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genetic avian virus in turkeys when it suddenly switched to high levels. The pathogenic quickly spread into layer, ostrich, guinea fowl, and quail, requiring more than 10 million birds to be depopulated.

In retrospect, the same factors were evident in Pennsylvania during the 1983 and 1986 epidemics and in the 1997-98 problems. Left unchallenged in the 1983 and 1986, the avian influenza outbreaks forced massive eradication of flocks.

"We can't allow this virus to establish itself. Once AI is introduced, it's impossible to keep it from spreading. We must prevent the start of it," Kradel said.

Kradel said the live bird market appears to be the primary source of contamination. The virus circulates among markets and suppliers, at times, take it to the market.

Although lots of efforts to reduce risks have been instilled, the bottom line is that despite all efforts there is not a significant reduction non-pathogenians in live bird markets in New York City, which makes it a risk to commercial operations.

On a scale of 1-10, with one being the lowest, Kradel would classify the virus danger at a 3 or 4.

"We can't predict if it (an outbreak) will happen next week or months later, but the possibility is there," Kradel warned.

He recommends strict biosecurity at the farm level to prevent exposure. "Manure the size of a dime (containing AI) can infect a million chickens," Kradel said.

Another AI-related problem with which to contend is public perception. In 1997 the first proven connection between poultry and human viruses were proven in Hong Kong. Although there doesn't seem to be a connection between AI and human health, Kradel warned that people are liable to accuse even if it isn't valid.

Kradel said that in perusing literature he found evidence that AI was a problem in the U.S. during 1924-1929, when it was referred to as fowl play. In the historical accounts, the New York markets were also confirmed as the source of contamination.

Kradel believes that once the virus is introduced to a flock, it can spread by air and through manure.

It appears that three to four weeks after a virus spreads through a flock, it can no longer be detected in the flock or in the manure after two weeks.

"It seems to die quickly, but we can't count on that," Kradel said of cleanup efforts.

New Developments

Dr. Paul Patterson, Penn State, shared new industry products displayed at the industry's national convention in Atlanta. Of special interest to producers is the continual development of better products to control ammonia in poultry litter.

"Severe litter problems can cost \$600 per flock," Patterson of the need for a better solution.

Three new products tackle the ammonia problem from different angles. Not one product is perfect by itself but each has features that work better for specific incidents.

Producers should talk with their service representatives to decide if one of the products are a viable solution in their bird houses.

New gadgets released include an electronic hand and arm wash system that sanitizes boots at the same time.

Some of the new items Patterson thought worthy of review were an egg pasteurizer to be used in food service settings, a claw heat treatment to reduce turkey carcass damage, an infrared beak trim, fowl mite product, a broiler approved vaccine spray, and infrared laser thermometer.

Introduced also were new ways to market poultry and eggs. Two internet companies show how they are marketing to food service, manufacturing, and retail markets.

"I think this is where we're going," said Patterson of internet marketing.

Ventilation Tips

"Provide proper environment, and you'll have better health," said Dr. Eileen Wheeler, Penn State.

Wheeler released study profiles of bird health comparing temperature variations and relative humidity. She recommends using hand-held thermometers at floor levels since temperatures can fluctuate drastically between floor and standing height.

Relative humidity has a profound effect upon ammonia levels, and for this reason, sensors should be used to keep the humidity properly adjusted. Once ammonia levels rise, it is almost impossible to have them drop to acceptable levels.

Broiler Challenges

Broiler production challenges were addressed by Tom Pantano, Tyson Foods, Andy Bradford, Wenger Feeds, and Rusty Barnes, General Chemical Corporation.

Hot weather can cause havoc in broiler houses. Pantano said that large birds cannot cope well with hot, humid weather. Although some losses will happen regardless of what you do, losses can be kept to a minimum.

Birds raised from the beginning in hot weather do not have as much difficulting acclimated to temperature swings.

Studies show that 85-90-degree temperatures cause broilers to become uncomfortable and panic. They will drink more water. Trouble is inevitable at 95-100 degree temperature, and at 100 degrees, broilers die rapidly.

Highest mortality rates

happen between 5 p.m. and 7 p.m.

Debate is ongoing on whether or not withholding feed restricts the losses. Some producers adamantly insist that it works if the feeders are kept out of reach from 6 a.m. until 8 p.m.

Poultry Progress Producers Do A



Speakers at Poultry Progress Days, from left front, are Andy Bradford, Dr. David Kradel, Rusty Barnes, and Dr. Eileen Wheeler. From back left are Nelson Groff, Tom Pantano, Dr. Paul Patterson, Robert Anderson, and Dr. Al Price.

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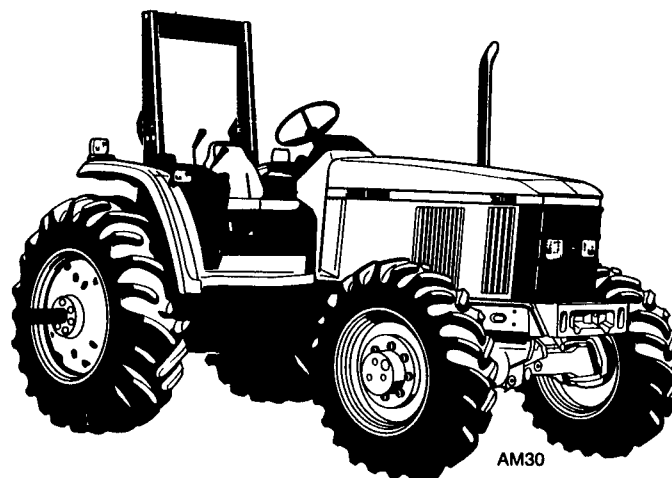
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