



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



USDA Outlook Forum 2005

Balancing Science and Risk Management

William D. Hueston

Center for Animal Health and Food Safety

College of Veterinary Medicine &

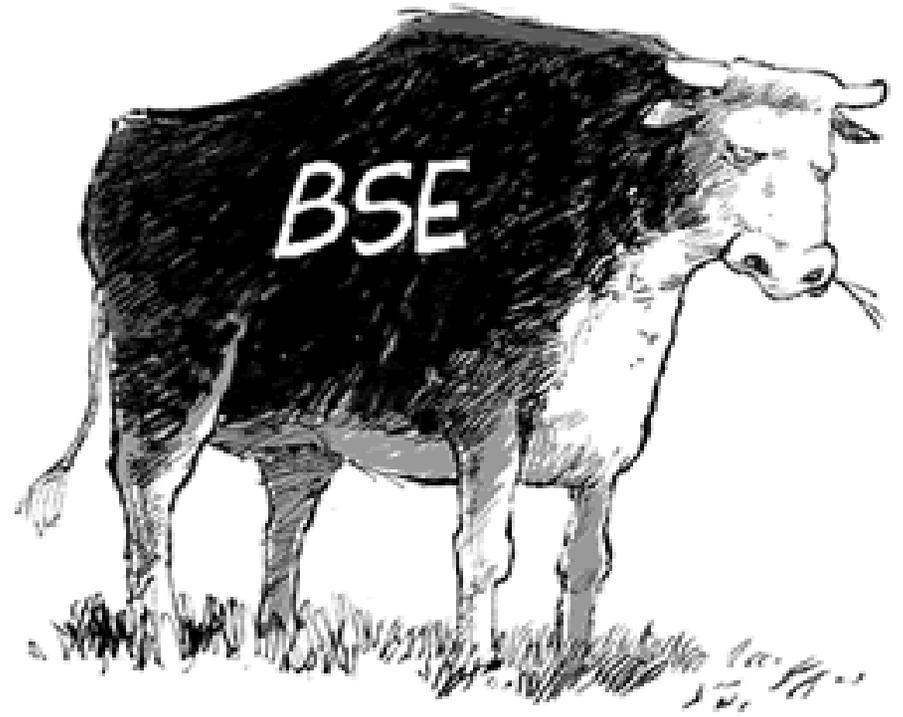
School of Public Health

University of Minnesota

REALITY CHECK...



THIS KILLED 42,643 AMERICANS IN 2003



THIS HAS KILLED 0

BSE as the Scientist sees it...



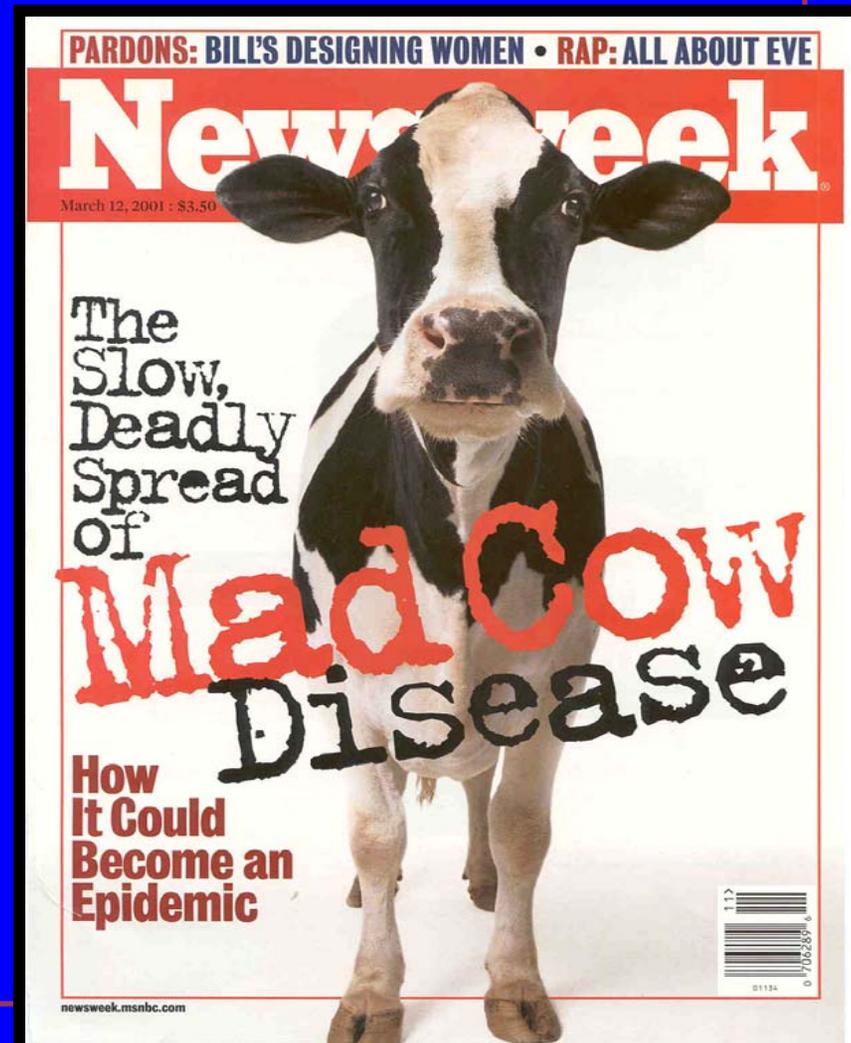
Center for
Animal Health
& Food Safety

UNIVERSITY OF MINNESOTA

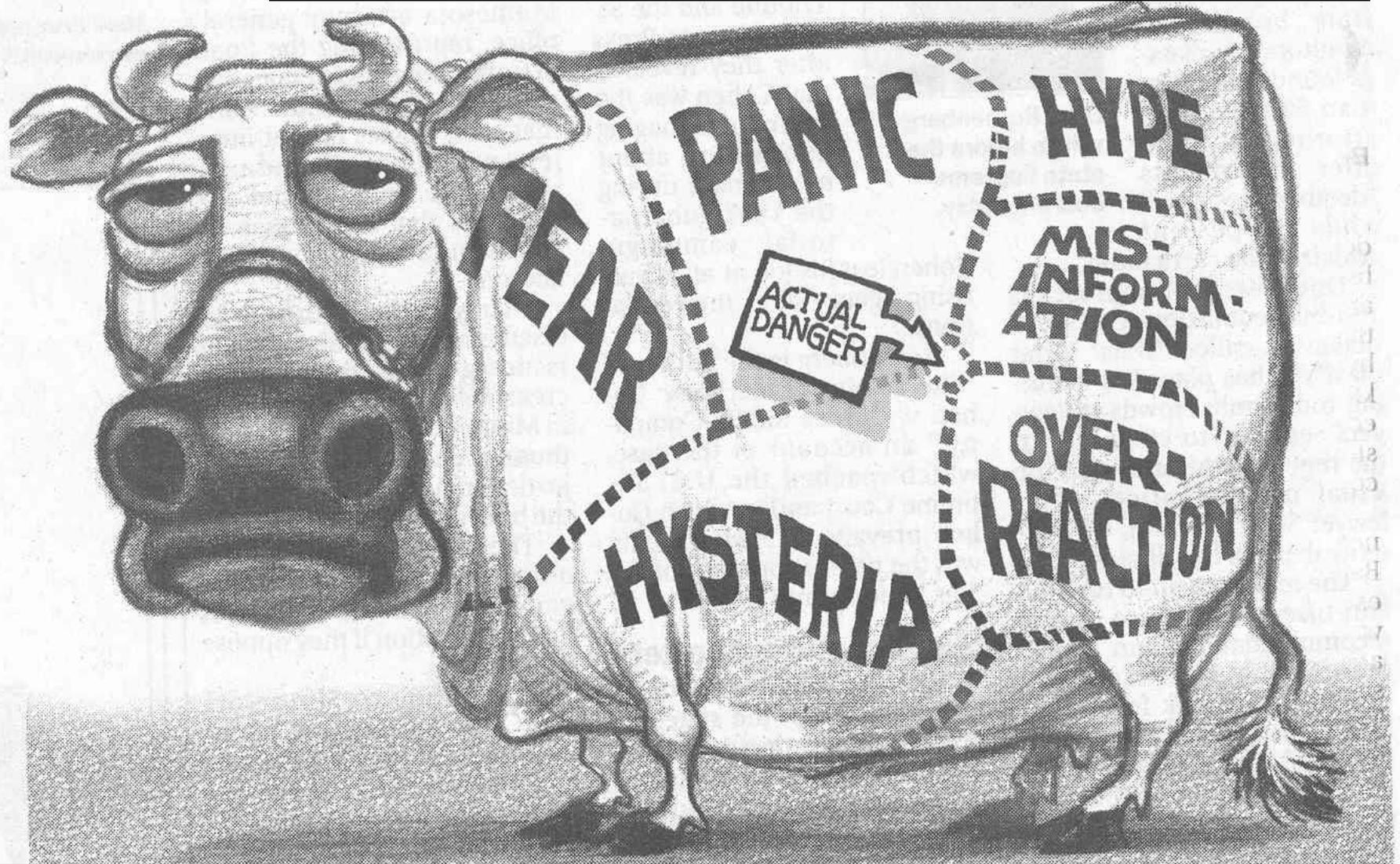
Protecting food from farm to table

BSE as the public sees it...

- New and unusual
- Horrible progression
- No treatment or cure
- Affects young people
- Tests imperfect
- Transmitted by feeding practices driven by economics



Warning: BSE Risk = danger + fear



Effective risk management must address both!

The Balancing Act

- Science informs risk management
- Risk management targets reducing the likelihood of the hazard and the consequences if it occurs (the dangers)
- Effective risk management also involves addressing fears through proactive risk communication...

Prevailing myths affecting the balance between science and risk management

- Science has all the answers
- Public health = zoonoses only
- Zero risk is achievable
- Physical and biological sciences are REAL science
- Public fear can be addressed by providing more information

Science is a method, not an absolute

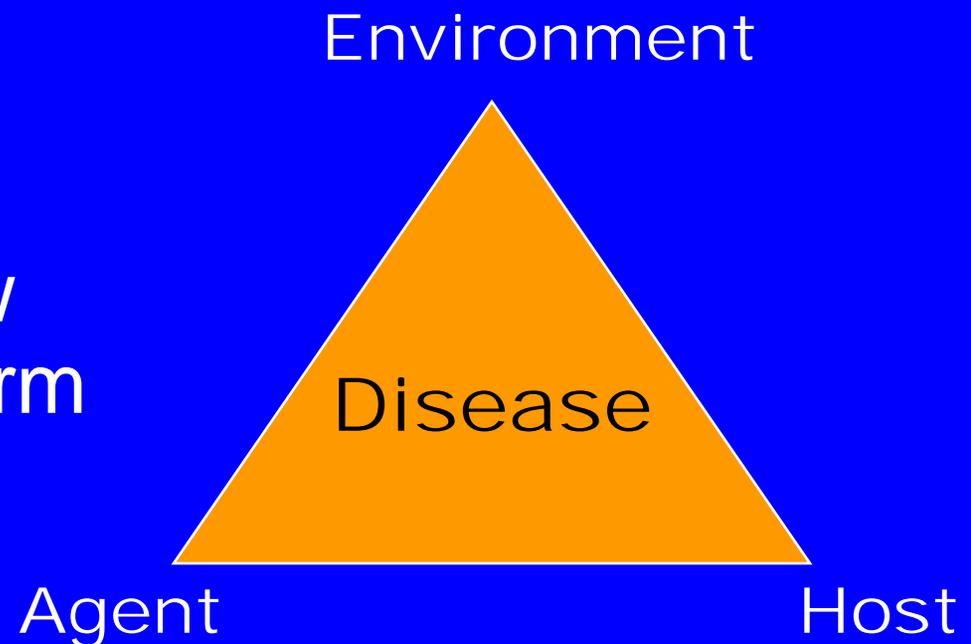
- Our understanding of all diseases is incomplete
- Science moves forward through conjecture and refutation
 - The prevailing understanding of “facts” is the theory that can’t be disproven yet
- Current scientific thought is constantly evolving... new findings occur daily

Risk Management recognizes that public health is more than zoonoses

- Direct transmission of disease between animals and humans is a real concern
- Public health consequences also include
 - Public fear and the psychological aftermath
 - Economic losses and social disruption
- All interventions carry consequences
 - Must assure that unintended consequences do not exceed the threat itself!

Risk management acknowledges that everything carries risk

- Agents, hosts and environment all change!
- Emergence of new diseases is the norm rather than the exception
- Zero risk is unachievable



The epidemiological triad

Biological and social sciences both contribute to risk management

- The ideal scientific solution is meaningless if it can't be implemented
- Optimizing risk management requires broad support of all the affected parties and high levels of voluntary compliance
- Must consider the people factors as well as the biological factors

Addressing “fear”

involves more than just information

- Effective risk communication is built on trust and credibility
- Active engagement of all those potentially affected provides the foundation for effective risk communication
- “Listening” is critically important in order to understand the concerns and fears

Risk Analysis: Tools for balancing biological and social sciences



The Science and Art of Effective Risk Management

- Active engagement
- Amassing all relevant science
- Comparing support for different risk management strategies in terms of acceptance and compliance
- Clearly articulating the underlying science and strategy for safeguards
- Flexibility to accommodate new findings