

Research Center Fights Mastitis

UNIVERSITY PARK (Centre Co.) — Scientists at Penn State are teaming up to combat mastitis, the costliest disease of dairy cattle.

"By reducing milk production, ruining udder tissue and even killing dairy cows, mastitis causes losses amounting to \$2 billion in North America each year," said Dr. Lorraine Sordillo, assistant professor of veterinary science in Penn State's College of Agricultural Sciences and director of the university's Mastitis Research Center.

"Studies have shown that mastitis can cost up to \$200 per cow every year," she said. "Despite continuing research, the disease remains a serious problem. Too many producers and scientists seem to take mastitis for granted, as if it inevitably comes with the territory. But the scientists in our center are dedicated to eliminating mastitis."

The Center for Mastitis Re-

search informally unites more than 15 researchers who share an interest in the disease. It cuts across departmental and college boundaries, bringing together faculty in dairy and animal science, immunology, molecular and cell biology, veterinary science and other disciplines.

"Mastitis is a complex disease that involves many factors," Sordillo said. "The center enables researchers studying mastitis from different angles to share their knowledge and perspectives. This will strengthen our efforts to combat the disease."

"Pennsylvania's the fourth largest dairy state in the nation, so having a large number of scientists and educators interested in mastitis at Penn State is a real boon," she said. "We're in the right place at the right time, and we hope to make a big dent in mastitis losses both in Pennsylvania and in the nation."

Although the center is not yet a formal university facility, its members approach their mission aggressively.

One of their efforts has been to enhance the Mastitis Research Farm on Penn State's University Park Campus. Located behind the Animal Diagnostic Laboratory, the farm has a milking herd of 22 cows. Facility improvements to be finished this month will increase the free-stall barn's capacity to 50 cows.

The group also has developed a strategic plan for slashing mastitis' economic impacts and for eventually thwarting the disease itself. The center's efforts include basic and applied research projects as well as extension programs that help producers apply research results in the barn or milking parlor.

Current studies and projects include:

- The effects of vitamin E and

selenium on dairy cattle immune cells.

- The role of milking machines in mastitis problems.

- Methods of increasing udder defense mechanisms.

- Management practices that can reduce mastitis costs and risks.

- Differences between healthy and infected mammary cell growth and function.

- Genetic and hormonal factors in mastitis risk and prevention.

- A computerized expert system to help producers troubleshoot mastitis problems.

"We take a proactive approach," Sordillo said. "Often producers have to take a reactive approach—they wait until an animal gets sick before they worry about mastitis. We think prevention is better than cure, so we're seeking ways for producers to keep cows disease-free, whether through management techniques,

selective breeding, hormones, immune system enhancers or other methods."

The center's members meet monthly to share information, research results and news from the dairy community.

"Our team includes scientists and extension specialists, so we have a good exchange of information," she said. "The research scientists keep us posted on the latest findings while the extension specialists make us aware of, and responsive to, producer's needs."

Sordillo says this helps the center's research efforts continue to be relevant, while giving extension and educational programs a direct line to the most current information. It's an approach Sordillo believes will ensure the center's success.

"The Center for mastitis Research is just getting started," she said. "In the future, we hope to expand and collaborate with scientists at other universities and perhaps in other nations."

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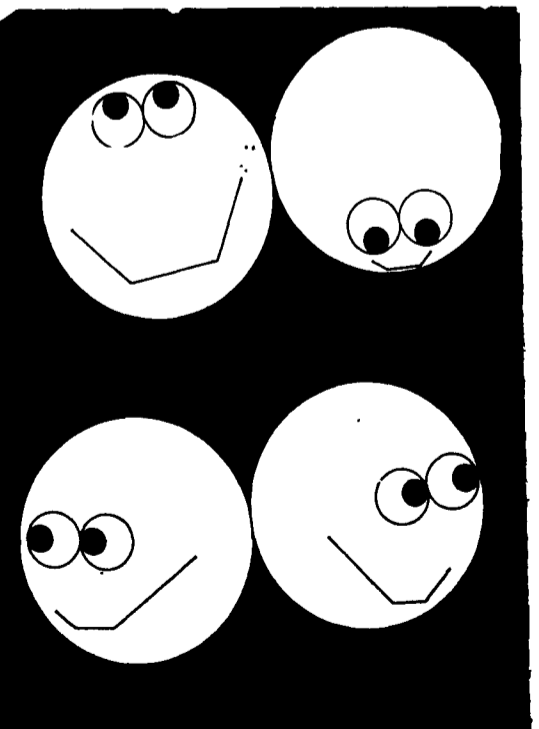
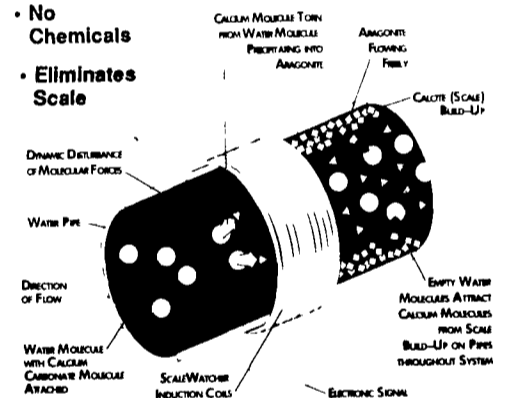
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