

THE NATIONAL

DIVISION ON EARTH AND LIFE STUDIES

ACADEMIES

CHANGES IN THE SHEEP INDUSTRY IN THE UNITED STATES: MAKING THE TRANSITION FROM TRADITION

Committee on the Economic Development and Current
Status of the Sheep Industry in the United States

Joint American Lamb Council/American Lamb Board Meeting
ASI/NLFA Annual Convention

San Diego, California

January 2009

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

National Academy of Sciences

National Academy of Engineering

Institute of Medicine

National Research Council

- Response to a Congressional request to the National Academies in the Agricultural Appropriations Bill of November 2005 and supported by funds from the Economic Research Service, U.S. Department of Agriculture

- USDA report that the Sheep Industry found to be incomplete and misleading



Charged to examine:

- Economic development and current status of the U.S. Sheep Industry
- Structure, production, and marketing systems for all aspects of the industry
- Regulation and trade issues
- Land stewardship
- Major accomplishments and future opportunities and challenges

BUT also charged to NOT make recommendations on policy, regulations, industry support, or trade



SUMMARY

CHAPTER 1: Development and Structure of the U.S. Sheep Industry

CHAPTER 2: The U.S. Live Sheep Industry

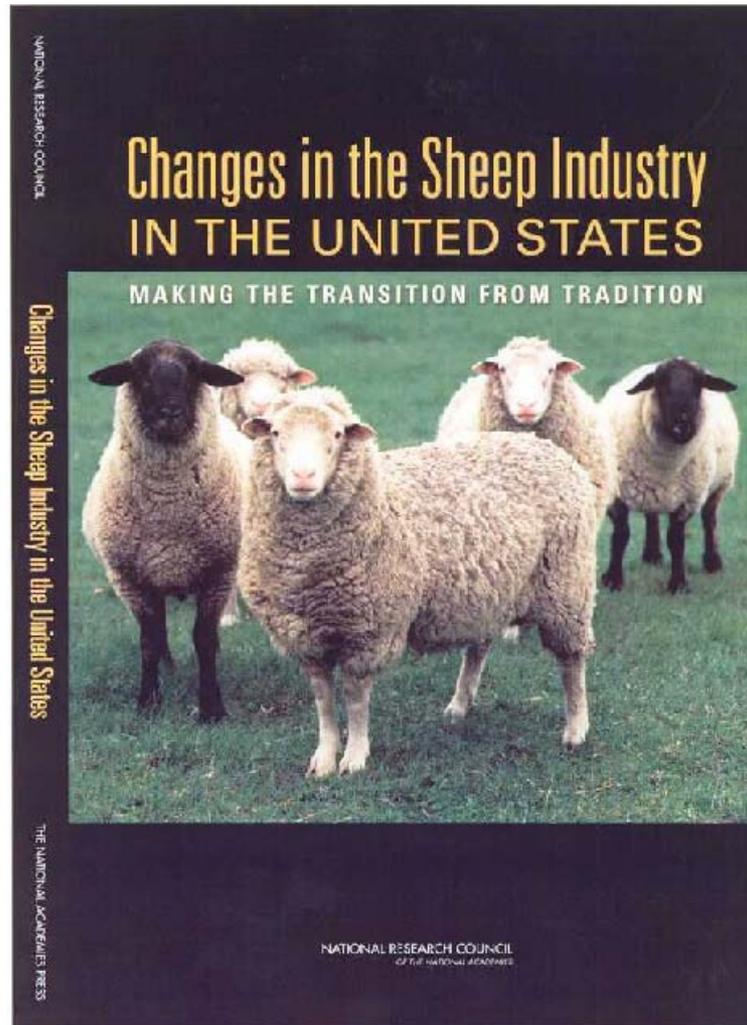
CHAPTER 3: Sheep Health Issues

CHAPTER 4: The U.S. Lamb Industry

CHAPTER 5: The U.S. Wool Industry

CHAPTER 6: The U.S. Dairy Sheep Industry

CHAPTER 7: Alternative and Emerging Markets

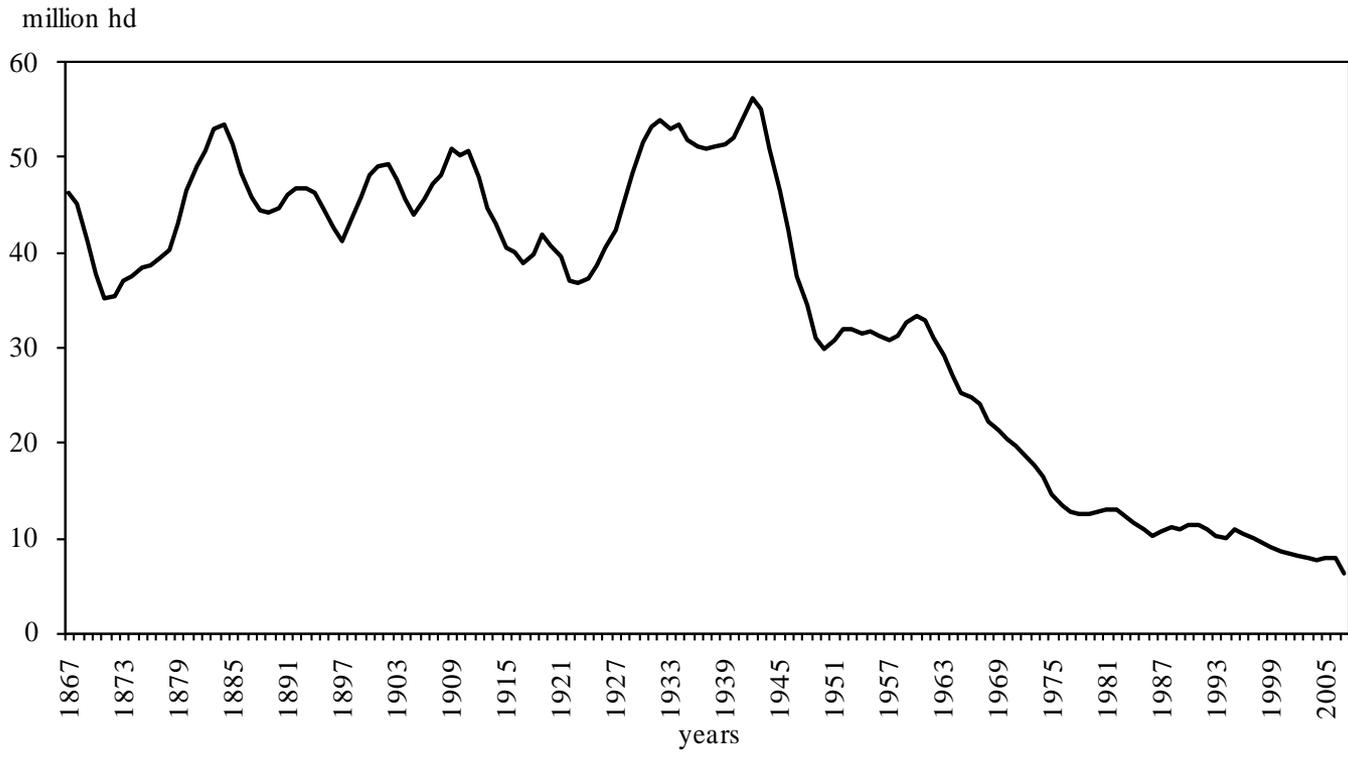


You can read the book for FREE on-line at:

http://books.nap.edu/openbook.php?record_id=12245&page=R1

- Decline the dominant feature of U.S. sheep industry over time

Figure 1-1: U.S. Sheep and Lamb Inventories (January 1), 1867-2007

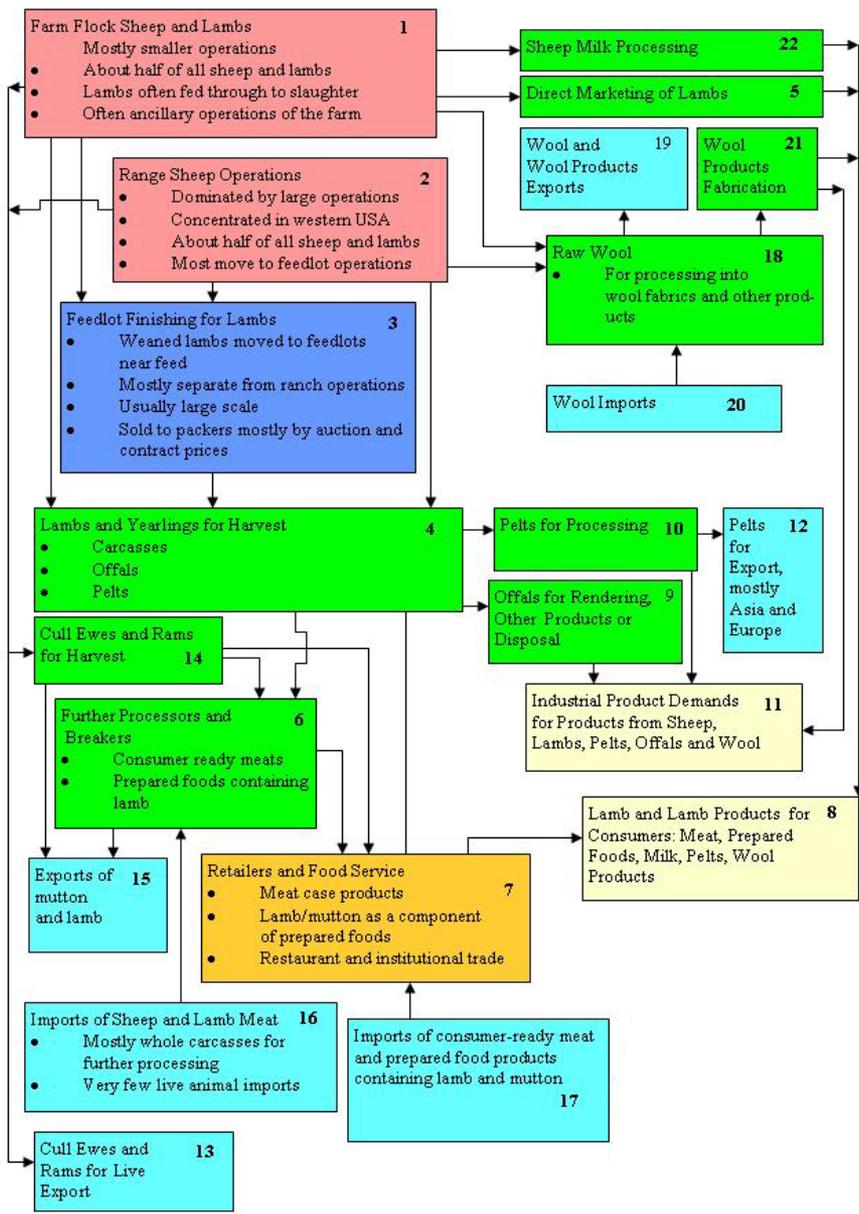


- Many events and factors have combined to limit opportunities for growth in the industry:
 - Farm labor loss during WWII
 - American GI experience with mutton during WWII
 - Grazing permits and regulations
 - Competition from other livestock, meats, and fibers
 - Predation losses
 - Loss of the National Wool Act and Incentive Payments programs
 - Foreign wool production subsidies
 - Competition from imports
 - U.S .dollar appreciation against Aus/NZ currencies - 1990 to 2000
 - Concentration in the U.S. packing and feeding industries

DEVELOPMENT AND STRUCTURE NATIONAL

VALUE CHAIN

The flow of sheep and lamb through marketing channels from production to end uses



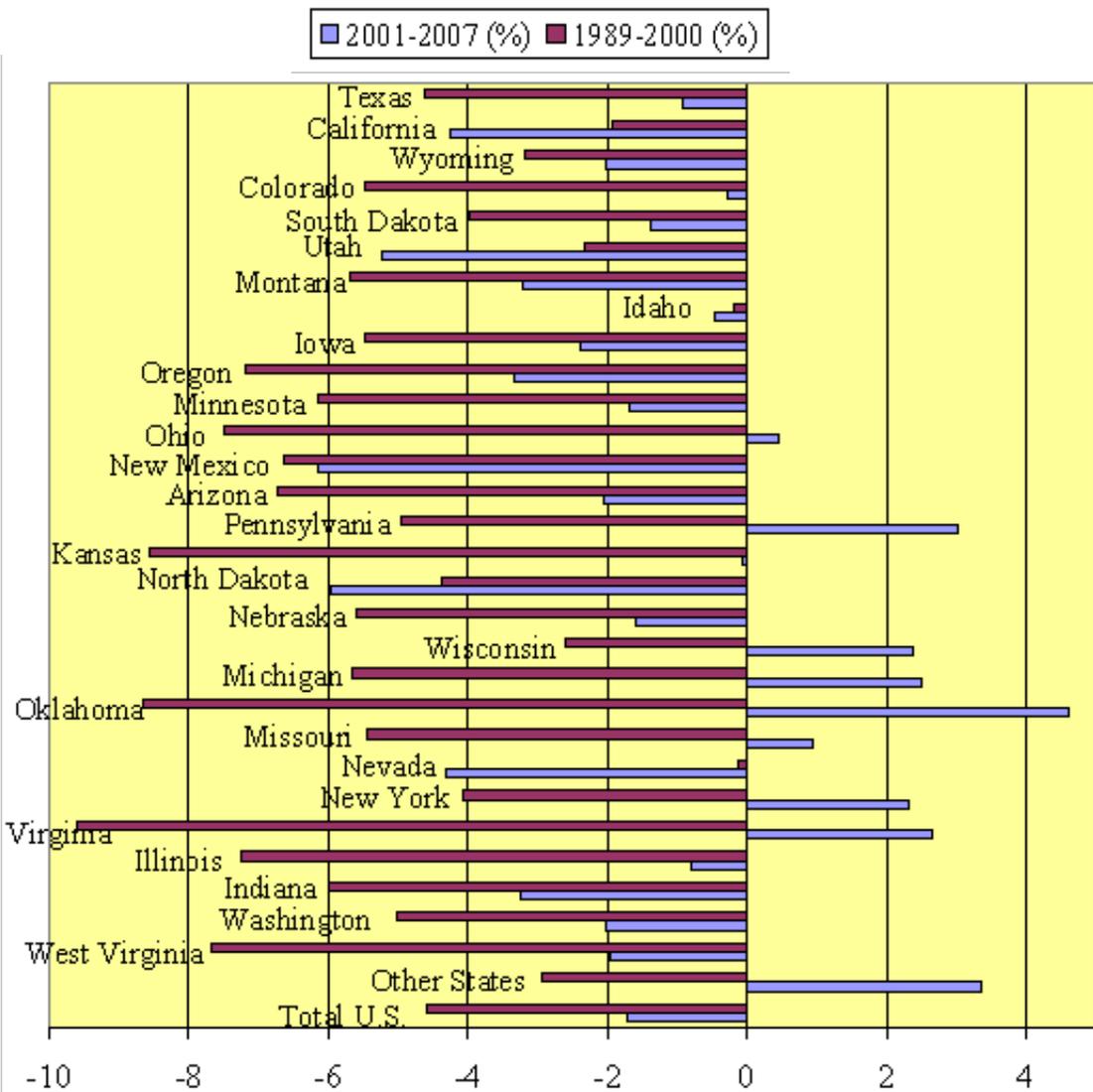
Although often called an industry in steady decline...

... the rate of decline has slowed in most states.

... some areas showing significant growth (absolute and relative)...

... but not in the range states implying a possible slow shift away from range states to farm flock states.

Compound Rate of Change in Sheep Inventories, by State



Major Accomplishments:

- Increased productivity (increased lb of lamb/ewe) and leaner lamb
- Improvements in lamb processing and merchandising
- Use of sheep and goats in vegetation management
- Mapping the sheep genome
- Breed and genetic improvements

Major Opportunities:

- Continued productivity improvements
- Forage finishing lambs for competitive advantage
- Emerging ethnic market for lighter weight lambs
- Hair sheep breeds – small farm flocks; humid and sub-tropical climates; lack of available shearers and low wool market prices

Major Challenges:

- Critical Mass:
 - Decline in infrastructure including lamb slaughter/processing facilities
 - Low demand pull at consumer end
 - Lack of qualified sheep shearers and wool classers
 - Reduced providers of needed services, supplies and equipment
 - Fewer buyers (concentration of lamb packing)
 - Decline in federal/state support for research and extension
 - Reduced market data and information
- Adoption of genetic improvement technology
- Predation
- Livestock, wildlife, and threatened & endangered species management

Major Accomplishments:

- Reduction in scrapie
- MUMS Act coverage
- No food-borne disease, food safety, or animal welfare concerns

Major Opportunities:

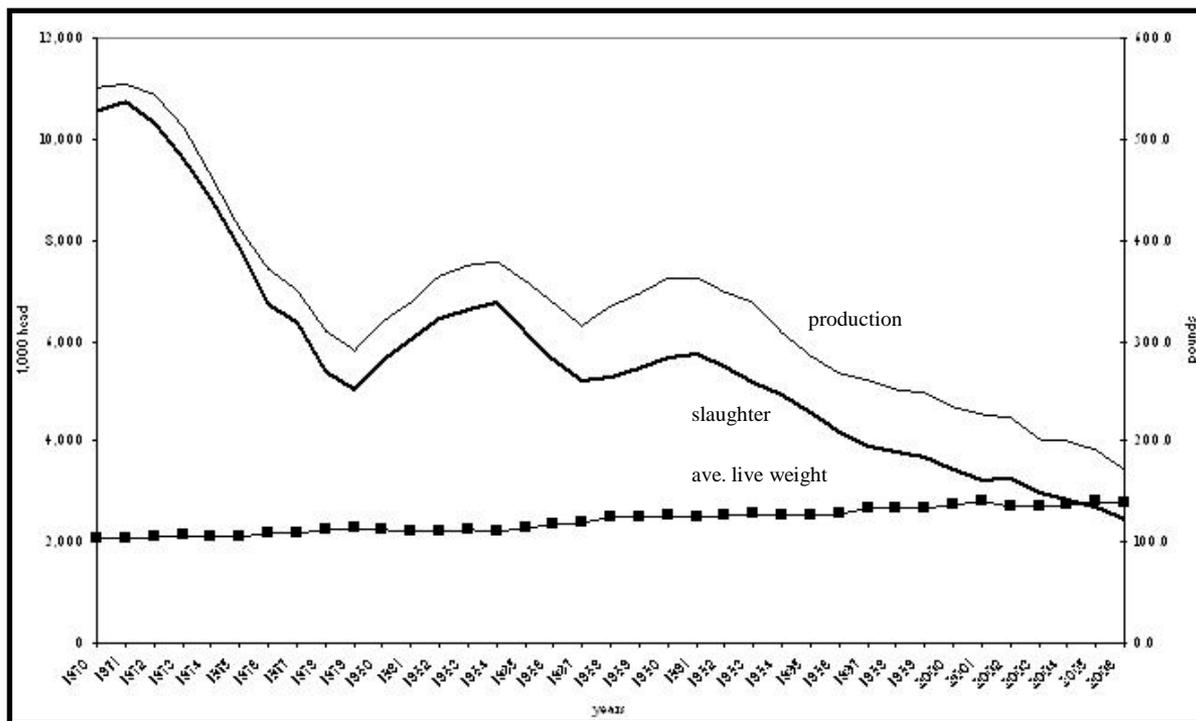
- Applications of genomics, gene biotechnology, and gene marker research
- Use of ID system as foundation for overall flock health program
- Improvement in biosecurity practices

Major Challenges:

- Except for scrapie, no national disease reduction effort
- Lack of data on economic impacts and prevalence of diseases, parasites; hard to prioritize research effort
- Lack of approved drugs
- Shortage of veterinarians
- Lack of death loss data
- Research lacking on:
 - Atypical scrapie
 - Possible Johne's and Crohn's disease linkages

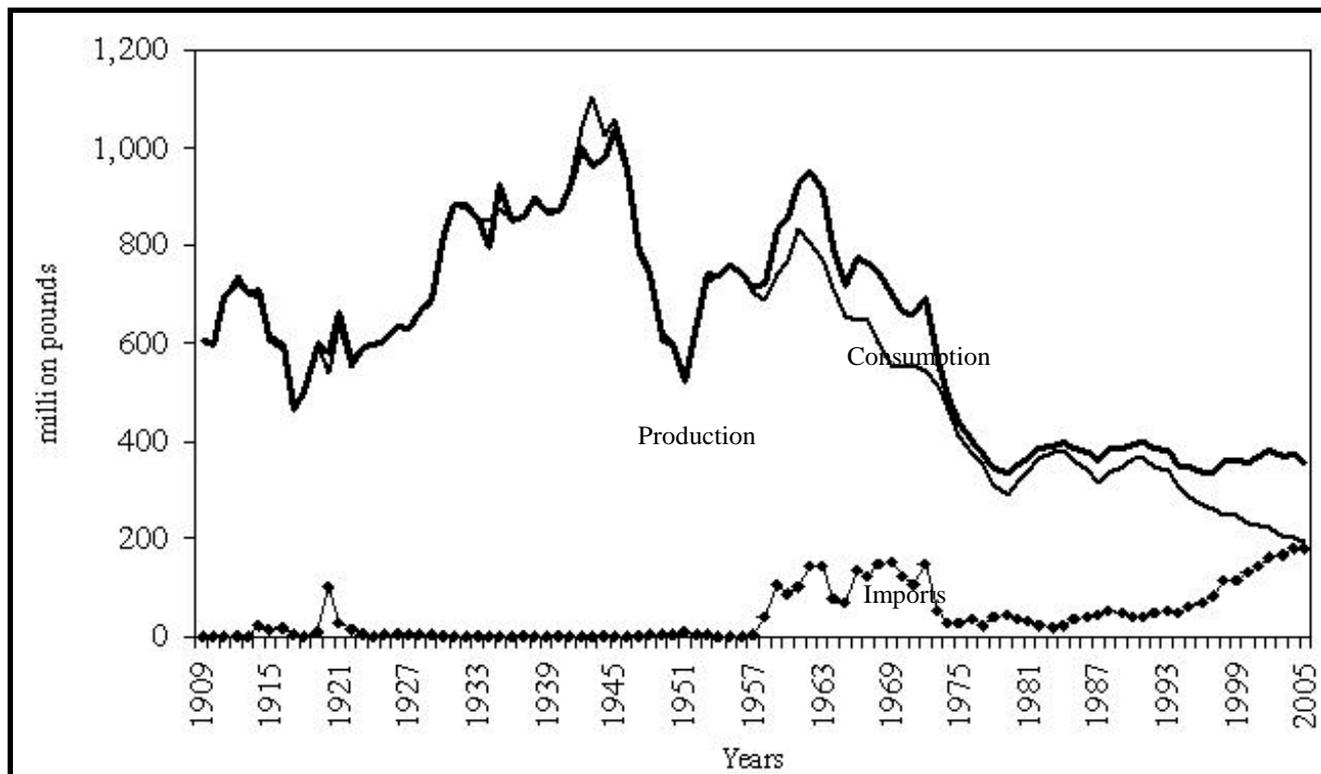
Lamb Production:

- Lamb industry largest downstream component of the value chain
- Consumers are end users with few packers/feeders at other end
- In between are breakers, further fabricators, wholesalers, food service purveyors
- Slaughter has declined with inventories
- Average live weight of slaughter lambs has increased



Lamb Demand:

- Consumption has generally declined with production
- Since the mid 1980s, consumption has stayed relatively stable despite declining production on the strength of growing imports
- Imports now represent half the total lamb supply



Major Accomplishments:

- New technologies to accurately assess carcass value
- Improved safety of lamb products
- Improvements in packaging and shelf life
- Improved product convenience at retail
- Additional uses of lamb and by-products
- Creation of American Lamb Board
- Growth of direct marketing
- Growth of organic lamb market
- Mandatory Price Reporting
- Livestock Risk Protection (LRP) – Lamb Insurance Policy

Major Opportunities:

- Recent U.S. dollar depreciation
- Use of alternative marketing arrangements
- Lamb promotion
- Better positioning lamb in the meat market
- Large growth potential
- Emerging new lamb markets

Major Challenges *... on the production side :*

- Need to improve competitive position of U.S. lamb production
- Need for a value-based grading system

Major Challenges ... *on the demand side* :

- Lack of consistent, long-term retail prices series
- Measurement and reporting of actual lamb consumption
- Understanding other potential factors affecting lamb demand
- Increasing the presence of lamb in HRI/food service sector
- Better knowledge of lamb consumer demographics
- Research on lamb demand by specific cut

A new venture in early stages of becoming an important U.S. agricultural industry

- **Largest concentrations of dairy sheep operations found in two regions:**

- **Upper Midwest:**

- NW Wisconsin
- East Central Minnesota

- **NY and NE**

- Central New York
- Vermont
- New Hampshire
- Maine



Major Accomplishments

- Industry development
- Increasing supply of sheep milk cheeses
- Formation of milk marketing cooperative
- Establishment of dairy sheep producer organization

Major Opportunities:

- Large domestic market for cheeses and yoghurts - over 98% currently served by imports
- “Eat locally” movement
- Viable option for small operations, or sideline operation for large operations

Major Challenges:

- No national genetic improvement program
- Limited research and extension support
- Limited marketing options for sheep milk
- Competition from lower-priced imported products

New and “Niche” Markets Are A Potentially Important Growth Area for the Industry

- Sheep for dairy
- Purebred flocks in shows
- Club lambs
- Specialty wools
- Hair sheep
- Ethnic markets
- Direct marketing
- “Locally produced” demand

Development and Growth of Ethnic and Specialty Lamb Markets

- Sheep and lamb inventories are showing some growth in Eastern and Mid-Atlantic States and in the Midwest where alternative and emerging markets are particularly important.
- Increasing share of lightweight (50-88 lb) feeder lambs purchased for slaughter to meet demand from ethnic groups for lighter-weight, younger carcasses.
- Growing number of producers direct marketing to local friends, neighbors, restaurants, and local retail outlets.
- Organic lamb and specialty products marketed via the Internet or direct mail-order to meet demand in broader markets.
- Processors dedicating more plant capacity to process lamb for ethnic (e.g., halal) and specialized (e.g., organic) markets.

Other Major Accomplishments:

- Development of specialty and high-end markets
- Emerging sheep milk products
- Growth of specialty wools market
- Introduction of exotic breeds to serve specialty and regional markets
- Continued support for club lambs



Major Opportunities:

- Growing the sheep milk market
- Hand spinning and weaving industry
- Engaging the traditional value chain in ethnic and niche markets

Major Challenges:

- Immense lack of data, although anecdotal evidence is compelling
- Designing and capturing metrics on the alternative and emerging markets
- Barriers to growth in the organic market; “natural” lamb as an alternative?
- Marketing systems for specialty products
- Additional research and data needed on ethnic markets
- An integrated approach to research needs

- The traditional value chain will continue to adjust to the many forces for change in the industry and the world.
- These forces are honing and transforming the industry toward a potentially more efficient and competitive future.
- Signs of transition are already appearing:
 - Recent slowing of the long-term decline in inventories in many range sheep states and modest growth in many farm flock states
 - Growth in direct marketing, emergence of the dairy sheep industry, growth of ethnic and organic markets.
- Emerging and alternative markets, albeit small today, showing strong apparent growth, but evidence remains anecdotal

Often described as an industry “in decline”, this report concludes that the U.S. sheep industry might be more appropriately referred to as an industry “in transition.”

On behalf of all members of the committee:

- Our great thanks to the National Academies staff
- Our gratitude also goes to:
 - All of the government and industry groups who patiently answered our questions
 - ASI, LMIC, USDA who opened their databases to us
 - Those actively involved in the emerging markets who offered us insights into a largely undocumented market

THE NATIONAL

DIVISION ON EARTH AND LIFE STUDIES

ACADEMIES

CHANGES IN THE SHEEP INDUSTRY IN THE UNITED STATES: MAKING THE TRANSITION FROM TRADITION

Committee on the Economic Development and Current
Status of the Sheep Industry in the United States

Joint American Lamb Council/American Lamb Board Meeting
ASI/NLFA Annual Convention

San Diego, California

January 2009

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

National Academy of Sciences

National Academy of Engineering

Institute of Medicine

National Research Council