

Poultry industry looks at breakthrough in chick vaccination

WASHINGTON, D.C. — Scientists now have vaccinated chicks through the eggshell before they hatch to prevent Marek's disease, a technique veterinarians believe can drastically cut the nation's poultry losses in the years ahead.

A vaccine for Marek's disease has been in use since 1971, but a technical problem has limited its effectiveness.

The problem, said Terry B. Kinney, acting administrator of the U.S. Department of Agriculture's Agricultural Research Service, is that chicks are vaccinated after they are hatched.

Chicks usually are vaccinated within a few hours after hatching and then are placed in brooder houses where exposure to Marek's disease can occur, said Kinney. But the time between vaccination and exposure sometimes is so short that chicks do not develop adequate immunity.

Result: Some vaccinated chicks still get the disease.

Vaccinating the chicks before they hatch solve this problem by giving them more time to develop the needed immunity, said Kinney.

"These research results demonstrate for the first time that resistance can be established in chick embryos through vaccination. Use of the new technique will help the poultry industry save billions of dollars in the future," said Kinney. "The savings will result from reduced deaths and condemnations of poultry, improved feed utilization and increased egg production."

Marek's disease is the leading cause of poultry losses.

USDA veterinary scientists

developed the pre-hatch vaccination methods at the Agricultural Research Service's Regional Poultry Laboratory at East Lansing, Mich.

Jagdev M. Sharma, USDA scientist who developed the technique, said birds vaccinated three days before hatch had an 8 to 1 ratio of disease resistance. All unvaccinated birds developed the disease.

"We have found vaccination of chick embryos very successful," he said. "It had no adverse effect on percent of hatch or rates of gain."

Sharma said the chicks vaccinated before they hatch are "protected by the time they hatch so they can overcome exposure" to the disease.

Before the vaccine became available to poultry producers, Marek's disease cost the poultry industry almost \$300 million a year. In 1971, the first year the vaccine was used nationally, benefits to the poultry industry were estimated at about \$30 million.

By 1974, the first year the vaccine was used by the entire poultry industry, gross benefits had climbed to \$628 million and are expected to reach \$2 billion by 1983—compared to vaccine research costs of \$32 million over a 10-year period.

Once testing of the new vaccination technique was started, Sharma said, "We were surprised by the results. Chicks were protected from Marek's disease by the time they hatched, so they overcame early exposure to the disease much better than chicks vaccinated at hatching, now a common practice in commercial

production.

"Whether our methods, under laboratory conditions, would be a practical alternative remains to be determined. It also remains to be seen whether this method of vaccination is feasible for other diseases.

"We found optimum protection was achieved if vaccination was

done at about the eighteenth day of embryonation, the same time embryonated eggs routinely are transferred to hatching trays. It may be possible for commercial producers to vaccinate and transfer eggs at the same time," Sharma said.

Sharma and a colleague, Ben R. Burmester, exposed test birds—of

a genetic line developed for use at the laboratory because it is highly susceptible to Marek's disease—three days after hatching.

Vaccination before birth has been tried with mammals in medical research, said Sharma, but these injections are laborious and resulting abortion problems have not been overcome.

Penn Ag convention begins on Tuesday

EPHRATA — "Agriculture-A Pattern For Growth" will be the focus of the 103rd annual PennAg Industries Association Convention Tuesday through Thursday. The group will meet at the Buck Hill in Buck Hill Falls, Pa.

Besides gathering for the traditional yearly banquet, members attending the event will hear speakers covering such topics as "Crystall Bailing the Agribusiness Scene," "Genetic Engineering," "Energy-Yesterday, Today and Tomorrow," "Animal Welfare and the Poultry Industry," and the "Economic Recovery Tax Bill of 1981". A panel discussion discussing agribusiness loans and the management of finances will be featured.

The statewide trade organization of agribusiness firms will gather experts from across the nation to address its members.

Scheduled to speak are Edward

Millbank, Millbank Mills, Chillothe, MD; Ralph Lewis, Gulf Oil, Los Angeles, Ca.; Dr. Ari Van Tienhoven, Cornell University, Ithaca, N.Y.; R.B. Caton, Ralston Purina Co., Camp Hill, Pa.; and James Wright Jr., Penn State. Speaking on the panel will be Vince DiPatre, Philadelphia National Bank, Philadelphia; Neil S. Andre, Andre & Son, Montrose; Tom Brown, F.M. Brown's Sons, Fleetwood; Ned Clark, Clark's Ag

Center, Turbotville; and Henry Hunsberger, Agronomy Inc., Mercersburg. H. Louis Moore, Penn State, will serve as moderator.

The three-day event will also feature exhibits and displays, a golf and tennis tournament, a ladies program and evening entertainment. The Convention will close with PennAg's annual business meeting.

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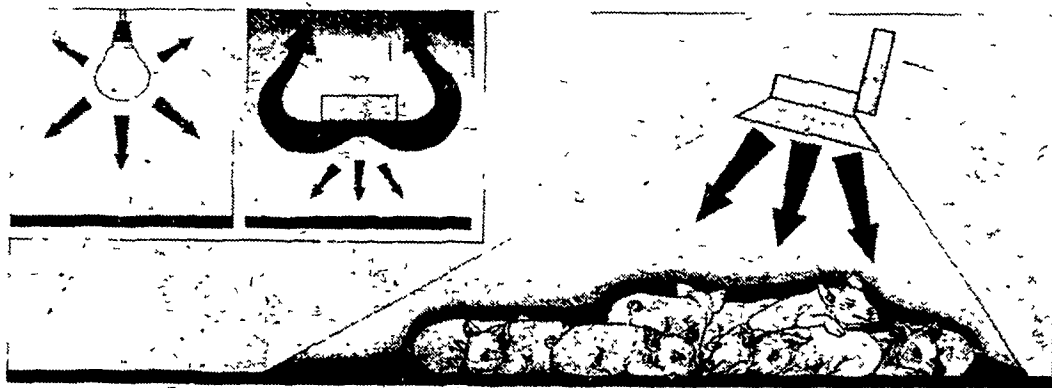
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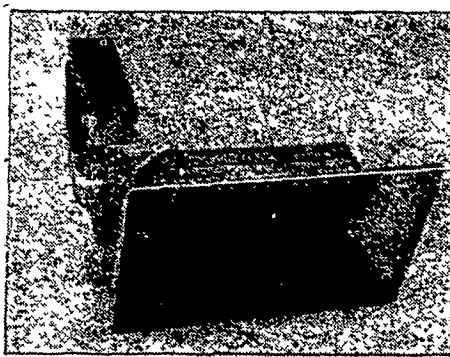
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