zero-tolerance policy for willful acts of animal neglect or abuse including the signing of an Animal Welfare Policy by all employees and contractors. Any such activity, or failure to report knowledge of such an incident, results in disciplinary action including termination of employee or contract privileges and criminal prosecution if applicable.
- Employee training and testing on science-based animal care, animal handling, and best management practice compliance.
- National Pork Board Pork Quality Assurance Plus (PQA Plus) and Transport Quality Assurance (TQA) certification.
- Individual pig care and daily observation in state-of-the-art production facilities, utilizing cost-effective, science-based, humane-practice methods.
- Recordkeeping and verification of activities.
- Quarterly third-party audits and transparency through on-farm tours for processing partners and their customers.
- An Animal Well-Being Advisory Committee of outside, third-party experts along with an internal Animal Well-Being Department. Animal welfare practices are



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Ideal birth weight of a piglet is about 2.5 pounds.

intended to improve quality of life for the animals, but even though many consumers prefer to think of their meat as originating from a package in a grocery store, the ultimate purpose of these animals is that of food for humans. As such, attending to the animal's health and well-being is also important to the safety and quality of the meat on the consumer's table. "Animals that are well cared for are more productive," said Mike Faga, director of animal well-being. Having grown up on a farm, he said, "I was taught that you give animals the care you have been taught to give them and they will give back to you." The basics are adequate feed, water,

and air, then the addition of practices such as PQA Plus and SelectCare raise the animal's well-being as well as the quality and safety of the meat.

"We continually stress to everyone who works with the animals that the animal you are taking care of today could be your family's meat tomorrow," said Dr. Jeff Kaisand, director of veterinary services.

As such, the common vision of muddy pigs eating from a trough of slop is an antiquated practice for most pig farms. No longer do pork producers feed garbage or "slop" to pigs, said Ben Haberl, director of nutrition and feed. "Our pigs eat better than most people do."

According to a new study led by Scott Hurd of Iowa State University, *The Direct Relationship Between Animal Health and Food Safety Outcomes*, animal health and housing have direct effects on the quality of the meat, and ultimately, on the health of people who consume the meat. This is particularly notable in regard to diseases which can be transmitted from animals to humans.

As such, the study said, “The improved hygiene of swine production systems, which occurred with the transition from low-management outdoor production to more intensely managed indoor systems, is primarily responsible for the sharp reduction in *Trichinella spiralis*-infected pigs in the United States.”

The transmission of foodborne organisms is also reduced through indoor housing because, the study notes, “outdoor environments cannot be cleaned or disinfected easily, pathogens can persist in the soil, standing water, outdoor structures, and other micro-environments, infecting successive generations of livestock.”

In addition to its incoming and outgoing biosecurity practices, measures that Iowa Select implements to help reduce pathogenic exposure are an organized and regular-flow housing system—limiting contact between groups of animals; cleaning and disinfecting of finishing sites between each group of pigs; and emptying and cleaning farrowing rooms every three weeks.

**DISEASE PREVENTION.** In addition, disease prevention is a focus of all aspects of nutrition, sanitation, environmental management, immunizations, and parasitic control, thus the veterinarians are very much involved. One of the most prevalent diseases impacting swine is Porcine Reproductive & Respiratory Syndrome (PRRS). PRRS does not affect food safety, but is caused by a virus and is difficult to control. In fact, said PJ Corns, director of sow production, “because there are limited options for vaccination, we are managing PRRS with other techniques such as biosecurity and sanitation.”

“Iowa is a good place to raise pigs, but it can be detrimental because a lot

of people do raise pigs here,” added Kaisand. Following the example of French technology, Iowa Select Farms added HEPA filters to the ventilation systems in one of its boar stud farms. “It was a leap of faith,” Kaisand said, “We were the first to do it in the U.S.” Since this implementation, they have had no more outbreaks at this particular farm, he said. Thus, the company is gradually adding filtration systems to many of its buildings to help protect its animals.

**THE GESTATION BARN.** At the Iowa Select farm near Iowa Falls, the sow-unit farms include the breeding, gestation, and farrowing of the mature animals. Keeping the sows in individual stalls during breeding and gestation allows for individual treatment and feeding, said Chris Nydegger, sow supervisor.

Some recent consumer advocacy has focused on the confinement of gestation stalls. The industry, however, validates their use for both the welfare of the animals and the safety of the food. As are many animals, swine are naturally hierarchical, with a tendency to be aggressive and fight for dominance, Corns said. “If we were to allow them to behave in the way that is natural to them, the animals’ well-being may be compromised.”

The sows are housed in rows, numbered according to the stage at which each is, e.g., in row A, the sows have just weaned their young; in row B, the sows are almost ready to farrow; through to row F in which the sows have just been impregnated. The sows are then kept in groups, and tracked throughout the process, but each also has its own individual record and care.

Each sow also has its own feeding system, enabling individualized amounts and nutrients based on nutrient requirements, activity level, and amount consumed in a day, explained Haberl. The feed is managed to keep each sow at an optimum weight, both for her own welfare and to ensure she does have enough room in the gestation stall.

Hung above each stall is the individual’s “sow card,” on which is recorded her identification number, his-

tory, number of times farrowed, number of live births, feed requirements, etc. Additionally, if any medical attention or prescription was given, the sow will have a red card, so this can be seen at a glance. “The way that we manage them individually is key to our production success,” explained Corns. And this individual care is not simply for productivity, rather it is a focused accountability. Included in the basic morning chores are those of checking and adjusting the barn’s temperature and walking the barn’s alleys to check on each sow and make sure all are up and feeding, Corns explained.

The sows are impregnated through artificial insemination. In the past, it was necessary to walk a boar in front of the impregnated sows to instigate uterine contractions to ensure movement of the sperm. New technologies, however, enable placement of the sperm further into the uterus, so that what used to take up to five minutes can now be completed in six to ten seconds.

Old and new techniques are then combined to determine the success of the insemination and detection of pregnancy. An ultrasound detects pregnancy at 25 to 30 days, but a lack of fertilization can be determined even earlier through the age-old technique of walking a boar in front of the sows—If a sow demonstrates signs of estrus in the presence of the boar, she is not pregnant.

**THE FARROWING BARN.** When sows are almost ready to give birth, they are moved into the farrowing barn. At Iowa Select, sorting boards that are the same width as the walkways are used to help move the pigs. This improves worker safety, keeps pigs from slipping through a side, and prevents even the perception of abuse from a worker potentially using a leg or foot to block retreat. Shaker paddles and rattles also provide effective, humane tools for pig movement, Faga said.

Each sow is in a separate stall for delivery and nursing of her offspring. Room owners are specifically dedicated to the care of the farrowing sow and the piglets, including a day-one lead and assistant who attend to the birthing, assist



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where needed, and provide individual sow and piglet care. “Everything is geared around having attended litters,” Nydegger said.

Heat lamps are used to maintain temperature in the stalls at 85°F to 90°F for the piglets, and most are also dried at birth utilizing a powdered drying agent designed to prevent chilling and help get the piglets off to a better start, Faga said. Additionally, the nursing is overseen, particularly during the colostrum phase of the first 18 hours when the mother’s milk contains the highest concentration of antibodies important to the piglets’ health. To eliminate unnecessary competitive effects, the piglets which suckle more than their share during this time are temporarily removed to allow the smaller pigs to get to a teat for their share of the colostrum.

The average number of pigs in a single litter born alive is about 13 today, up from about 10.5 in the past, Nydegger said. He attributes this to genetic improvement in traits such as litter size and teat number. Relating this to teat number, Faga said, “You need to have enough plates to feed the pigs.”

However, because birth weight is inversely proportional to litter size

with weight decreasing as litter size increases, litters need to be carefully managed. Ideal birth weight, Corns said, is about 2.5 pounds, thus an area of continuous improvement for the farm is reducing variability in weight and litter size. At three weeks, the piglets are weaned and transported to a nursery or wean-to-finish site. Most Iowa Select farms are converting to a two-site system, with pigs moving directly from farrowing to the wean-to-finish site, where they are grown to market weight. For sites maintaining a nursery, the weaned pigs enter at about 12 pounds, are retained until reaching an average of 55 pounds in about four to six weeks, then are transported as feeder pigs to the finisher where they will stay for three to four months to finish their growth cycle.

The target weight for taking the pigs to market is 275 pounds, Faga said. Although Iowa Select has 37 sow farms, he added, “We keep the pigs single sourced as much as possible; taking each group from a farm to the same finishing farm.” Throughout the pig’s journey from birth to market, Iowa Select maintains strict control of its transportation. The group into which a piglet


is born is the group with which it will always stay. And following all the practices of TQA, all transport is conducted by Iowa Select Farms people in Iowa Select Farms trucks that are specific to certain farms, and these trucks are not taken to other farms or market points. Rather the pigs will be transported to a receiving area, then transferred to a separate truck that takes them on to market destinations. Such precautions help to limit the chance of any new diseases or organisms being brought back to the farm.

**THROUGH OUTPUT.** In order for the pigs to make this journey from birth to market, from birth weight of 2.5 pounds to market weight of 275 pounds, there must also be a focus on the “output” of these live animals, that is: manure management. At Iowa Select farms, the tapered floors of the barns allow for efficient scraping and flushing of the manure, which then flows into the farms’ anaerobic lagoons. At 17-feet deep, the lagoon can retain approximately 39 million gallons, said Dwain Bankson, director of environmental services.

To ensure protection of the surrounding environment, the lagoons have compacted clay liners, with rock

lining the inner berms for erosion control. In addition, site managers walk the farm to monitor the system, ensure grass and weed growth are controlled to deter rodents, and conduct a full lagoon inspection once a week. In fact, Iowa Select Farms' design and maintenance of its lagoons were one aspect that earned its Arends Sow Farm the 2001 Environmental Stewardship Award.

Although even the discussion of manure may make some wrinkle their noses and call it waste, Bankson refers to it as anything but. "In the past, it was called waste management, but that's no longer the case," he said. Today, the nutrient-rich manure is in demand as an economical fertilizer, and in the fields around Iowa Select, it takes pig production full circle—feeding the crops that feed the pigs. Although Iowa Select does not own the neighboring ground that grows the feed corn, it works in partnership with those that do. And with feed for the pigs being in excess of 60 percent of production costs, Bankson said, this partnership, as well as the use of nutrient-rich alternative byproducts, help to keep costs in line not only for the farm, but ultimately, for the consumer.

With his focus on the environment of the farm, Bankson has little actual contact with the pigs. But that doesn't keep him from being as concerned and focused on their welfare as any employee who has direct care of the animals. Instead Bankson's concluding statement may provide the best summation of the philosophy and general feel, not only at Iowa Select Farms, but emanating from the industry as a whole: "This is an exciting business for me. It is a great feeling that very few people understand. There is a commitment from local farmers, the community, and other partners in this industry to do the right thing. Our positive relationships make for a good alliance." 

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# WE CARE

## Pork Industry Nurtures Responsible, Ethical Farming

**T**oday it is a quality assurance program emulated by other industry sectors, but its genesis was simply a food safety effort intended to address the issue of sulfa antibiotic residues in meat and counter FDA's warning to "fix it or you'll lose it."

Since 1989 the Pork Quality Assurance (PQA) program developed by the National Pork Board (NPB) has grown from a way to certify education of specific food safety practices to PQA Plus, a comprehensive education and certification program that is implemented at the majority of U.S. pig farms, covers animal welfare along with food safety, and includes tests and facility assessments. As just announced at the World Pork Expo in June, the initiative is continuing to grow with the 2013 program set to address environmental initiatives and worker safety as well. The program is being developed by a task force of pork producers with the advice of veterinarians, animal science experts, and animal welfarists seeking to determine what the next iteration should be, NPB CEO Chris Novak said.

Today's PQA Plus program was developed in 2007 with input of producers and other interests in the food supply chain, Novak said, adding, "It stands as

a great example of how farmers seek new and better farming methods to bring quality pork products to the marketplace." The evolution of the PQA program over the last 20 years has provided a means for delivering on-farm education and training to farmers and their employees, he said.

PQA Plus is a demonstration of the commitment to We Care—a movement

led by farmers and the industry launched in 2008 to share the story of responsible farming by outlining the industry's values and ethical principles and defining how farmers engage in and actively promote responsible, ethical practices in all areas of production, including animal well-being, food safety, environmental stewardship, public and community health, and worker safety, Novak explained.

As defined in its manual, PQA Plus is "a continuous improvement program that outlines Good Production Practices (GPPs) in the areas of food safety and animal well-being. It delivers the latest in scientific research and improved production practices to the farm and production employees."

PQA Plus certification involves training and assessment:

- Individuals can become certified through an education program.



Chris Novak

- Producer farms can receive PQA Plus site status designation through an on-farm site assessment by a third party.
- Additionally, as part of a program verification process, sites are randomly selected to participate in on-farm survey, the results of which track the program's progress, identify opportunities for improvement, and target future industry education. "Education is topline, but we are working to have a tree of information beneath each general principle," said Novak. PQA has never been a required program—nor can NPB legally set standards for the industry that would affect the ability of producers to go to market, Novak said. Rather, "we handed PQA to packers asking them to use it to help show FSIS how they addressed the HACCP requirement. It is an industry program that can help satisfy parts of the residue issue within HACCP"

The site assessment is conducted by a PQA Plus advisor—an independent, trained individual, such as a veterinarian or extension specialist—and covers various GPPs, including GPP #10 which is focused on animal well-being and other food safety aspects. Intended to be an educational tool for continuous improvement, the advisor notes minor, major, or egregious operational errors then discusses these with the operations management. The assessment remains the property of the operation and is not made public, but it is the responsibility of the producer to address any errors, explained Paul Sundberg, NPB vice president, science and technology. Once assessed, the operation is then put into the pool of eligibility for a third-party program verification survey. In essence, he said, "the assessment is preparation for the survey."

Jodi Sterle is an associate professor in Iowa State University's department of animal science and a state extension swine specialist who conducts PQA assessments and works with youth who raise pigs or are considering careers in pork production. Similar concepts apply when working with both and discussing the need not only for treating animals well, but also for considering the

perception of everything that is done. Sterle phrases the challenge as: "Are you YouTube ready?" This focuses both on the daily practices conducted in the operation as well as on the need for the industry to be transparent and contribute to consumer's understanding of the production process—as well its complexity and the industry's commitment.

"Programs like PQA put the backbone to this, give us a story to tell, and give us the data to communicate," Sterle said. "Forty years ago there was a difference between children, pets, and livestock. But today pets are treated like children, so where do livestock fit?" Because the average consumer has no contact with the world of meat production, there is little understanding of today's processes or needs.

"We wouldn't be in this business if we didn't care about pigs," Sterle said. "We have zero tolerance, but we have to clean up our own backyard or someone else will."

**CONTINUED EVOLUTION.** PQA Plus continues to expand its roots in the industry, with all the major pork packers currently requiring their supplying operations to be PQA Plus educated and certified, Sundberg said. In addition, many retailers, realizing the need for standardization and continuous improvement, are beginning to make such requirements to their packers. Although the results of an assessment are not revealed outside the operation, packers can access records verifying that an operation has been assessed. PQA Plus has evolved to meet the needs and expectations of the supply chain, he said.

NPB also has access to general survey results to determine overall industry compliance and need for education. From the surveys, the board is seeing:

- 98 to 99 percent compliance in veterinarian/customer relationships, body condition of the animals, and housing
- 80 to low 90s percent of compliance in records maintenance for medical treatment.

As a result, future emphasis in PQA Plus training will be given to the

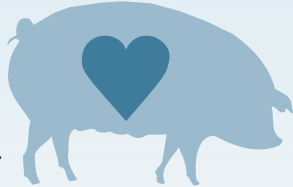
record-keeping aspect to increase compliance, Novak said.

While procedures such as the use of gestation stalls are being challenged by advocacy groups, Novak explained that PQA Plus was designed to focus on the individual animal. "Our belief and our commitment is that PQA Plus is in line with global perspectives and is consistent with a focus on the health and well-being of the animal," he said.

Physical space considerations are covered as part of GPP #10, *Provide Proper Swine Care to Improve Swine Well-Being*, and give general guidance on appropriate spacing requirements, while recognizing that each farm has a unique set of characteristics, Novak added.

"Acknowledging that many factors can influence an animal's overall well-being, GPP #10 instructs caretakers on their responsibilities for all aspects of well-being, including proper housing, management, nutrition, disease prevention and treatment, responsible care, humane handling, and, when necessary, humane and timely euthanasia."

As CEO of the board, Novak's goal is to strive for continuous improvement in the training and education of the industry in what it means to be a professional pork producer. "It's not as simple as the animal has to turn around; it's not as simple as no pink slime," Novak said. Determining best practices for both animal welfare and food safety involves critical evaluation by scientists and technicians along with a balancing act to provide what is best for both the animals and people.

"I hope to continue to ensure that we are training the next generation of workers to understand not just what they do on the farm, but why," he said. With nearly 75 percent of pork producers voluntarily choosing to participate in PQA Plus, Novak added, "It makes me proud to serve but also challenges me to say, 'What does the next level look like?'" 

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