# THE POULTRY INDUSTRY IN DELAWARE DURING THE LAST 50 YEARS (1900-1950)

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LOOKING BACK over the past fifty years, we are truly amazed by the tremendous progress made by the poultry industry in Delaware during that period. The greatest progress and development, however, have come in the last twenty-five years, during which time the broiler industry has grown from the production of several thousand birds annually to a peak of 73,000,000 broilers in 1945. Delaware now is the leading commercial broiler producing state in the United States.

Some of the factors which have contributed greatly to the development of the broiler industry were the advancement in knowledge of poultry nutrition, the improvement of poultry equipment, especially incubators, the program of disease control and eradication in the state, the development of the "know-how" of large-volume methods in the production of poultry meat, and the expansion of consumer acceptance of the product.

## LAYERS ON DELAWARE FARMS

There were few commercial poultry plants in Delaware previous to 1910. Probably the pioneer in the industry was W. G. Anthony of Smyrna, who started in the egg business in 1901. Mr. Anthony built his first brooder house in 1906, heating it with hot water pipes. During the years 1912-16, he enlarged his poultry plant by building five laying houses each 16 x 100 feet. On January 1, 1900, there were 628,866 chickens on Delaware farms according to the census. The figures show a steady increase up to 1930, after which time the number of chickens declined to a little over one million. The number of laying birds has remained fairly constant during the last four years of this 50-year period.

* Department of Animal and Poultry Industry.

| | | |
|---|---|---|
| 1910 | — | 785,591 |
| 1920 | — | 948,656 |
| 1925 | — | 1,449,000 |
| 1930 | — | 2,020,000 |
| 1935 | — | 1,116,000 |
| 1940 | — | 1,190,000 |
| 1945 | — | 1,345,000 |
| 1950 | — | 1,107,000 |

In 1912, commercial egg producing farms were started in the vicinity of Milford. These farms increased in numbers and size until about 1930, when the prevalence of " range paralysis " created a problem in raising replacement stock which caused many producers to reduce operations. The commercial egg producing area in the Hartly vicinity was started in 1914, and the Iron Hill area began its development in 1928.

### Egg Production

Total egg production in Delaware according to the 1900 Census was 42,862,440 eggs. During the following 49 years, this total gradually increased to 141,000,000 for the year 1949. The increase was brought about not only by the increase in numbers of birds but by the increase in eggs per bird.

The egg production per hen for 1910 is estimated at 67 eggs. For 1949, annual production per bird was above 150 eggs. The increase in egg production per bird was brought about by the use of improved strains, better nutrition, and better management of the laying flocks. This increase in Delaware parallels the increase in the United States as a whole.

### Commercial Broilers

The growth of the commercial broiler industry in Delaware, from a few hundred in the early 1920's to the 73 million produced in 1945, provides one of the most fascinating developments in the history of the poultry industry. Whether the start of this industry was purely accidental, or whether the people in southern Delaware were in need of a new enterprise is a matter of opinion. The fact remains that the development and growth of the broiler industry have been of immeasurable value to the economic well-being of the state.

Credit for the beginning of the commercial broiler industry has been given by an observer [1] to Mrs. Wilmer Steele of Ocean View. In 1923, she is reported to have started a brood of 500 chicks in the usual manner, growing replacement stock for the laying flock. But when the birds reached an average weight of about two pounds, she sold the remaining 387 for 62 cents a pound, live weight. The next year Mrs. Steele started 1,000 chicks, which were later sold for 57 cents a pound live weight. The news of this profitable enterprise spread through Baltimore Hundred, and it is estimated that by 1925 there were 50,000 broilers grown in the area.

For several years the general practice was to raise only one lot of birds each year, starting in February so that they would be ready for market before the supply of farm-produced fryers and broilers was ready to be sold. Growers soon began to start a winter brood in November and another in February. Today, broiler chicks are placed in the broiler houses every week of the year.

The eight reasons generally given for the development of the broiler industry in Sussex County are: (1) a temperate climate, (2) cheaper building costs, (3) the fact that chicks can range all winter if desired, (4) lower labor and overhead costs, (5) lower fuel costs for brooding, (6) a porous soil which provides good drainage and aids in disease control, (7) relative proximity to markets, and (8) ready credit for financing operations.

Another reason not generally given, but which had its influence on the change-over from laying flocks to broilers, was the prevalence of "range paralysis" in the growing replacement stock during the late 1920's. It would therefore appear that a combination of circumstances such as experienced and equipped poultrymen, good broiler prices, and an uncontrolled disease contracted by birds only after the age at which they were marketable as broilers provided the setting for the start and early development of the broiler industry in Delaware.

Three factors in addition to those mentioned above have had an important influence upon the development of the annual production of broilers from the several million broilers in the 1930's to the 50 to 70 million produced in the 1940's. One is the general consumer acceptance of broilers produced in Delaware. Another is that broilers are supplementing the smaller supply of other poultry meats, traceable to the present-day efficient laying flocks. Com-

[1] Annual Report of Extension Poultryman, University of Delaware, 1928, p. 9.

mercially-raised broilers have become so important a part of poultry production that they provide practically one-third of all poultry meat consumed. The third factor is the constructive Pullorum eradication program which has been carried on by the Poultry Pathology Department of the State Board of Agriculture during the last twenty years.

### Broiler Numbers

As already mentioned, the broiler industry began in Delaware with a known lot of 500 birds in 1923 and reached the peak of production with 73,000,000 in 1945. The first Government estimates on commercial broiler production in Delaware were published in 1934. These estimates [2] show a gradual but rapid increase in production over the years. In 1934 the broiler production for Delaware was 7 million, approximately 21 per cent of the total production in the United States. By 1940 production of Delaware broilers had increased to 25,000,000, slightly better than 26 per cent of the total for the United States. In 1949 production had increased to 71,881,000 in Delaware, but the increase in commercial broilers produced in other areas had reduced the percentage to about 17 per cent of the total United States production.

### Income from Broilers and Poultry

The income from broilers each year has increased tremendously the proportion which poultry and poultry products contribute to Delaware's agricultural income.[3] In 1924 poultry and poultry products were responsible for a cash farm income of $3,719,000, about 20 per cent of all agricultural income in Delaware. By 1935, the income from all poultry and poultry products had increased to $8,105,000, approximately 42 per cent of the total agricultural income. The peak in broiler production to date was reached in 1945, when the cash farm income for broilers amounted to $60,807,342. In that year, cash farm income from all poultry and poultry products amounted to $64,312,850, which was 87 per cent of the Delaware cash farm income.

[2] Data from Bureau of Agricultural Economics, United States Department of Agriculture.
[3] *Ibid.*

## Broiler Chicks

In the early years of the broiler industry in Delaware, pure-bred Barred Plymouth Rocks supplied most of the chicks used by broiler growers. By 1935 Barred Cross chicks, resulting from the cross of the Barred Rock male on the New Hampshire female, were finding favor with broiler growers. The number of chicks from this cross increased rapidly until more than 90 per cent of the chicks used for broiler production were Barred Cross chicks. During the past few years, straight New Hampshire chicks have also been used in large numbers for broiler production. Several other meat-type birds, such as the Indian River Cross, have been used by the Delaware broiler grower.

## Broiler Houses

The original houses used for broiler production were small brooder houses with 12 x 16 or 16 x 16 feet of floor area. The brooder houses were set apart from one another to prevent the spread of diseases.

The long broiler houses made their appearance in 1928. The early long broiler houses were usually 16 to 18 feet wide and varied in length depending upon the size of the operation. Most broiler houses built from 1938 to 1945 were 20 or 24 feet wide, for experience had demonstrated that a wider house was more desirable. During the last few years broiler houses from 40 to 60 feet in width have come into favor with broiler growers, and much of the new construction consists of wide houses.

Early long houses were heated by hot water, piped from a central heater. This system of brooding was soon dropped in favor of separate brooder stoves, because the system did not provide uniform heat throughout the length of the brooder house. The individual coal-burning brooder stove was largely used during the development of the broiler industry in the State.

During the last few years central heating units have again made their appearance, and with the modern improvements which have been made on the units, the results obtained from their use are excellent.

## Broiler Marketing

During the early developing period of the broiler industry, all broilers were sold to live poultry buyers. Between 1925 and the early 1930's most of the broiler flocks offered for sale were less than a truck load, and it was therefore necessary to assemble several flocks at a feeding station before shipment to the live market. These poultry feeding and fattening stations played an important role in the development of the industry. The outlets for the live poultry were principally the New York and Philadelphia markets. The Washington and Baltimore markets also received shipments of Delaware broilers.

Until 1938 about the only outlet the grower had for his broilers was the buyer of live poultry. Production had increased to the point where market gluts occurred rather frequently and it was at this time that the first poultry processing plant started operation in Delaware. The Eagle Poultry Company started a poultry processing plant in a remodeled canning factory in Frankford in 1938. This venture was a success from the standpoint of both the grower and the processor. Although the supply of broilers in the area was not sufficient to keep the plant in operation continuously during 1938, this difficulty had largely been overcome by the following year, when production had been increased to the point where lack of supplies seldom stopped operations.

In 1939 the Millsboro Poultry Company started operations in Millsboro, and in 1940 the H. & H. Poultry Company started a processing plant in Selbyville. Since 1940 a number of additional processing plants have begun operations in Delaware and Maryland, offering additional outlets to the Delaware grower for his broilers.

Until recently, nearly all poultry processed in Delaware reached the poultry markets as ice-packed, New York dressed poultry. To meet the growing demand for cut-up, ready-to-cook poultry, a large number of the broilers are now being packed cut-up style. These packs include whole birds and separate parts such as legs, breasts, etc. The packs of cut-up broilers are available to the consumer in both fresh-iced and quick frozen.

## Hatcheries

The commercial hatcheries have been an important factor in the growth and development of the broiler industry. Prior to 1910 there were few commercial poultry flocks in Delaware and therefore little need for commercial hatcheries. Shortly after 1900 W. G. Anthony of Smyrna began operating six Cyphers incubators of 240 eggs each. In 1904 Byron Pepper of Georgetown began operating kerosene incubators with a capacity of 3800 eggs. Pepper's hatchery has been in continuous operation in the State during the past 46 years.

It is believed that Vernon Steen, who was operating a small hatchery at Dagsboro, hatched the chicks used in producing the first flock of broilers.

By 1925 there were from 20 to 25 hatcheries operating in the State. During the next few years hatcheries doubled in number, and in 1927 there were 46 commercial hatcheries ranging in size from 15,000 to 250,000 eggs, with a total capacity of approximately 2,000,000 eggs.

The hatchery capacity in the State has been increased as the broiler industry has developed over the years, and a survey made by the Poultry Department [4] of the State Board of Agriculture in 1949 showed that there were 43 commercial hatcheries operating with a total capacity of 8,313,800 eggs. Delaware is among the states that lead in pullorum-clean hatchery capacity and in 1949 produced more pullorum-clean chicks than any other state in the nation.

## Poultry Diseases

Poultry growers appear to have been confronted with poultry disease problems even before commercial egg production and broiler production developed into important agricultural enterprises in the State. The Delaware Agricultural Experiment Station apparently considered poultry diseases of sufficient importance to the poultry industry in 1900 to publish a bulletin on the subject.[5] In this bulletin, Frederick D. Chester, mycologist, presents what was then known in the field of avian pathology and therapeutics. In 1921

[4] Annual Report, State Board of Agriculture 1948-49, Vol. 39, No. 3, page 37.

[5] F. D. Chester, Common Diseases of Fowls. Their Control and Treatment, Del. Expt. Sta. Bul. No. 47, Sept., 1900, p. 30.

the State Board of Agriculture published a bulletin entitled "Poultry Diseases Prevalent in Delaware" by Dr. C. C. Palmer of the University of Delaware.

It might be of interest to list what appeared to be the ten most common diseases prevalent in 1900 and 1921, and the ten poultry diseases encountered most frequently by the Poultry Pathology Department of the State Board of Agriculture during the fiscal year 1948-49.

| *1900* | *1921* | *1948-49* |
|---|---|---|
| 1. Gapes | Roup | Intestinal Coccidiosis |
| 2. Catarrh | Chicken Pox | Newcastle Disease |
| 3. Roup | Fowl Cholera | Bronchitis |
| 4. Pip | Limber Neck | Cecal Coccidiosis |
| 5. Gastro-enteritis | White Diarrhea (Pullorum) | Coryza |
| 6. Bacterial-enteritis | Blackhead | Epidemic Tremors |
| 7. Fowl Cholera | Tuberculosis | Blue Comb Disease |
| 8. Asthemia (going light) | Coccidian Dysentery | Gizzard Erosion |
| 9. Blackhead | Fowl Typhoid | Neural Lymphomatosis |
| 10. Infectious Leukaemia | Parasites | Pullorum |

It is readily seen that the 1948-49 list contains a number of poultry diseases that are not found in the 1900 and 1921 lists.

## Disease Control in Delaware

The first appropriation for the control of poultry diseases in Delaware was made in 1921. This appropriation of $1000 was made to the State Board of Agriculture, which made arrangements with the University of Delaware to carry on the work. Dr. C. C. Palmer, who was in charge of the work at the University, and E. R. Hitchner, bacteriologist, carried on the poultry laboratory diagnosis and field investigations. The first agglutination tests in Delaware for pullorum disease were conducted in 1921 on 200 birds.

Upon the resignation of Dr. Hitchner in September, 1922, to accept a position at the University of Maine, H. R. Baker was appointed to fill the vacancy, and he carried on the blood testing and field work until 1925, when the disease work was transferred to the laboratory at Dover.

Because of the increased demand for pullorum disease testing work, the appropriation for disease control was increased in 1925. The disease work was then transferred from the University of Delaware to the State Board of Agriculture Laboratory in Dover.

Dr. Frank Hare was employed as poultry pathologist in 1925 and remained in this position until July, 1929.

Upon the resignation of Dr. Hare, Mr. H. R. Baker was employed as Poultry Pathologist by the State Board of Agriculture. Mr. Baker is responsible for the constructive program of pullorum eradication which has been in progress during the past twenty years.

The pullorum disease eradication program in Delaware has been exceedingly successful since the first 200 birds were blood tested in 1921. In the 1922-23 testing year 1,034 birds were tested and 9.2 per cent were found to be positive. Ten years later 73,359 birds were tested and the positive reactors had been reduced to 3.9 per cent. In 1941-42 when a total of 337,000 birds were tested, reactors had been reduced to 0.56 per cent. During the testing year 1948-49 a total of 400,218 birds were tested and the per cent reactors had been reduced to approximately one-tenth of one per cent. The number of breeding flocks in Delaware in 1948-49 free from pullorum disease totaled 469.

## Poultry Education and Research

Very little organized or formal poultry teaching or research was carried on by Delaware College, later the University of Delaware, previous to 1925. The Director's Annual Report for the year ending June 30, 1917, lists the appointment of H. V. Cory as Assistant Poultry Husbandman. Mr. Cory resigned during that year and was succeeded by R. V. Mitchell.

Director McCue in his Annual Report for the year ending June 30, 1921, points out the lack and the need of poultry work with the following statement: "The poultry interests of the state are large and well distributed. The Station has been able to give the industry but little assistance. There is a great field in this State for research and experiments along poultry lines, especially in relation to feeding, housing, breeding, and the control of poultry diseases."

In 1922 a part-time Poultry Disease Investigator was appointed and the cooperative arrangement with the State Board of Agriculture for work on poultry diseases was continued.

The year 1925 saw the beginning of an organized poultry Research and Extension program at the University of Delaware. A poultry plant, constructed after the First World War for the training of disabled soldiers, came into the possession of the University

in the fall of 1925. This plant was populated with a flock of White Leghorns. Director McCue instructed the writer, A. E. Tomhave, to plan and organize poultry research projects, using the available birds and facilities.

The first full-time Poultry Extension Specialist was employed by the University of Delaware in 1925, and this position has been filled continuously since that date. Mr. Hoke S. Palmer began his duties as Poultry Extension Specialist on July 1, 1925, and continued in that capacity until his resignation in 1936.

The first poultry research project is found listed in the Director's Annual Report for the year ending June 30, 1925. Expansion of the research program began at that time, and in 1930 seven poultry research projects are listed in the Director's Annual Report. By 1945 the poultry research program had been expanded to ten projects, and by 1949 the number of poultry research projects was seventeen.

Lack of funds to employ personnel hampered the more rapid development of the poultry research program during the 1930's. The first full-time poultry research worker was added to the poultry staff on February 1, 1940, when W. C. Skoglund joined the University faculty. By the beginning of 1950 the poultry teaching and research staff of the University had been increased by the additions of five workers trained in Poultry Husbandry.

Previous to 1940 the poultry teaching and research program was carried on in the Department of Animal Industry. On January 1, 1940, A. E. Tomhave was appointed head of the department, and the name was changed to the Department of Animal and Poultry Industry.

A broiler substation was developed near Georgetown by the Experiment Station in 1942 with funds appropriated by the General Assembly in 1941. The research program at the Substation has been concerned largely with broiler production problems and broiler disease prevention and control. The Substation has contributed much to the information on broiler growing, and it was at this station that the intermittent use of sulfa drugs to control coccidiosis was developed. The broiler substation in Delaware was the first broiler experiment station of its kind in this country.

A major course of instruction in poultry husbandy was adopted by the School of Agriculture of the University of Delaware in the fall of 1945. A graduate course with poultry as a major and leading to the degree of Master of Science was developed in 1947.

Previous to the establishment of the poultry major in 1945, courses pertaining to poultry had been rather limited. In 1923 a course in Poultry Hygiene was offered and was given under this title until 1928. In 1928 the name of the course was changed to Poultry Production and the emphasis shifted from diseases to management and nutrition. In 1936 the three-credit course was discontinued and a six-credit course was offered in poultry production and management. The course was offered as three credits for each semester during the junior year.

### Chicken-of-Tomorrow Contests

Poultry breeders in Delaware have participated in the Chicken-of-Tomorrow contests from their beginning in 1946. The writer has been State Chairman of the contests and has also been a member of the Procedure and Award National Committee since the initiation of this program to improve the market quality of poultry.

The 1946 and 1947 Delaware Contests were won by Indian River Poultry Farms of Ocean View, and the 1949 State Contest was won by O. A. Newton and Son of Bridgeville.

The 1948 National Chicken-of-Tomorrow Contest was held at the University of Delaware Substation. Forty entries of 400 chicks each, from 26 different states were reared to twelve weeks of age in the broiler houses at the Substation. Indian River Poultry Farm and Townsends, Inc., both Delaware firms, had entries in the 1948 National Contest.

### Poultry Organizations

One of the earliest poultry organizations in the State was the Delaware Poultry Association, organized in 1926. The Association was very active for several years and held poultry shows, sponsored poultry tours, and in general promoted the interests of the Poultry Industry. The Association became rather inactive in the middle 1930's, and in 1938 a new association was formed to replace it. The new group was called the Delaware Poultry Improvement Association and has for its object the promotion of the general welfare of the entire poultry industry of Delaware. The Association is composed of community groups as D. P. I. A. Locals. The Locals hold several educational meetings during the year, and the Asso-

ciation as a whole has one big meeting each year, mostly social in nature.

Other poultry organizations that are or have been active over the years are the Official Hatchers and Breeders Association, Record of Performance Poultry Breeders Association of Delaware, Delaware State Turkey Growers Association, Diamond Egg Club, and the Poultry Institute.

Delaware poultry producers support as individuals or through their associations such regional and national associations as the Delmarva Chicken Festival, Inc., The Northeastern Poultry Producers Council, the National Turkey Federation and the Poultry and Egg National Board.

### Poultry Promotion

The General Assembly in 1949 appropriated funds for the creation of the Delaware State Poultry Commission, the duty of which is to promote Delaware's poultry industry. The legislative act provides for an eight-member, bi-partisan commission appointed by the Governor. The Commission has engaged in consumer education programs over the radio and television, distributed informational leaflets on poultry to homemakers, and other promotional activities.

## APPENDIX

TABLE 1. CHICKEN[1] NUMBERS ON DELAWARE FARMS, EGGS PER LAYERS ON FARMS AND INCOME FROM CHICKENS AND EGGS, EXCLUSIVE OF BROILERS AND HATCHING EGGS

| Year | Chickens on Farms, January 1 | Eggs per Layer on Farm, January 1 | Value of Chickens Consumed and Sold | Value of Eggs, Consumed and Sold |
|---|---|---|---|---|
| | Thousands | Numbers | Thousand Dollars | Thousand Dollars |
| 1900[2] | 629 | 68 | .... | .... |
| 1910 | 786 | 67 | 839 | 969 |
| 1920 | 949 | 49 | 1,106 | 1,993 |
| 1924 | 1,498 | 97[3] | 1,436 | 2,361 |
| 1925 | 1,449 | 97 | 1,739 | 3,284 |
| 1926 | 1,537 | 103 | 2,376 | 3,604 |
| 1927 | 1,679 | 107 | 2,861 | 3,560 |
| 1928 | 1,863 | 103 | 2,779 | 4,175 |
| 1929 | 2,038 | 100 | 3,447 | 4,893 |
| 1930 | 2,020 | 91 | 3,403 | 4,078 |
| 1931 | 1,824 | 86 | 2,905 | 2,637 |
| 1932 | 1,650 | 96 | 2,859 | 1,941 |
| 1933 | 1,386 | 95 | 2,649 | 1,505 |
| 1934 | 1,335 | 90 | 2,885 | 1,498 |
| 1935 | 1,116 | 90 | 952 | 1,672 |
| 1936 | 1,115 | 106 | 1,114 | 1,983 |
| 1937 | 1,193 | 108 | 1,130 | 2,015 |
| 1938 | 1,121 | 120 | 1,114 | 2,035 |
| 1939 | 1,129 | 122 | 978 | 1,825 |
| 1940 | 1,190 | 120 | 1,102 | 1,974 |
| 1941 | 1,206 | 119 | 1,482 | 2,450 |
| 1942 | 1,304 | 115 | 1,871 | 3,176 |
| 1943 | 1,322 | 116 | 2,751 | 4,043 |
| 1944 | 1,401 | 121 | 2,708 | 3,724 |
| 1945 | 1,345 | 119 | 3,200 | 4,741 |
| 1946 | 1,411 | 124 | 3,172 | 4,876 |
| 1947 | 1,146 | 133 | 2,323 | 4,854 |
| 1948 | 1,123 | 136 | 2,493 | 5,697 |
| 1949 | 1,075 | 151 | 1,863 | 5,354 |

[1] Does not include commercial broiler production.

[2] 1900, 1910, and 1920 U. S. Census Figures. Figures 1924 through 1949 from Bureau of Agricultural Economics, U. S. D. A.

[3] Eggs per layer 1924 through 1949, U. S. D. A. Report on Farm Production, Disposition and Income, Chicken and Eggs. Agricultural Statistics.

## APPENDIX

TABLE 2. Broiler Numbers for Delaware and Cash Farm Income From Broilers

| Year [1] | Commercial Broilers Produced | Per Cent of Total U. S. Production | Cash Farm Income from Broilers | Per Cent of Delaware Farm Income |
|---|---|---|---|---|
| | Thousands | Per Cent | Thousands Dollars | Per Cent |
| 1923 | 1 | | | |
| 1924 | 10 | | | |
| 1925 | 50 | | | |
| 1926 | 1,000 | | | |
| 1927 | 1,500 | | | |
| 1928 | 2,000 | | | |
| 1929 | 3,000 | | | |
| 1930 | 4,000 | | | |
| 1931 | 5,000 | | | |
| 1932 | 6,000 | | | |
| 1933 | 6,500 | | | |
| 1934 | 7,000 | 20.6 | 4,270 | 28.0 |
| 1935 | 9,000 | 21.0 | 5,580 | 31.6 |
| 1936 | 11,000 | 20.7 | 6,930 | 36.3 |
| 1937 | 16,000 | 23.6 | 10,560 | 48.7 |
| 1938 | 19,000 | 23.0 | 10,830 | 53.5 |
| 1939 | 24,000 | 23.5 | 10,560 | 56.0 |
| 1940 | 35,000 | 26.6 | 12,960 | 42.6 |
| 1941 | 48,000 | 27.8 | 21,200 | 53.8 |
| 1942 | 54,000 | 26.2 | 36,828 | 62.5 |
| 1943 | 59,000 | 23.4 | 50,091 | 64.3 |
| 1944 | 50,000 | 23.5 | 47,693 | 61.2 |
| 1945 | 73,000 | 23.4 | 65,174 | 68.7 |
| 1946 | 54,575 | 19.8 | 51,356 | 59.6 |
| 1947 | 52,488 | 18.5 | 49,302 | 56.6 |
| 1948 | 53,245 | 15.0 | 57,936 | 58.4 |
| 1949 | 71,881 | 14.7 | 50,610 | 62.0 |

[1] 1923-1933 estimates based on statements in H. S. Palmer's Annual Reports. 1934-1949 numbers and income from reports of U. S. D. A., Bureau of Agricultural Economics.

## APPENDIX

TABLE 3. SUMMARY OF PULLORUM TESTING IN DELAWARE 1921-1949 [1]

| Year | Total Tests | Total Birds Tested | Per Cent Reaction | Number of Flocks | Number of Pullorum Free Flocks |
|---|---|---|---|---|---|
| 1921-22 | 200 | 200 | | 1 | 0 |
| 1922-23 | 1,034 | 1,034 | 9.2 | 4 | |
| 1923-24 | 1,868 | 1,868 | 8.3 | 9 | |
| 1924-25 | 4,358 | 4,358 | 5.7 | 15 | |
| 1925-26 | 35,874 | 35,874 | 7.6 | 139 | |
| 1926-27 | 33,242 | 33,242 | 5.7 | 126 | |
| 1927-28 | 24,462 | 24,462 | 5.4 | 85 | 19 |
| 1928-29 | 50,099 | 50,099 | 5.9 | 180 | 18 |
| 1929-30 | 45,780 | 45,780 | 7.4 | 162 | 3 |
| 1930-31 | 91,720 | 86,396 | 8.1 | 331 | 24 |
| 1931-32 | 97,550 | 80,308 | 4.3 | 311 | 33 |
| 1932-33 | 90,004 | 73,359 | 3.9 | 319 | 34 |
| 1933-34 | 86,325 | 67,616 | 4.9 | 288 | 54 |
| 1934-35 | 80,600 | 59,433 | 9.6 | 260 | 23 |
| 1935-36 | 118,544 | 83,866 | 10.1 | 309 | 18 |
| 1936-37 | 138,290 | 107,845 | 4.6 | 332 | 109 |
| 1937-38 | 113,596 | 87,918 | 4.1 | 268 | 122 |
| 1938-39 | 212,742 | 140,863 | 3.7 | 446 | 296 |
| 1939-40 | 267,832 | 201,832 | 2.3 | 600 | 307 |
| 1940-41 | 254,000 | 214,000 | 1.2 | 551 | 372 |
| 1941-42 | 363,000 | 337,000 | 0.6 | 708 | 553 |
| 1942-43 | 479,580 | 412,240 | 0.8 | 757 | 584 |
| 1943-44 | 688,442 | 542,379 | 0.9 | 1008 | 713 |
| 1944-45 | 646,445 | 492,733 | 0.7 | 871 | 634 |
| 1945-46 | 629,002 | 572,567 | 0.4 | 772 | 654 |
| 1946-47 | 501,044 | 428,826 | 0.1 | 654 | 568 |
| 1947-48 | 478,358 | 460,881 | 0.1 | 605 | 547 |
| 1948-49 | 432,711 | 400,218 | 0.1 | 511 | 469 |

[1] From Reports of H. R. Baker, Poultry Pathologist, State Board of Agriculture.