



Research Update

► Summaries of current beef cattle research

Research highlights and trends

The following research highlights are presented by Harlan Ritchie, Steven Rust and Daniel Buskirk, beef cattle specialists at Michigan State University, East Lansing. The reviews summarize studies and trends reported at scientific meetings or in scientific and industry publications, which are cited at the end of each item.

PACKER/PROCESSING

Department of Defense to use fuel made from animal fat

Syntroleum Corp. announced it has signed a contract to deliver 500 gallons of synthetic jet fuel to the U.S. Department of Defense

made entirely from animal fat supplied by Tyson Foods Inc. The U.S. Air Force wants to supply 50% of its fuel requirements from domestic alternative sources by 2016 and plans to certify its entire fleet of planes for alternative fuel use by 2010. The Department of Defense contract follows Syntroleum's

Table 1: Profit margins (\$ per head) for the cattle feeding and packing segments of the beef industry, 2004-2007

Segment	2004	2005	2006	2007
Feedlot	15	10	-31	-40
Packer	2	-13	11	5

Source: Cattle-Fax Trends.

Table 2: Top 10 cattle-feeding operations in the United States

Rank	Name, head office location	Capacity, no. head
1	Five Rivers Ranch Cattle Feeding LLC, Loveland, Colo.	811,000
2	Cactus Feeders Inc., Amarillo, Texas	520,000
3	Cargill Cattle Feeders LLC, Wichita, Kan.	330,000
4	Friona Industries LP, Amarillo, Texas	275,000
5	AzTx Co., Hereford, Texas	242,000
6	J.R. Simplot, Boise, Idaho	230,000
7	Irisk & Doll, Cimarron, Kan.	200,000
8	Four States Feedyard Inc., Lamar, Colo.	192,000
9	Agri Beef Co., Boise, Idaho	180,000
9	Pinal Feeding Co., Laveen, Ariz.	180,000

Source: National Cattlemen magazine.

Table 3: Top 10 beef-packing operations in the United States

Rank	Name, head office location	2006 sales
1	Tyson Foods Inc., Springdale, Ark.	\$25.6 billion
2	Cargill Meat Solutions, Wichita, Kan.	\$13 billion
3	Swift & Co., Greeley, Colo.	\$9.35 billion
4	National Beef Packing Co. LLC, Kansas City, Mo.	\$4.6 billion
5	Smithfield Beef Group, Smithfield, Va.	NA
6	American Foods Group LLC, Alexandria, Va.	\$1.8 billion
7	Greater Omaha Packing Co. Inc., Omaha, Neb.	\$825 million
8	Nebraska Beef, Omaha, Neb.	NA
9	AB Foods LLC, Boise, Idaho	Confidential
10	Sam Kane Beef Processors Inc., Corpus Christi, Texas	\$408 million

Source: National Cattlemen magazine.

agreement with Tyson to establish a \$150 million plant to produce fuel from animal fat. (Meatingplace.com)

RETAIL

Supermarket chain testing curbside service

The large supermarket chain, Publix, has begun testing curbside service for deli products such as sandwiches, salads, and fried chicken at a store in Fort Myers, Fla. The company manages the operation similarly to restaurant curbside service, allowing customers to phone in orders or park in designated spaces and have the food carried out to their cars. A company representative said that it's a way for time-starved consumers to consider Publix as an option for lunch or dinner.

(Meatingplace.com)

CONSUMERS/FOODS

Effect of biofuels production on food prices

There is growing concern that expanded biofuels production means the end of inexpensive food because the prices of corn, soybeans and wheat are increasing and are likely to remain high.

In the U.S., consumers spend a relatively small share of their disposable incomes on food. This share has fallen from 20% in the early 1950s to about 10% today. The share of income that Americans spend on food would actually be lower than 10% were it not for the large increase in expenditures away from home. Starting in the mid-1960s, Americans began to increase the amount of money spent on dining out. Today, Americans spend about half of their food dollars on food away from home.

The primary reason food prices have risen more slowly than incomes and other prices is rapid productivity growth on the farm and all along the food chain. Farmers and food companies have dramatically increased the efficiency with which they can produce food.

Other things being equal, corn makes up a smaller share of the final price of food consumed away from home than it does for food consumed at home, because the consumer must pay for additional costs incurred in preparing food away from home.

This lower share acts to decrease the final effect of corn price increases on total food expenditures, because half of average food expenditures are made away from home.

In a recent study, researchers at Iowa State University's Center for Agricultural and Rural Development (CARD) estimated that a 30% increase in the price of corn, and associated increases in the prices of wheat and soybeans, would increase egg prices by 8.1%, poultry prices by 5.1%, pork prices by 4.5%, beef prices by 4.1%, and milk prices by 2.7%.

For all food consumed away from home, average prices were estimated to increase by 0.9%. So, across all food consumed, 30% higher corn prices would increase all average food prices by 1.1%, according to CARD.

(H.H. Jensen and B.A. Babcock. 2007. Iowa Ag Review, Vol. 13, No. 3).

CURRENT TRENDS

U.S. agricultural land values reach an all-time high

As shown in Table 4, U.S. farmland values have steadily increased since 1996, reaching an all-time high of \$2,160 per acre in 2007.

U.S. Department of Agriculture (USDA) analysts noted that the overall increase was driven by both cropland and pastureland values, which rose 13% and 16%, respectively, in 2007 and 2006. Cropland values averaged \$2,700 and pasture values averaged \$1,160 per acre, compared with \$2,390 and \$1,000, respectively, a year earlier. *(USDA National Agriculture Statistics Service)*

Table 4: U.S. average value of all farmland and buildings, \$ per acre

Year	Value, \$ per acre
1996	887
1997	926
1998	974
1999	1,030
2000	1,090
2001	1,150
2002	1,210
2003	1,270
2004	1,360
2005	1,650
2006	1,900
2007	2,160

Choice-Select price spread increasing

The price spread between the Choice and Select grades of beef can be a significant determinant of returns for many carcass-merit pricing systems. Consequently, it's important for cattle feeders to be able to anticipate changes in

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the spread over time in order to optimize their feeding program.

Changes in the price spread over time can be indicative of shifts in the supply of Choice vs. Select beef, shifts in demand for Choice vs. Select, or a combination of the two. Furthermore, over longer periods of time, the spread reflects changes in the cost of producing Choice vs. Select beef. Table 5 lists the average Choice-Select boxed beef price spread from 1996 to 2006.

The Choice-Select spread has been

Table 5: Average Choice-Select boxed beef spread, \$ per cwt.

Year	Spread
1996	\$6.67
1997	\$6.62
1998	\$6.19
1999	\$9.04
2000	\$4.27
2001	\$4.16
2002	\$3.04
2003	\$6.54
2004	\$8.29
2005	\$9.30
2006	\$14.23

Table 6: Life expectancy, no. years, of various world population groups

Regions/continents	2005-2010	2045-2050
World	37.2	75.4
More-developed regions	76.5	82.4
Less-developed regions	65.4	74.3
Least-developed regions	54.6	67.2
Africa	52.8	66.1
Asia	69.0	77.4
Europe	74.6	81.0
Latin America & the Caribbean	73.3	79.6
North America	78.5	83.3
Oceania	75.2	81.0

trending upward since 2002. After averaging from about \$3 to \$4 per hundredweight (cwt.) during 2000-2002, the spread has been increasing ever since. By 2006, the spread was about 3.5 times the size of the spread in both 2000 and 2001. Higher feedgrain prices this year, resulting in a sharp rise in costs of gain and increasing the cost of producing Choice vs. Select beef suggests the Choice-Select spread could establish a new record high in 2007.

(James Mintert, Agricultural Economist, Kansas State Univ.)

FUTURE TRENDS

Human longevity expected to rise

The Population Division of the United

Nations recently published its projections for life expectancy of various world population groups, as shown in Table 6.

The report also forecast that between 2005 and 2050, half of the increase in the world population will be accounted for by a rise in persons aged 60 years or older, whereas the number of children (persons under age 15) will decline slightly. Furthermore, in the more developed regions, the population aged 60 or older is expected to nearly double, from 245 million in 2005 to 406 million in 2050, whereas the number of persons under age 60 will likely decline from 971 million in 2005 to 839 million in 2050.

(The Futurist)

