How do Veterinary Professionals Decide “What’s Best for the Animal?”

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Let’s start with what we all have in common regardless of the path we take as veterinarians. It’s our Veterinarian’s Oath, and it reads: I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health and welfare, the prevention and relief of animal suffering, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge. I will practice my profession conscientiously, with dignity, and in keeping with the principles of veterinary medical ethics. I accept as a lifelong obligation the continual improvement of my professional knowledge and competence.

The Oath guides us to use science and medical ethics in our veterinary practice. The Oath does not define differences in veterinary practices for food animal and companion animal medicine. The responsibility of all veterinarians is to do what is right for the animal first. For food animal veterinarians like me, who practice herd health medicine, what is best for the animal is often based on what’s best for the health of the herd, while the practice of companion animal medicine is largely based on what’s best for each individual pet. With these differences in mind, how do we decide what’s best for a food animal versus a pet? First let’s take a look at what swine veterinarians do to take care of pigs that are raised for food.

A swine veterinarian’s job is to protect the health and welfare of pigs, as well as food safety and public health. It’s a job that keeps evolving as farming methods continue to change. With the help of swine veterinarians, pig farming and pigs have changed more than any other sector of animal agriculture during the last 50 years. Veterinarians have had a significant influence on how pigs are raised, from the design and construction of housing, to nutrition management, to the training of farm employees, and the list goes on. We’re focused on preventive medicine, animal welfare, herd health and public health. We provide advice on disease prevention and treatment, biosecurity, production management, genetics and nutrition.

Swine veterinarians play a big role in pig farming, and have an important role in the discussion about the science and ethics of animal care and welfare on today’s farms. The discussion about modern pig farming practices related to animal welfare focus primarily on animal housing, health management tools, pain management, and euthanasia. Every environment and every animal housing system has its benefits and challenges, and there are multiple factors for farmers to consider. The primary housing systems available to pork producers are pasture, hoop barns, and specialized barns. Raising pigs outdoors appears to have clear advantages for the animal. The pigs have room to roam and the ability to root and forage. However, being outdoors creates several challenges for the pigs and the farmer that include bad weather, parasite control, disease spread by wild animals, and keeping predators away. Hoop barns are tent-like structures that have concrete sidewalls. The housing system relies on deep bedding to absorb manure and natural airflow for cooling pigs in the summer. They offer pigs some exposure to the outdoors while providing them with protection from predators. They also have some drawbacks that include cooling pigs in hot weather, keeping manure away from the pigs, identifying and treating sick pigs, cleaning and disinfecting the barn to control disease, and exposure to parasites. Specialized barns give farmers a lot of control over managing each pig’s health and the health of the herd. The barns can be designed to manage pigs through each phase of their growth cycle, and include breeding and birthing units, nurseries, and finishing barns where pigs grow to market weight before they are sold. The barns are climate controlled in the winter and summer, provide protection from parasitic exposure to the outdoors and hundreds of pigs can be housed in the same barn, so biosecurity measures to prevent disease require constant attention. Many farmers moved their pigs into specialized barns during the last 30 years as agriculture science and technologies pushed forward to address animal health. Because pigs overall are healthier, sows are giving birth to more piglets per litter. And because the survival rate continues to improve for piglets, more of them get a stronger start. That means they grow bigger and healthier, and produce more and better meat than ever before. That’s why, since the 1960s, annual meat production per sow has more than doubled. (Source: USDA/NASS - Ron Plain, University of Missouri, 2009). The combination of modern housing systems, along with better nutrition, breeding practices and disease prevention, have resulted in healthier, more productive pigs.

All of the housing systems previously mentioned allow pigs to move about to a large extent in groups.

Housing options for pregnant sows can differ somewhat. The AVMA and AASV (American Association of Swine Veterinarians) say that regardless of the type of housing system in use, all sow housing systems should minimize aggression and competition among sows; protect sows from detrimental effects associated with environmental extremes, particularly temperature extremes; reduce exposure to hazards that result in injuries, pain, or disease; provide every animal with daily access to appropriate food and water; facilitate observation of individual sow appetite, respiratory rate, urination and defecation and reproductive status by caregivers; promote good air quality and proper sanitation; and allow sows to express most normal patterns of behavior. The AVMA also adds that adequate quality and quantity of space should be provided. The primary options pork producers have available for pregnant sows include group pens and individual stalls. Each system has unique advantages and disadvantages for the sow.

In group pens, sows have the benefits of social interaction, and room to move around the pen. At the same time, those benefits create challenges for the sow including injuries from scratching and biting, lameness from fighting, and competition for food and

383
water. In groups, pigs, just like many other animals, develop and establish a dominant social order, which can be aggressive at times. Studies published by the Council of Agriculture Science and Technology (CAST) show that the amount of fighting among sows and the resulting injury and social stress are substantially greater in sows kept in group pens rather than individual stalls. There are also benefits and challenges for gestating sows in individual stalls. The stalls are widely used by farmers to ensure proper nutrition, monitor individual health, and manage sow aggression. The challenges for sows in gestation stalls include restricted movement and limited social interaction. Individual farrowing stalls are also used to protect sows and their piglets immediately after birth and during the weaning process. The highest losses in the pig lifecycle occur within 3 to 4 days of birth. Farrowing stalls are widely used to protect newborn pigs from being crushed by sows that sometimes accidentally lay on them, manage sow aggression, and ensure proper nutrition for the sow and her piglets through the weaning process. There is broad consensus in the veterinary community that the key to ensuring animal welfare for pigs rests primarily with the caretaker regardless of the housing used. The executive director of the AASV noted in the *Journal of the American Veterinary Medical Association (JAVMA)* that: “Gestation stalls and pens each have advantages and disadvantages. Each can provide for sow’s welfare when properly managed, and caretakers’ skills are the most important factor.” (Source: Dr. Tom Burkgren, AASV, JAVMA News: Vol. 241, No. 3, August 1, 2012).

Farmers have made a commitment to animal welfare training. During the last 20 years, the National Pork Board has implemented caretaker training and certification programs to address animal welfare. Pork Quality Assurance Plus® (PQA Plus®) is a program that helps farmers measure, track and provide training for things like food safety, animal care and disease prevention. Nearly 62,000 pork producers have been trained and certified through the program. (NPB, April 2015). Transport Quality Assurance® is a program that focuses on teaching the proper handling and transport of pigs to ensure their well-being at every stage of life. Almost 30,000 farm workers have been trained and certified through the program. (NPB, November 2014).

Pork producers also rely on science and technology to help them optimize pig health, and reduce and prevent disease. Their health management tools include genetics, with the focus on consistently breeding animals with the optimum traits such as female lines for productivity and terminal cross boars for growth and carcass; nutrition, with the focus on feeding herds a prescribed diet, controlling nutrients and optimizing proteins, and carefully managing pig diets at every stage of growth; and strategic medicine, with the focus on disease prevention and control, vaccinations and medications, most of which are used under the supervision of a veterinarian.

Strategic medicine also helps pork producers raise healthy pigs. Farmers work closely with veterinarians to develop a comprehensive herd health program, which may include the use of antibiotics. When treatment is needed, it’s based on the recommendations from veterinarians and in strict compliance with FDA rules. Pork producers, with input from veterinarians, have long used FDA approved antibiotics as part of an overall herd health management program. In recent years, public perception about these practices has called into question what’s best for the animal and for our food supply. Farmers are also adapting to changing FDA regulations that are significantly impacting their access to some antibiotics and how they can be used. When pigs are treated with antibiotics, there are safeguards in place to protect the food supply. The FDA, with its rigorous scientific processes, approves antibiotics and regulates how antibiotics are used in food animals on the farm to ensure safe food. To obtain FDA approval for any drug, the drug’s sponsor must demonstrate the drug is safe for animals, humans, and the environment. Producers must follow label directions and utilize appropriate withdrawal times. The USDA’s Food Safety and Inspection Service (FSIS) tests meat to ensure there are no harmful residues entering the food supply.

Veterinarians and farmers have had long-standing FDA approval to use antibiotics in food animals, as described on drug labels, for disease treatment, prevention, and control, and for nutritional efficiency or growth promotion. Antibiotics may be injected and/or used in feed or water for controlling disease when pigs are most susceptible to illness, and for treating sick pigs. Certain antibiotics are also used in feed for nutritional efficiency and as a group are called antibiotic growth promotants (AGPs). Used in this way, they keep the animals healthy, and healthy animals need less feed per pound of weight gain. This is the area where FDA rules are changing for certain antibiotics that are deemed medically important for human health – effective January 1st, 2017, AGP use will go away for these medications and veterinary oversight will increase. Affected feed medications will only be allowed to be fed under a Veterinary Feed Directive or VFD. Affected water medications will be available by veterinary prescription only. Over the counter sales of medically important feed/water antibiotics will be discontinued. While these changing FDA regulations will limit how farmers gain access to some antibiotics for their food animals, the FDA is clear that farmers need these medicines for their animals. The FDA states the following on its website: “FDA also believes strongly that sick animals need treatment, and that these antimicrobial drugs should remain available for the purposes of treating, controlling or preventing disease in food-producing animals.” (Source: http://www.fda.gov/animalveterinary/guidancecomplianceenforcement/guidanceforindustry/ucm216939.htm)

The National Pork Board’s PQA Plus program already educates producers about good on-farm production practices, including responsible antibiotic use, and will focus more resources on training farmers how to comply with the new FDA rules. A core component of PQA Plus training involves these guiding principles for Responsible Antibiotic use: Principle I: Take appropriate steps to decrease the need for the application of antibiotics; Principle II: Assess the advantages and disadvantages of all uses of antibiotics; Principle III: Use antibiotics only when they provide measurable benefits; Principle IV: Fully implement the management practices
described for responsible use of animal health products into daily operations; and Principle V: Have a working veterinarian-client-patient relationship (VCPR) and follow the responsible antibiotic use guidelines.

The pork industry is supporting the FDA’s changes in antibiotic use on the farm through a number of programs that will help educate pig farmers and fund research to find better ways to use antibiotics for disease prevention and treatment. The National Pork Board 1) has created a Blue Ribbon Panel On Antibiotics that includes veterinarians and professors, representatives from McDonald’s and Walmart, and the former Center for Disease Control (CDC) Director of the Office of Antimicrobial Resistance; 2) is funding $750,000 in new research to look at how farmers can improve their use of antibiotics and for alternatives for disease prevention and treatment (that’s in addition to the $5.3 million that has been spent on research since 2000); 3) is stepping up education and evolving certification programs like PQA Plus with an emphasis on responsible antibiotic use; and 4) is increasing industry communication to keep pig producers up-to-date on FDA rules so they are in compliance with antibiotic use.

What about hormones and pork? Bottom line, there are no hormone-containing products approved for U.S. pork producers to use in nursery, grower or finisher pigs. The USDA's Food Safety and Inspection Service is responsible for ensuring the truthfulness and accuracy in labeling of meat and poultry products. Its policy regarding meat labels promoting “no hormones” states the following: *Hormones are not allowed in raising hogs or poultry. Therefore, the claim “no hormones added” cannot be used on the labels of pork or poultry unless it is followed by a statement that says, "Federal regulations prohibit the use of hormones.”* (Source: http://www.fsis.usda.gov/FactSheets/Meat & Poultry Labeling Terms/index.asp).

Keeping pigs isolated from disease is another important herd health tool that pork producers use. Access to barns is strictly controlled to keep people from exposing pigs to disease. Some producers require that people who work with their pigs first shower and put on clean coveralls and boots. Additional disease prevention measures include disinfecting any tools that are brought into the barns from outside. Barns are also kept clean with regular high-pressure washing and are disinfected and dried prior to restocking with a new herd to prevent disease from spreading among the pigs. Farmers also use modern herd management practices to prevent the introduction of disease. In all-in/all-out (AIAO) management systems, pigs are moved into and out of barns in distinct groups. By preventing the commingling of pig groups, farmers reduce the spread of disease. Facilities are cleaned and disinfected thoroughly between groups of pigs.

Unlike companion animal medicine, there are no FDA-approved drugs labeled for pain management in swine. Any product used for this purpose in pigs can only be used under provisions of the FDA’s Animal Medicinal Drug Use Clarification Act (AMDUCA). The act says FDA-approved drugs can be used in food-producing animals only when the health of the animal is threatened or suffering or death may result from failure to treat the animal. These products can only be prescribed by a veterinarian with a valid VCPR and use of these products must not result in any harmful residues. (Source: https://www.avma.org).

What about euthanasia considerations in swine, another area that differs from companion animal medicine? When a pig becomes sick or injured, farmers are faced with two courses of action: treatment or euthanasia. In some cases, euthanasia may be the best option for the well-being of the animal and the food supply. National organizations representing pig farmers, in partnership with the AASV, have issued guidelines to educate animal caretakers on humane euthanasia methods. These guidelines provide clear, detailed instructions on how to perform euthanasia.

What about pig farming and the environment? Modern pig farming practices have not only helped farmers raise healthier pigs, but the pigs grow bigger and provide more and better meat than ever before. In the last 40+ years, pork producers have doubled the amount of pork they produce. At the same time, farmers have also significantly reduced the amount of natural resources they use to raise pigs.

Compared with hog farms in 1959, farmers today are using 78% less land, 41% less water, and have reduced their overall carbon footprint by 35. Reducing the pork industry’s impact on the environment is also the focus of the National Pork Board’s Sustainability Effort. This multi-year research program has been studying the four elements of pork production sustainability: 1) carbon footprint (greenhouse gases); 2) water footprint; 3) air emissions footprint; and 4) land use footprint. These studies have already resulted in production management tools for farmers that factor in all industry inputs and outputs for all stages of pork production. We also know that pig farming is actually one of the smallest sources of emissions. The Environmental Protection Agency (EPA) estimates that the pork industry contributes approximately one third of one percent of the total U.S. emissions. (Source: Data from EPA GHG Draft Inventory 2013). Farmers are determined to reduce that figure even more by using the latest technology and modern farming practices.

Another outcome of the science behind today’s pig farming can be found in the meat case. Pork tenderloin is now as lean as skinless chicken breast. The seven most common pork cuts are, on average, 16 percent leaner than 25 years ago, and saturated fat has dropped 27 percent. (Study conducted by USDA in conjunction with the University of Wisconsin-Madison and the University of Maryland). In 2012, the American Heart Association (AHA) certified pork tenderloin as a heart-healthy food and gave it the trusted Heart-Check mark, designating it an extra lean meat. This certification means that pork tenderloin has been screened and verified by the AHA and the Heart-Check mark can be displayed on pork tenderloin package labels to help consumers make heart-healthy food choices in their grocery store.
When you hear about animal welfare initiatives, remember the science and the Veterinarian’s Oath that underpins all of our work as veterinarians. The responsibility of all veterinarians is to do what is right for the animal and protect herd health. As an industry, pig farmers and the veterinarians who work with them do not tolerate animal abuse. It just makes sense, because the animals with the best care are the most productive. The pork industry has established its own guiding principles called WE CARE® to promote responsible and ethical farming practices, and continuous improvement. Through this program, pork producers pledge to put the highest ethical standards into practice every day to produce safe and nutritious food, protect and promote the well-being of their animals, protect the public health through all of their production practices, provide a safe workplace for their employees, make their community a better place in which to live, and safeguard their environment.