

ABSTRACT

CAST Issue Paper 35, *The Role of Transgenic Livestock in the Treatment of Human Disease*: Transgenic livestock have the potential to play a critical role in the production of new medications for the treatment of human disease. This role may consist of actual production of recombinant proteins (including biotherapeutic proteins and antibodies) for treatment of human diseases. Or, it may involve the development of new animal models that can be used in studies relating to human diseases. Both approaches can provide significant advances in the development of new treatments. Two techniques discussed in the seminar—pronuclear microinjection and somatic cell nuclear transfer (SCNT)—are the predominant methods used to produce transgenic livestock. Two improvements have been made in SCNT-based gene transfer technologies that enhance the potential for its application: gene targeting and transchromosomal technology. Economic and regulatory issues are addressed, as are societal issues. Education regarding the advantages and challenges associated with this new technology is the key to public understanding.

SPEAKER BIOGRAPHY

Carol L. Keefer, Ph.D., is an Associate Professor in the Department of Animal and Avian Science at the University of Maryland, where she has helped establish the new Biotechnology Program in Animal Sciences. Her lab explores mechanisms controlling development in mammalian embryos and embryonic stem cells, and she hopes to apply knowledge gained to the development of biomedical models of human and animal disease and to the production of therapeutic proteins via transgenic animals (biopharming). Prior to joining the University of Maryland, Dr. Keefer was a Senior Research Scientist at Nexia Biotechnologies, Inc., Montreal, Quebec.

THE NATIONAL COALITION FOR
FOOD & AGRICULTURAL RESEARCH

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THE NATIONAL COALITION FOR
FOOD & AGRICULTURAL RESEARCH

Program:

Health may be a different animal

*CAST Report: Role of Transgenic Livestock
in the Treatment of Human Disease*

May 14, 2007

PROGRAM

Welcome and Introduction

DR. DOUGLAS MECKES

American Veterinary Medical Association

Distinguished Speaker

DR. CAROL L. KEEFER

Associate Professor, University of Maryland

Open Forum

Closing

DR. DOUGLAS MECKES

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