Serving Pennsylvania’s Farmers

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Recommended Citation
Shepard, Louisa (2015) "Serving Pennsylvania’s Farmers," Bellwether Magazine: Vol. 1 : No. 84 , Article 7. Available at: https://repository.upenn.edu/bellwether/vol1/iss84/7

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“Our goal has been to assemble a team of nationally and internationally recognized experts to ensure that we can provide unparalleled expertise and create a competitive advantage for Pennsylvania agriculture.”

—Dr. Thomas Parsons, Director of the Swine Teaching and Research Center at New Bolton Center
Among their many important duties, New Bolton Center veterinarians advise dairy and swine farmers on how to more efficiently manage their herds to increase productivity. In addition, New Bolton’s diagnostic labs are essential to managing food safety, for animals and humans. “Not only do New Bolton Center experts provide training for animal practitioners, but they also conduct research that benefits the health of food animals,” said Russell C. Redding, Pennsylvania Department of Agriculture Secretary. “New Bolton Center is a needed resource for the agriculture industry.”

PIONEERS OF DAIRY NUTRITION AND PRODUCTION

Since dairy is the largest component of Pennsylvania agriculture, Penn Vet’s commitment to exceptional veterinary care is vital to the success of this industry. Beyond medical care, New Bolton Center veterinarians work closely with farmers on dairy herd nutrition, production, and management. Drawing from their experience, and using software developed by Penn Vet’s Center for Animal Health and Productivity (CAHP), veterinarians in the Field Investigations Unit can perform a detailed analysis of dairy operations.
“We do a whole workup when we consult with a farm,” said Dr. Linda Baker, Staff Veterinarian in Animal Production Systems at New Bolton Center. “We work to solve the immediate problem, but then we look around and make other recommendations, if needed.”

“AN EXTREMELY VALUABLE RESOURCE”

New Bolton Center’s Field Investigations Unit is part of the Pennsylvania Animal Diagnostic Laboratory System (PADLS). New Bolton Center, in Kennett Square, is one of just three PADLS locations, along with laboratories at Penn State University in University Park and the Pennsylvania Department of Agriculture in Harrisburg. Joining Baker in the Field Investigations Unit is Staff Veterinarian Dr. Joe Bender.

Tim Beck, Extension Educator in Dairy Business Management at the Penn State Cooperative Extension in Cumberland County, has worked with both Baker and Bender on dairy farms throughout south-central Pennsylvania.

“Their knowledge of dairy nutrition, production, management, and health provides an extremely valuable resource to the dairy producers they serve,” Beck said. “Their combined ability to troubleshoot production areas for improvement, along with their highly skilled dairy nutrition expertise, helps the farms gain a financial edge in a very competitive dairy environment.”

Nutrition is a critical part of dairy farming: what a cow eats directly affects her health, and also her milk production. Baker said many of the problems they discover involve metabolic issues, known as “transition cow problems,” as cows move from the dry period into lactation after calving. This post-calving time is critical for dairy cows, she said.

“If the nutrition is not calibrated perfectly, there can be life-threatening complications to the cow,” Baker said. “There has to be a balance in the cow’s feed, particularly energy and protein.”

Corn silage, the main component of a dairy cow’s diet, is made by chopping the entire corn plant. Field veterinarians can advise on planting, harvesting, and storing corn silage, the main component of a dairy cow’s diet.

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IMPACTING THE INDUSTRY

“The team of experts at New Bolton Center has worked to provide a number of powerful tools, which are changing the way Pennsylvania’s 7,300 dairy producers use complex information to make profitability decisions on farms,” said John Frey, Executive Director of the Center for Dairy Excellence, emphasizing the value of Penn Vet’s Dairy Analyzer computer program.

Because of their broad expertise, Baker and Bender sit on “profit teams” for dairy farms, along with a farmer’s local vet, feed salesperson, and financial advisor.

“It’s a team approach to figuring out how this farm can get better,” Baker said. “Often nutrition and feeding management need attention, but we also look at reproduction, milk production, costs, and cropping decisions.”

The dairy field investigators also work with a range of faculty at New Bolton Center—in Medicine, Field Service, Pathology, Toxicology, and CAHP—to handle sudden herd problems or disease outbreaks.

Penn Vet’s strong relationships with Pennsylvania farms make it possible for students to gain real-world experience beyond New Bolton Center’s Marshak Dairy.

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“We Penn Vet students get to see different farms with different problems,” Baker said. “By giving them that broad perspective of the Pennsylvania dairy industry—some farms have 500 cows and others have 50—we can better prepare them for a career in veterinary medicine.”

Beyond serving Pennsylvania’s dairy farmers, Penn Vet has impact on an international scale. This past June, Baker and the CAHP team went to China, where they conducted a veterinary training course on dairy nutrition, reproduction, mastitis, and diseases at Zhejiang University. In previous years, they met with China Agricultural University and Northwest University, as well as dairy producers, about corn silage harvest and storage techniques.

STEWARDS OF SWINE HEALTH

Infectious disease can be disastrous to a swine operation, which is why farmers throughout Pennsylvania are working with New Bolton Center experts to track farms where infected pigs are located, and implement biosecurity practices to minimize the spread of diseases.

Dr. Meghann Pierdon, a veterinarian and researcher at Penn Vet’s Swine Teaching and Research Center, manages...
the day-to-day operations of the Pennsylvania Regional Control Program for swine disease, funded by the Pennsylvania Pork Producers Council.

One of the first and largest of its kind in the country, the program was put into place several years ago to help control the most costly disease that swine farmers face: Porcine Respiratory and Reproductive Syndrome (PRRS). The program was expanded two years ago to monitor the outbreak of an equally devastating and emerging pathogen, Porcine Epidemic Diarrhea virus (PED).

Pierdon has the important job of regularly updating a secure website with the program’s map, which pinpoints locations where pigs have tested positive for diseases.

“The regional control program has been instrumental in helping the industry understand the scope and impact of this new disease, PED, and the best measures of biosecurity to stop the spread of the deadly virus,” she said.

INDUSTRY PARTICIPATION UP, SWINE DISEASE DOWN

Since Pierdon took over management more than two years ago, the industry’s participation in the control program has nearly doubled to almost 100 members, and swine disease levels across the state have markedly decreased. At the end of 2012, 24.5 percent of pigs in the program were located on farms positive for disease. That number declined to 17 percent by the second quarter of 2015.

The collaboration among the farmers, who historically have been reluctant to share information with their competitors, is unprecedented, said Dr. Thomas Parsons, Director of the Swine Teaching and Research Center at New Bolton Center.

“Every quarter we get all the farmers in the room and they talk about disease problems,” he said. “Previously these topics would have been business secrets, but they realize that some of these diseases are bigger than themselves and require a team approach to control.”

Dr. Jessica Risser, the Animal Health and Welfare Manager for one of the largest pork producers in Pennsylvania, said swine producers realize cooperation in the control program is necessary to eradicate the two devastating diseases.

“The program has been effective in opening the communication doors across systems,” said Risser, a veterinarian for Country View Family Farms. “The website has been a great tool to aid in the rapid communication of disease breaks.”

Parsons emphasizes that the disease control program is only one aspect of the breadth and depth of the Swine Center’s expert team, which includes two PhD ethologists, who study swine behavior, and four veterinarians who specialize in swine health and husbandry.

Parsons is best known for his research on swine welfare, specifically housing for the mother sows. Parsons and his team created the pioneering “Penn Gestation” model, a housing alternative that eliminates gestation crates commonly used by commercial pork producers and allows sows to move about freely.

“Our explicit mission is to serve the farmers of Pennsylvania,” Parsons said. “Our goal has been to assemble a team of nationally and internationally recognized experts to ensure that we can provide unparalleled expertise and create a competitive advantage for Pennsylvania agriculture.”
AN ONLINE MAP TO TRACK DISEASE

Using a geographic information mapping system (GIS), Pierdon maintains an online map detailing the disease status of 542 swine farms, representing about 90 percent of the pigs in the state.

“Dr. Pierdon has been great at keeping us organized, accountable to reporting our data, and has helped to track our progress toward PRRS and PED control,” Risser said.

Outbreaks of active disease are pinpointed by farm on the map, available through a secure website hosted by pharmaceutical company Boehringer Ingelheim. Pennsylvania’s swine veterinarians also access this site to post information about recent disease outbreaks. Program members are notified so that changes in disease status are available in a timely manner.

Pierdon faxes or mails the map to those in the Amish and Mennonite communities who do not have access to the Internet—about 10 percent of the members in the program.

“It’s important information, so that the stakeholders don’t take disease from farm to farm,” Parsons said, noting that program members also include those from service industries. Preventing a feed truck that has been on a farm with active disease from going directly to other swine farms is one obvious way to reduce disease spread, he added.

“This is very much a partnership,” Parsons said. “We are the stewards, and provide infrastructure and guidance, but the farmers make the decisions. For the program to be effective, it has to be their program.”