

14774 P

Studies on Certain Filtrable Viruses. VII. Antigenic Properties of Entire Embryo Fowl Pox Vaccine.

D. L. KERLIN AND ROBERT GRAHAM. (Introduced by F. W. Tanner.)

From the Department of Animal Pathology and Hygiene, University of Illinois.

In a previous report,¹ the results of artificial exposure of chickens from farm flocks inoculated with fowl pox vaccine prepared from entire chick embryo were described. The vaccine consisted of a composite of the chorio-allantoic membrane, yolk, yolk sac, albumen, embryo proper, and fluids from inoculated embryos that showed gross lesions on the chorio-allantoic membrane. Thirty-five healthy farm flocks composed of 25,164 chickens were inoculated by the 3-stick method with the desiccated vaccine suspended 1-100 in tryptone broth. Observation of over 6,000 of the birds nine days after inoculation showed 95.85% with positive take reactions. The report on results of artificial exposure indicated that 95.77% of 71 birds taken from 4 of the flocks showed immunity to fowl pox virus approximately one year after vaccination.

The present note concerns an additional observation on the duration of immunity produced by entire embryo vaccine. One hundred and seventy-nine birds culled at 4 different intervals from one of the flocks ap-

proximately 2 years subsequent to vaccination were artificially exposed to fowl pox virus. A 1-100 suspension of entire embryo virus in tryptone broth was inoculated by the 3-stick method into the patagium, the virus being of the same strain as that employed in vaccination. The exposed chickens were examined at two consecutive weekly intervals for lesions of fowl pox following exposure. Results of observations are presented in Table I.

Of the 179 birds artificially exposed two years following vaccination, six susceptible and two with doubtful reactions were encountered. The 19 nonvaccinated control birds exposed to the challenging virus proved susceptible. Though the number of birds included in this observation is small in comparison with the original number of birds vaccinated, it appears that a large proportion, 96.68%, proved immune to fowl pox virus exposure 2 years after vaccination. The percentage of immunity compares favorably with 95.77% found one year subsequent to vaccination.

TABLE I.
Artificial Exposure of Chickens Vaccinated Two Years Previously with Entire Embryo Fowl Pox Vaccine.

Date of Exposure	No. exposed*		No. susceptible†		% immune	
	Vaccinated	Control	Vaccinated	Control	Vaccinated	Control
5-1-44	24	6	0	6	100	0
6-14	47	3	0	3	100	0
7-25	86	6	4	6	95.81	0
10-3	22	4	2	4	90.90	0
Total	179	19	6	19	96.68	0

* Entire embryo fowl pox virus by 3-stick method.

† Birds showing fowl pox lesions, doubtful reactions considered negative.

¹ Kerlin, D. L., and Graham, Robert, *Proc. Soc. Exp. Biol. and Med.*, 1944, **55**, 225.