

## Brief Backgrounder Mark Rasmussen

**Mark Rasmussen** is supervisory microbiologist and director of the Division of Animal and Food Microbiology in the Office of Research at the U.S. Food and Drug Administration's Center for Veterinary Medicine in Laurel, Md. He provides technical guidance and research support for regulatory decisions on drugs, feed additives and contaminants in animal feeds. For 20 years, he worked as a scientist and research leader at the USDA-ARS National Animal Disease Center in Ames, including serving as a collaborating faculty member in Iowa State's animal science and biomedical sciences departments. He also has farmed full-time in Nebraska (beef, grain and forages) and held research positions in private companies, including development of methods to cultivate algae in capturing carbon dioxide from coal-fired utility plant emissions.

### Education and honors

Rasmussen has both a B.S. (agriculture) and an M.S. (animal science) from the University of Nebraska, a Ph.D. in dairy science from the University of Illinois and an M.B.A. from Iowa State University. He received the USDA Honors Award for Food Safety in 2004, the ARS Award for Superior Technology Transfer Achievement in 2003, an Iowa "da Vinci" citation for science, engineering and technology development in 2001 and an R&D 100 Award for carcass contamination imaging technology in 2000.

### Research, extension and teaching focus

With the Center for Veterinary Medicine, he has studied the microbiology of animal feed, including work on distillers grains, and the use of plant secondary compounds to prevent bacteria in an animal's gastrointestinal tract from becoming resistant to antimicrobial drugs. He teaches a current course in animal health management at the University of Maryland; previously, he taught graduate courses in rumen microbiology and sociology at Iowa State University. He has served as adviser or committee member for 18 graduate students.

### Research funding

Since 1993, he has worked on 22 grant projects totaling nearly \$3 million on research that includes microbiology of feeds, antimicrobial resistance in bacteria, microbiology of the GI tract and nutritional physiology of animals, pre- and post-harvest food safety, toxicology and plant toxins and bioenergy and biofuels. He holds two U.S. patents related to his research.

### Recent scholarly publications

Rasmussen lists 53 articles in peer-reviewed journals and 22 technical reports, articles and patents.

- Brewer, M., Xiong, N., Dier, J., Anderson, K., Rasmussen, M., Franklin, S., and Carlson S. 2011. Comparison of *Salmonella* conjugation and virulence gene hyperexpression mediated by rumen protozoa from domestic and exotic ruminants, *Veterinary Microbiology* 151:301-306.
- Adhikary, R., Mukherjee, P., Schönenbrücher, H., Casey, T., Rasmussen, M. and Petrich, J. 2010. Real-time detection of central nervous tissues on bovine carcasses using fluorescence spectroscopy. *American Laboratory* e-supplement 3(4):8-14.
- Adhikary, R., Mukherjee, P., Krishnamoorthy, G., Kunkle, R., Casey, T., Rasmussen, M., and Petrich, J. 2010. Fluorescence spectroscopy of the retina for diagnosis of transmissible spongiform encephalopathies. *Analytical Chemistry* 82:4097-4101.

**Website:** <http://www.fda.gov/AboutFDA/CentersOffices/CVM/WhatWeDo/ucm078158.htm>