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Clarkson professor takes unusual approach in cow study

FARM IMPLICATIONS: Bovines need space, Clarkson prof says

By **MATTHEW BULTMAN**
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POTSDAM — Like birds of a feather, cows tend to flock together.

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That is what Clarkson University professor Erik M. Bollt and a team of British researchers found after two years of researching the bovines.

Inspired by European animal-rights initiatives and a good challenge, the team found cows like to eat, stand and sleep together.

Though it was conducted in Europe, the study has implications in the north country, too, Mr. Bollt said. It could help develop policies and teach farmers how to get the most out of their herd.

“We found they should be fed all together and you need to give them a lot of space to lie down,” he said. “This is counter to some current farming practice where they squeeze animals in a confined space to save money and room.”

The study, titled “A Mathematical Model for the Dynamics and Synchronization of Cows,” used complex mathematical models to study the animals’ behavior.

The group monitored a herd of cattle, observing the animal’s feeding and sleeping habits. What they found — don’t skimp on the cows’ comforts by squeezing them into small barns.

“You might save money on infrastructure, but the cows might be less happy and produce less milk,” Mr.

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Bollt said.

The article made history when it was published in the research journal *Physica D: Nonlinear Phenomena*, becoming the only article published specifically about cows, Mr. Bollt said.

Admittedly, the study was a little out of the comfort zone of the math professor, who typically investigates the design of airplane wings or topography problems.

“I’m not really a cow guy,” he said.

But after meeting a pair of scientists during a visit to Oxford in 2009, Mr. Bollt said, he began to consider applying his principles of math in a more unconventional way.

“We realized they had a problem and we had a tool to fix it,” he said.

And the combination of math and science is catching on in academics, he said. More mathematics professors are teaming up with scientists to find answers to everything from how diseases spread to how to cure cancer.

And while Mr. Bollt said he has given cow math a rest for now, he said he hasn’t closed the door on science just yet.

“I am more willing than most to step outside the topical area of mathematics,” he said. “It really floats my boat to work with scientists.”

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