

Marek's-Resistant Poultry Possible In Future

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MANHEIM (Lancaster Co.) —

Building a better mousetrap is one thing, but long-term poultry research at the University of Delaware could ultimately build a better bird — one that could be free from developing a disease such as Marek's.

Mark Martin, doctorate student from the University of Delaware, told 40 broiler and layer industry representatives on Monday that in a few years, genetic selection for birds resistant to Marek's disease could be available commercially if breeders make use of Delaware University research.

Martin brought the results of three years of Delmarva poultry research into the nature, spread, study, and control of Marek's Disease to the Poultry Management and Health Seminar at Kreider's Restaurant.

A team of six scientists and researchers are looking into the nature of the herpesvirus that causes Marek's Disease, how it is spread, the effect of vaccinations and combinations thereof, and genetic research into how, in the future, breeders could learn to breed it out of flocks.

In 1991 alone, losses from Marek's Disease totalled \$12 million in the U.S., according to Martin. As the broiler and layer industries continue to bring on more birds, the amount of losses will continue to increase.

The disease is spread through the air in houses on feather follicles, dander, and dust in the building. Incubation of the virus varies by breed and other factors, although certain breeds are more

susceptible to it.

Though predominately a disease of young birds, Marek's Disease has been noted on older birds, according to Martin. Clinical signs include leg paralysis. Acute disease symptoms include severe depression, gross lesions, and tumors in the heart, liver, spleen, skin, etc.

Vaccines are available to treat the disease, but must be used early. Recovery is rare if treatment is begun too late.

On birds inoculated with the virus in tests, usually severe depression sets in about 2-3 weeks later. In many cases, there is a dormancy period, where the birds appear unaffected. However, soon after, more acute symptoms develop.

The virus is carried throughout the body by T-cells. The virus invades blood cells and replicates itself, destroying the cell in the process.

Combinations of different vaccinations studied their effectiveness. The conclusions vary, depending on type of breed, the disease challenge, and factors such as stress and vaccine handling.

Studies were undertaken on farms in the Delmarva Peninsula. In particular, Sussex County, Delaware has the highest concentration of poultry of any county in the country.

Part of the study involved recording the history of the disease in the flocks from 1980-1994. While the incidence of the disease in the flocks dipped from 1987-1988, in 1992-1993, incidences were on the rise.

One reason for the rise in incidences could be the increasing doses being administered.

Researchers are finding that the vaccine really won't work any better beyond the recommended dose.

Other research delves into certain virus isolates and their effect on the flock. Monitoring the flocks for how fast Marek's Disease becomes evident is crucial. Also, samples of the virus are being picked up by examining the dust and dander through the house to see the effects on broilers.

Ultimately, research is studying the "major histocompatibility complex" — in other words, how the map of the bird's genes and the genetic makeup of the virus interact. What they found is that in the birds susceptible to the virus, not one, but several genes are involved. It may be possible, once the genes responsible for susceptibility to Marek's Disease are identified, to simply breed out those genes from birds.

Once the genetic selection is complete, the potential is there, said Martin, for breeders to use it.

Maryland Grange Young Couple

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110 Holsteins producing about 5,600 pounds of milk a day. They have about 50 dry or bred heifers, and 50 young heifers as well as a few young calves. They have begun feeding a total mixed ration, mixing their own corn silage, alfalfa silage, oat and grain mix and a Purina dry feed.

When asked if they were surprised by the award, Brenda replied, "We pretty much knew we were getting it before we went to Hagerstown." Then she smiled.

"We were the only couple to run!" Tom and Brenda Ripley are the first Maryland State Grange Young Couple this state has had in two years, due to a shortage of candidates.

Tom and Brenda met years ago through youth groups within their church, Linganore United Methodist Church. They have been married 10 years and have three children. Their oldest daughter, Nicole is 8 years old. Monica is 5 and Matthew is 2 years old.

Tom Ripley looks over his farm with affection. "I've lived here all of my life," he said.

"I grew up on a farm, too," Brenda revealed. Her parents, Raymond and Mary Katherine Mathews operated a dairy farm in Unionville, Frederick County. "I helped my dad milk 250 cows for several years," she recalled with a smile.

As part of their Grange duties, Brenda and Tom Ripley are keeping a scrapbook of their farming progress. "We are supposed to keep a scrapbook and bring them to meetings to share," Mrs. Ripley said. "It is a lot of fun looking at the books and seeing (other) members when they were young. A lot of people in our Grange (Linganore \$410), have been Maryland State Young Couple," Mrs. Ripley said, "and Tommy's parents were Maryland Young Couple once!"

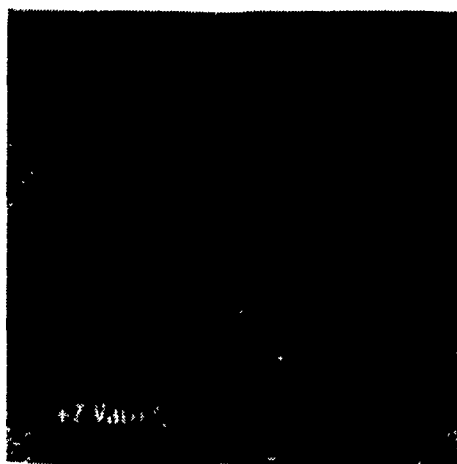
"Basically, we'll try to go to everything we can," said Brenda of upcoming Grange functions. In November, at the close of their reign as Maryland State Grange Young Couple, the pair hopes to attend the National Grange Session in Harrisburg, Pennsylvania. "That is," Brenda added with a smile, "if we can get someone to milk our cows!"

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