

TESTING BLOOD FOR PULLORUM

Thus it is reasonable to argue that day-old chicks from breeding flocks containing reactors carry the disease organisms, but that under first-class rearing conditions these organisms may remain inactive. Under poor conditions, on the other hand, these organisms become active, resulting in mortality from pullorum disease. This explanation will appear logical to those who have experienced no serious losses from pullorum disease on their own farms but have been faced with complaints of pullorum outbreaks among chicks sold to other producers. Where producers who previously experienced these baffling circumstances have had their breeding flocks blood tested and reactors removed no further complaints have been received, or at the worst their number has become negligible.

Another aspect of the behaviour of pullorum disease in New Zealand is of interest. Overseas the disease spreads very rapidly in cabinet incubators; one batch of disease-carrying chicks hatched in an incubator is likely to infect a large proportion of the disease-free birds. From observations in New Zealand the risk of infection in this manner is far less than that recorded overseas.

It must be emphasised, however, that the fact that pullorum disease is apparently less virulent in New Zealand is no justification for relaxation in blood testing. No assurance can be given that the disease may not become just as virulent in future as it is overseas. Losses from pullorum disease in the past were heavy and losses still continue. It is essential to bring this disease under control before it can become a scourge in the industry.

Survey of Past Work

Before 1941 the number of birds tested in New Zealand was negligible, and even in that year only 684 were tested. Table I sets out the number of birds blood tested in the years following, recorded under the four main provincial areas as usually recognised in the poultry industry.

The fall in numbers for 1943 is considered to have been caused by the

TABLE I: NUMBER OF BIRDS BLOOD TESTED FOR PULLORUM DISEASE

	1942	1943	1944	1945	1946
Auckland	11,478	2,627	12,253	25,449	33,931
* Wellington	4,726	6,941	34,515	61,453	65,075
Canterbury-Westland	544	—	—	11,589	13,690
Otago-Southland	215	—	—	11,131	19,957
Dominion	16,963	9,568	46,768	109,622	132,653

* Wellington includes Taranaki, Manawatu, Gisborne, Hawke's Bay, Blenheim, and Nelson.

TABLE IV: DOMINION TOTALS OF BIRDS TESTED BY BREEDS

	1942		1943		1944		1945		1946	
	Birds tested	Percentage of reactors	Birds tested	Percentage of reactors	Birds tested	Percentage of reactors	Birds tested	Percentage of reactors	Birds tested	Percentage of reactors
White Leghorns	4,254	13.5	6,410	3.4	37,566	9.2	87,218	7.5	107,084	5.8
Black Orpington	3,150	19.5	2,335	15.2	10,249	17.1	20,820	12.6	20,417	10.1
Rhode Island Red	1,331	13.5	639	7.8	2,097	9.1	2,680	9.3	2,304	13.0

Only the three most popular breeds are listed, as the numbers of all other breeds are comparatively small.

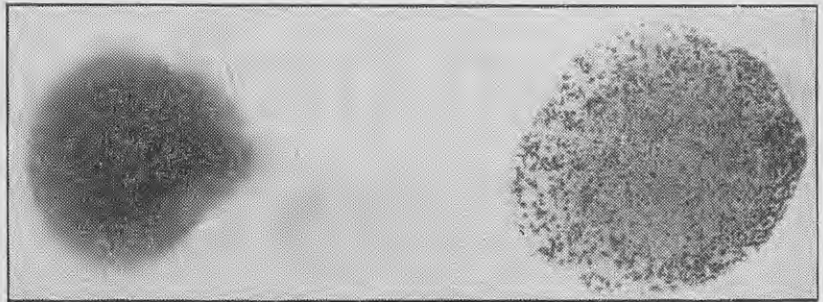


Fig. 5—Left—No reaction; bird healthy. Right—Positive reaction; glutination apparent, indicating a pullorum "carrier."

particularly difficult conditions which followed the entry of Japan into the war, but the table indicates clearly the big increase in numbers of birds tested during the past five years. In considering the numbers of birds tested in each area it is interesting to note the census figures for 1945 expressed in percentage form:—

	per cent.
Auckland	37.6
Wellington	28.5
Canterbury-Westland	19.4
Otago-Southland	14.5
100.0	

These figures exclude ducks.

Table II shows the number of farms on which blood testing was carried out, irrespective of the size of flock maintained. It shows a satisfactory expansion of the service, but indicates the need for an increased interest in the South Island. The total of 367 farms visited for blood testing in 1946 is still small in relation to the number of commercial flocks in the Dominion.

TABLE II: NUMBER OF FARMS WHERE BIRDS WERE TESTED

	1942	1943	1944	1945	1946
Auckland	10	5	15	68	88
Wellington	9	11	82	163	193
Canterbury-Westland 1	—	—	—	20	45
Otago-Southland	—	—	—	21	41
Dominion	20	16	97	272	367

Records have also been kept of the numbers of reactors found in flocks throughout the Dominion, and during

the past two years these details have been increased by records according to the sex, age, and breed of birds. Table III and IV set out these data in detail, and show that in the past five years blood testing has removed from New Zealand flocks 26,935 potential breeding birds infected with pullorum disease. They also indicate that the percentage of reactors is showing a satisfactory decrease.

TABLE III: DOMINION TOTALS OF BIRDS TESTED AND REACTORS RECORDED

	Birds tested	Number of reactors	Percentage of reactors
1942	16,963	1,970	11.6
1943	9,568	629	6.5
1944	46,768	5,711	12.2
1945	109,622	9,888	9.0
1946	132,653	8,737	6.5
315,574	26,935		

Finally the figures are analysed in respect of sex and age, but only data for 1946 are available at present:

TABLE V: REACTORS ACCORDING TO SEX AND AGE

	Number tested	Percentage of reactors
Hens	107,514	7.3
Pullets	16,834	5.0
Cock birds	1,071	.34
Cockerels	7,234	.58

Testing of Males

In view of the small percentage of reactors among male birds the question has been raised whether it is necessary to test them. An infected male may easily spread the pullorum to disease-free females or to other males in a mass-mated flock. An infected male—and these are found from time to time in most flocks—must always be a source of danger while retained on the farm. For that reason it is desirable to test male birds annually.