

Animal Industry News Update

from the LCES Animal Science Division



USDA Baseline Estimates (Dr. Ken Wegenhoft)

The USDA Agricultural Baseline Projections to 2010 report was released in February 2001. This report provides long-run (10 year) baseline projections for the agricultural commodities, agricultural trade, farm income and food prices. The projections are a conditional scenario with no shocks and are based on assumptions with respect to the overall economy, agricultural policy, weather and international developments. The report is to be considered a description of what would be expected to happen under the 1996 Farm Action with very specific external circumstances.

A few key points of the report follow. The livestock industry will continue to be influenced by the relatively low grain and soybean meal prices for the near term. Some rebound in these prices is projected early in the baseline with more moderate increases later. Most farm-level and retail livestock prices are projected to increase. The beef and pork sectors are expected to expand their production. Beef expansion will be delayed during the first half of the baseline period. Poultry production will continue to rise.

The trend toward larger and more commercialized livestock systems will continue. Vertical coordination in the beef sector will increase. Strengthening milk-feed price ratios, improved management and productivity gains will continue to push milk output per cow higher and real costs lower.

A slight decline in beef and pork consumption will be made up by an increase in poultry consumption for an increase in total per capita meat consumption.

The website for the report is:

www.ers.usda.gov/briefing/baseline/

Please see the website for the complete report with specific sections for beef, pork, poultry and eggs and dairy.

The baseline projections are updated annually.

Poultry (Dr. Theresia Lavergne)

Irradiation of Poultry Products? Several poultry companies are doing research and development work with irradiation, and some companies are test marketing the product. Will there be a day when all of our meat is irradiated? Yes, scientists predict that there will be a day when all of our meat is

What led to such dismal results for producers? The policy makers in Europe based their regulatory actions on what's known as the "precautionary principle", which boils down to "when in doubt, don't." However, United States

irradiated.

In 1990, the FDA approved the use of irradiation on poultry products to control foodborne pathogens. However, interest in irradiation did not take off until the late 1990's when the FDA and USDA approved the use of irradiation for treating red meat products.

What is irradiation and how does it work? "Radiation is any energy that is traveling from one place to another at a speed approximating that of light," says Dr. Robert L. Wolke (University of Pittsburgh). When meat is irradiated the temperature is only affected slightly, and the chemical changes that occur are similar to those that occur when meat is cooked. The end result of irradiation is a break down of the chemical bonds in the cells of the bacteria. The bonds of the DNA of bacteria cells are disrupted, and their ability to make proteins and reproduce is lost.

Today, consumers are already eating food products that contain irradiated ingredients and are packaged in irradiated materials. But, the consumer is hesitant about consuming irradiated meat. In the future, we may see irradiated meat labeled with a more "consumer friendly" phrase such as, electronic pasteurization or cold pasteurization.

There are a record number of meat product recalls each year. However, with a sound science based process such as irradiation, meat producers can ensure consumers that they are consuming a safe product. (Poultry USA, March 2001)

Swine (Dr. Tim Page)

Pork Production without Antibiotics?

Pork producers in the United States may need to prepare to discontinue the use of growth-promotant antibiotics. The European Union banned all but four growth-promotant antibiotics in 1999. Sweden banned all growth-promotant antibiotics in 1986. In Denmark and Sweden the ban meant significant economic losses due to increased mortality rates and decreased daily gains in nursery pigs. For Danish pork producers the cost is more than \$1 per pig produced.

Discontinued use has decreased the total use of antibiotics, but it has increased therapeutic antibiotic use and the incidence of post-weaning diarrhea. This is a serious problem for nursery pigs.

Mortality has increased by as much as 60% in Sweden, and daily gain has decreased by over 1/2 ounce per day in Denmark.

veterinarians and producers prefer science. Europe's experience demonstrates that the press can create more decision making than scientific research. A few well organized opponents of biotechnology have steered policy decisions in many

cases. They work on the philosophy that if you scare consumers, there is going to be a consensus to change the policy.

It is hard to say how the antibiotic debate might transform production practices in the U.S. However, consumer demand for products from animals not fed growth-promotant antibiotics is growing and will continue to grow. There are some possible management options to the use of antibiotics as growth-promotants. The following options can reduce animal stress and lower the incidence of sickness: 1) allow more space per animal and 2) give animals more access to fresh air and sunlight. Preventive practices alone will not keep all animals completely healthy. When animals get sick under a management system not using antibiotics, they will have to be quarantined and cared for with rest and fluids. If the animal needs more intensive attention, it will have to be removed from the herd. Then, once an animal is treated with antibiotics, it can not be allowed to return to the farm.

Not surprisingly, these methods are more expensive for the producer. Livestock producers in the U.S. may have to look seriously at alternatives to using antibiotics as growth promotants. The investment into these alternatives may be profitable in the long term because of growing consumer interest in antibiotic-free livestock.

Animal Health (Dr. Steve Nicholson)

Beef Calf Mortality Blackleg, pneumonia, hemorrhagic enterotoxemia and lead poisoning were diagnosed in cow calf herds in recent weeks. Blackleg sometimes affects calves before weaning. Signs include acute illness with fever, failure to stay with the herd, and lameness caused by an area of painful, swollen muscle that "crinkles" when pressed. Have a veterinarian necropsy calves found within 6-12 hours after death.

Safe Weed Control Herbicide chemicals labeled for use on pastures and fence lines are safe if used according to the label instructions. Products containing monosodium methanearsonic acid (MSMA) are a distinct hazard if livestock are allowed to graze sprayed foliage or eat dirt contaminated by spills.

Mastitis in Beef Cows Several cows were confined in a muddy corral so their dummy calves could be taught to nurse. Acute mastitis killed two of the cows and a third was successfully treated. High fever and a hot, swollen, blue quarter containing bloody milk were seen. The USDA has forecasted that the 2001 U.S. all-milk price will average from \$12.80 to \$13.30/cwt, this would be an increase of \$0.46 to \$1.00/cwt. Another analysts, Dr. William Thomas (Extension Ag Economist at the University of Georgia) projects the average price to be \$1.00 to \$1.50/cwt. higher for the

Disappointing Calfcrop? Look back...what body condition were cows in during the 2000 breeding season? If you were relying on beef cows to become pregnant during the summer was heat stress a problem with the bulls? Were the cows vaccinated against vibrio, leptospirosis, IBR and BVD?

Beef (Dr. Ron Del Vecchio)

Electronic Video Image Grading System for Packers

Research Management Systems (RMS) flagship technology is the computer vision system (CVS) which derives hundreds of carcass characteristic measurements in seconds - all at commercial chain speeds. By channeling the information through its carcass evaluation module, the CVS is able to deliver a variety of valuable information related to carcass value, including a prediction of salable meat yield, the degree of marbling and measurement of ribeye area. The USDA has recently approved the CVS Yield Grade Augmentation Module for calculating yield grade. The electronic system is precise enough to assign USDA grades within a tenth of a Yield Grade which aids in predicting carcass value.

Tenderness and palatability predictions also are made using the CVS BeefCam Tenderness Module. Currently the pilot project is underway in Corpus Christi, TX as part of the Nolan Ryan Tender Aged Beef program. This technology has the ability to measure quality and predict the tenderness of beef after aging - which is a major breakthrough. With a third component, the Tagger Interface Module, packers can further automate the process of sorting carcasses to maximize their value-based marketing channels. With this technology, packers will get objective feedback on quality, yield and tenderness that they did not have before, and with this information they can more efficiently value-base market the carcasses.

With the development of this technology it is even more imperative that producers pay close attention to the quality of cattle they are producing. Today the good cattle subsidize the bad, but once electronic grading comes into use there will be increased pressure on producers to improve their management practices to maximize their quality and yield grade targets. The bottom line is "If you don't know how your cattle perform you are going to get penalized." (Source: Drovers, April 2001)

Dairy (Dr. Charlie Hutchison)

year 2001. Another plus for dairymen is that the USDA also has projected an increase in cull cow prices of about \$3.00 to \$5.00/cwt. This rise in cull cow prices could result in an increased income of \$3,000 to \$5,000 for a 200 cow dairy with a 33% cull rate.

One of the main reasons for the optimism in milk prices is that cow numbers in the U.S. have started to decline. Revised USDA numbers showed that cow numbers at the end of the third quarter of 2000 were at 9.229 million, and declined by 18,000 head by the end of 2000.

The continued shift of the dairy industry to the west is supported by the fact that California started 2001 with over 70,000 more head than the previous year. The other top dairy states had a decline in cow numbers. Wisconsin and New York were both down by 30,000 head each followed by Minnesota down 20,000 head, and Pennsylvania reported a reduction of 10,000 head. It is not surprising that western states such as Idaho and Colorado recorded the largest annual percentage gains in milk production in 2000 with increases of 11.9% and 11.3 % respectively. If you were asked, 'Which state has the highest production per cow?' Would your response be California, Wisconsin, Idaho, New Mexico, Arizona or Colorado? The correct response would have been Washington state. Washington leads the nation again in production per cow averaging 22,644 lb. of milk per cow in 2000. That's 24% above the national average of 18,024 lb. per cow with Washington being the only state averaging above 22,000 lb. per cow.

According to a USDA report, farms with larger herd sizes dominate production. There were 2,680 producers with a herd size of 500 cows or greater in 2000. The total number of dairy producers in the U.S. for 2000 was 105,250. The herds with over 500 cows represent 2.5% of all the dairy producers in the U.S. and produce 35.8 % of the raw milk.

Material used in this article was adapted from the Georgia DairyFax March/April issue.

Sheep (Dr. Terry Dumas)

Foot (Hoof)-and-Mouth Disease Facts

Foot-and-Mouth Disease (FMD) is caused by a fast spreading virus, and all hooved-footed animals (cattle, swine, deer, bison, sheep, elk, goats and llamas) are susceptible to the disease. Nearly 100% of the animals in an exposed herd will become ill, and young animals may die from the disease.

Symptoms: Blisters (vesicles) in the animal's mouth or on the muzzle, on the teats, or on the feet.

FMD Outbreaks Worldwide: FMD has been diagnosed in 34 countries during the past 18 months.

The only continents currently free of the disease are North America, Australia, and Antarctica.

How FMD is Spread: FMD can be transmitted in a variety of ways, the most common being direct contact with an infected animal.

Once infected, animals become "virus factories," capable of spreading high numbers of viral particles to other animals and into the environment. The virus can become airborne and can be breathed in by nearby susceptible animals.

Persons who have been around infected animals also are capable of carrying the virus in their nasal passages for as long as 28 hours. While the disease is not considered to be a threat to humans, it is possible for a person to spread the virus to susceptible animals.

The disease also can be spread when susceptible animals come into contact with feed, feeding utensils, vehicles, clothing or holding facilities that have been contaminated with the virus.

The FMD virus can be carried in the raw meat, animal products or milk from FMD-exposed or infected animals.

Economic Impact of FMD: A single case of FMD would affect every segment of the United States' multi-billion dollar animal and animal product export market. The consequences could be: a loss of consumer confidence in the safety of meat products, prohibitions on the sale and international shipment of animals and animal products, high eradication costs, and vaccine costs.

The United States has regulations in place to prevent the introduction of FMD-infected animals and animal products. But...so did many of the currently affected countries. Therefore, if you suspect a disease problem, report it immediately to your local veterinarian or regulatory animal health official.

If traveling abroad, take precautions:

1. Avoid contact with animals or areas where animals have been held for at least five days before returning to the United States.
2. Before returning to the United States, launder or dry-clean all clothing, jackets or coats.
3. If you have visited a farm abroad, or if you've traveled and live, work, or plan to visit a farm in the United States, shower, shampoo, and change into clean clothing.
4. Remove all dirt or organic material from shoes, luggage, personal items, etc. Wipe the items with disinfectant.
5. Don't bring prohibited products home.
6. Avoid contact with livestock or wildlife for at least five days when you get home.

These products can be used effectively to disinfect for FMD:

1. Sodium hydroxide (lye) solution (2 percent).
2. Sodium carbonate (soda ash) solution (4 percent).
3. Citric acid 0.2 percent solution.
4. Acetic acid (vinegar) 2 percent solution.
5. Virkon S (Antec International) at a 1:200 dilution.
6. Sodium Hypochlorite (household bleach).

This information was provided by USDA.

www.aphis.usda.gov