

The Chick Hatchery Industry in Indiana

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Introduction

Artificial incubation has long been practiced, even in the centuries before Christ. The Egyptians and the Chinese were known to have used earthen ovens for the purpose of hatching eggs, but it was not until the nineteenth century that any real improvements were made in the methods of artificially hatching eggs. Since about 1870 progress has been rapid, and the last twenty years in particular have brought many changes. The chick hatchery industry in Indiana has shown the most rapid expansion since 1920. Approximately 75% of the commercial chick hatcheries of this state began operation after 1920.

Factors Affecting Location of Hatcheries

Although the baby chick hatchery industry is found in all of the forty-eight states, there is a noticeable concentration of chick hatcheries in the North Central and Middle Atlantic states. Iowa, Ohio, Illinois, Indiana, and Minnesota, the five leading states in hatching capacity, are also five of the leading producers of corn and other grains. An abundant supply of grain is indirectly responsible in determining the most favorable location for the chick hatchery industry. Table I showing the hatchery capacity, the number of hatcheries, and the percent of change between 1934 and 1937-38 for the ten leading states was prepared to show how Indiana ranked.¹ Of the states listed in the table, it will be noted that hatchery capacity has increased most rapidly in Indiana. Another noticeable change shown in the table is the decreasing number of hatcheries and increasing total capacities for most of the states shown; in general this is true for those states having the longest period of development. It might also be mentioned in addition to the information given in the table that Indiana ranked second in 1934 as to the number of chickens on farms.

The climatic factor is also a very important factor in determining the ideal location for a hatchery. The reason for this is the fact that the hatchability of the eggs is affected by the climate. It is the effect that the climatic conditions have upon the fertility of the eggs, rather than the effect upon artificial incubation which is important. The fact

¹ Table I is a partial reproduction of a table presented in a study made by Termohlen, W. D., Warren, C. C., and Lamson, G. G., "Chick hatchery survey—1937-38", United States Department of Agriculture, Division of Marketing and Marketing Agreements, Washington, D. C.

TABLE I—States Leading in the Chick Hatchery Industry
1934 and 1937-38

State	Total Egg Capacity			Number of Hatcheries		
	1937-38	1934	Per Cent Increase	1937-38	1934	Per Cent Change
	1,000	1,000				
Iowa	35,690	21,535	65.7	681	757	-10.0
Ohio	30,831	27,529	12.0	687	831	-17.3
Illinois	29,811	20,717	43.9	542	600	- 9.7
Indiana	28,652	17,107	67.5	540	609	-11.3
Minnesota	24,798	15,497	60.0	472	458	+ 3.1
Missouri	24,713	18,415	34.2	417	572	-27.1
California	22,327	15,720	42.0	496	575	-13.7
Pennsylvania	18,909	14,445	30.9	592	635	- 6.8
Texas	17,914	12,524	43.0	634	603	+ 5.1
Kansas	17,034	13,809	23.4	414	595	-30.4

that the North Central states have a suitable climate (although not necessarily the ideal climate) *in combination with other favorable factors* helps to explain the size and growth of the hatchery industry in these states.

Indiana and the neighboring states have other common advantages such as a good system of transportation, a central location, and a reputation for fine poultry. Good transportation facilities affect the hatchery industry both directly and indirectly. A good system of transportation is essential to any widespread distribution and sale of baby chicks, and it is also important in the marketing of poultry products. It is quite necessary that baby chicks be transported quickly from the hatchery to the buyer, and most Indiana hatcherymen have adequate means of transporting their chicks to markets both far and near. In respect to prompt delivery, Indiana's central location is also very important in that it allows Indiana baby chicks to reach practically every state within 72 hours which is approximately the length of time that a chick can live without food after being hatched.

The poultry industry is an important part of the diversified type of farming practiced in this state, and Indiana's reputation for fine poultry is beneficial to both the poultry raiser and the hatcheryman. The poultry raiser is also important to the hatcheryman as a source of hatching eggs. In the past these eggs have been supplied mostly by the poultry raisers situated near the purchasing hatchery; however the larger hatcheries in particular often find the local supply inadequate, and consequently they have to rely upon eggs from other localities to supplement the local supply. Many hatcheries now send trucks out as far as fifty to a hundred miles from the hatchery to collect hatching eggs from farmers who have agreed to cooperate with the hatcheries by maintaining a good flock of poultry and by properly caring for their eggs in return for which they receive a higher price.

Geographical Distribution

Hatcheries are to be found in every county excepting Brown. (Fig. 1.) In no large section of the state does there seem to be a decided concentration or absence of hatcheries. However, a map which merely shows the distribution of the chick hatcheries does not give a complete picture of the hatchery industry in Indiana. Figure 2 presenting the total hatchery capacities by counties indicates the concentration of incubator capacity in certain counties, particularly in Harrison and Dubois counties. It may also be observed from this map that

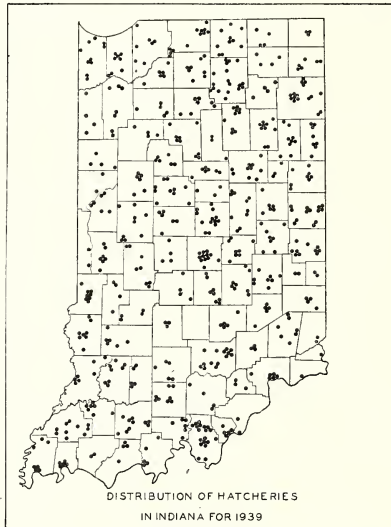


Fig. 1. Distribution of Hatcheries in Indiana—1939.

hatchery capacity is somewhat more evenly distributed in the northern counties than in the southern. Again Figure 3 showing the distribution of hatcheries having an incubator capacity of 100,000 or more is added evidence that there is a disproportionately large hatchery capacity in Harrison County. The presence of eight large hatcheries (hatcheries having a capacity of 100,000 or over) plus ten smaller ones having a total incubator capacity of 2,548,000 in a single county needs explanation. Nearness to Louisville which serves as a gateway to the fairly large southern market is undoubtedly responsible to some extent for the concentration of hatcheries in Harrison County. The presence of a southern market for baby chicks hatched in Indiana is due in part to the fact that the hatchery industry is not very well developed as yet in most of the southern states. Another condition favorable to the Harrison County hatcheries is the presence of a railroad connecting Louisville (via New Albany) with Ramsey, New Salisbury, and other towns in which large hatcheries are located. However, at the present

time the hatcheries situated along this railroad are very much concerned about the possible discontinuation of daily train service. The removal of daily trains would be a great handicap to Harrison County hatcheries.

Still another advantage for Harrison County is the favorable climate, an advantage that is also present in the other southern counties. Some of the Harrison County hatcherymen claimed that their hatchability was 10% better than for hatcheries located either to the north or to the

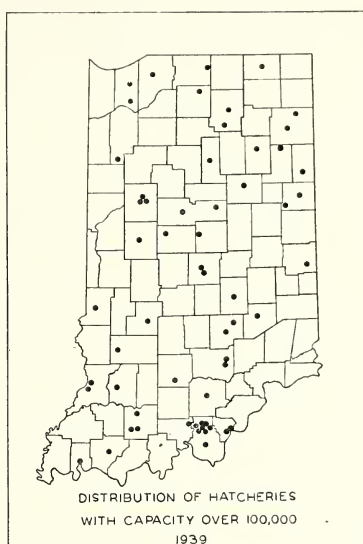
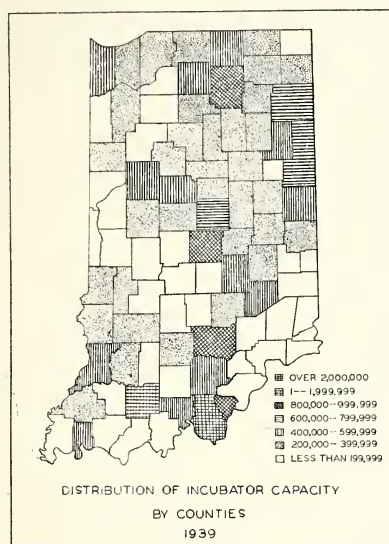


Fig. 2. Distribution of Incubator Capacity by Counties—1939.

Fig. 3. Distribution of Hatcheries with Capacity over 100,000—1939.

south. This boast was not altogether an idle one, for the returns from the questionnaires showed that the hatchability for the southern counties of Indiana was 4.5% better than for the northern counties. Although several counties in southern Indiana do not have large hatchery capacities, it is reasonable to believe that this condition is due to factors rather other than climate; for practically all of southern Indiana has a very favorable climate for the poultry and chick hatchery industries. Even after all of these favorable conditions have been considered, they do not seem to explain fully the predominance of Harrison County over the surrounding counties. Consequently it is reasonable to believe that an early start is in no small part responsible for the large hatchery capacity in Harrison County. H. W. Davis established the first hatchery at Ramsey in 1900, which was several years prior to the period of greatest development in the hatchery industry.

For the hatching season of 1937-38 Harrison, Dubois, and Floyd counties, the top-ranking counties in incubator capacity for the entire state, had a combined total capacity of 4,953,600 or 18% of the incubator

capacity for the whole state. Only two other counties in the state besides Harrison have more than two hatcheries having an incubator capacity of 100,000 or over; Dubois and Tippecanoe counties each have three hatcheries in this class. The largest hatchery in the state is located at Huntingburg in Dubois county. Incidentally it might be mentioned that the owner of this hatchery first operated a hatchery at Milltown in Harrison County.

In comparing the distribution of chickens with that of incubator capacities, it was discovered that the counties leading in the number of chickens on farms do not necessarily have a large hatchery capacity; but there was also evidence that in general the counties having large

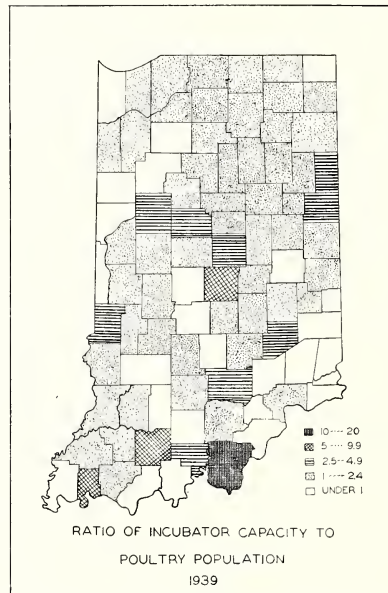


Fig. 4. Ratio of Incubator Capacity to Poultry Population—1939.

incubator capacities were among those counties which had large numbers of chickens. However, as shown in Figure 4, for some counties having large incubator capacities there was a much greater capacity for producing baby chicks than there were chickens in the county. This particularly was true of Floyd, Harrison, Marion, Dubois, and Vanderburg counties; consequently there is a large surplus of baby chicks in these counties which is usually sent to other counties or even to other states.

Because of the concentration of the poultry industry in north-eastern Indiana, the hatcheries in the northern section of the state have had to cater to farmers and poultry raisers who have been demanding higher quality chicks; therefore it is not surprising that there are more hatcheries selling pullorum tested chicks in the northern half

of the state than in the southern half. The influence of Purdue is perhaps even more important in regard to pullorum testing as is shown by the fact that approximately 25% of all of the pullorum tested hatcheries in the entire state are located within a radius of 25 miles of Lafayette. Of all hatcheries in the southern half of the state, 10% were approved pullorum tested hatcheries, while 18% of the hatcheries in the northern half had such a rating.

While climatic conditions are more favorable in the southern counties for the hatchery industry, the northern hatcheries are located in a more fertile agricultural region having more poultry on the farms and a better network of highways and railroads. Therefore, it is not surprising to find that while Harrison, Dubois, and Floyd counties are the largest producers of baby chicks, the northern half of the state has almost as large a total incubator capacity as the southern counties; however the incubator capacity is much more evenly distributed in northern Indiana. (Fig. 2.)

Hatching Efficiency

Another important aspect of the hatchery business is the efficiency of the operating hatcheries. The word efficiency as used here includes the hatchability of the eggs set, period of the year during which the hatchery operates, and the extent to which the capacity of the hatchery is utilized. The results from the questionnaire showed that the average hatchability for the state as a whole was 69.2%. For the northern counties the average was 67.2% and for the southern counties, 71.6%. Most hatcherymen consider 70 to 80% a very good hatch. The difference in climate between the northern and southern parts of the state is perhaps the most important reason for the higher hatchability in the southern counties. In view of the fact that weather affects the hatchability of the eggs, there are some months during the year when the hatchability is higher. 84% of the hatcherymen questioned designated April and May as the best months for the hatching of eggs. It is indeed fortunate for the hatchery industry that the best results are obtained during the period of greatest demand. April, May, and March respectively are the busiest months for Indiana hatcheries, and 63% of the hatcheries questioned stated that April was their busiest month. Because of this seasonal fluctuation in the demand for baby chicks, about one-half of the hatcheries do not operate during the full year. In general, the smaller hatcheries less frequently operate throughout the entire year.

Closely related to the seasonal nature of the hatchery business is the extent to which the incubator capacity of the hatcheries is utilized. It was found that the mean ratio for all of the hatcheries was 3.43. Since the incubator capacity is utilized on the average of 3.43 times each year, which is a higher utilization of hatchery capacity than for the three states surpassing Indiana in hatchery capacity, Indiana ranked second in 1937-38 in the production of baby chicks with a total of 66 million chicks.

Marketing of Baby Chicks

While the baby chick industry is well scattered throughout the United States, there is nevertheless a very uneven distribution of the industry which gives rise to a great deal of interstate commerce in baby chicks. This interstate selling of baby chicks is possible largely because of the fact that baby chicks can live without nourishment for 72 hours after being hatched, the classification of baby chicks as parcel post matter in 1918, and the specialization in the raising of certain breeds in different sections of the country. Specialization has increased interstate trade in baby chicks because the poultry raiser prefers to buy his chicks from hatcheries producing the best chicks of the breed which he desires. Indiana has not specialized particularly in either heavy or light breeds; however there appears to be a greater preference for the heavier breeds in this state, although Leghorns are found on many farms. Barred Plymouth Rocks, White Rocks, and Leghorns respectively were by far the most common breeds demanded by buyers of chicks.

Although Indiana has a good home demand for baby chicks, the hatcheries in this state send many chicks to other states. In 1937-38, 39.7% of the hatcheries in the state were selling baby chicks in other states. The large hatcheries do much more interstate selling than the smaller hatcheries. It is very significant that hatcheries in the southern part of the state sell about 41% of their chicks in other states while the northern hatcheries sell only about 11%. This is due to a better home market in the northern counties, and to the existence of closer out-of-state markets in the southern part because of the nearness to the southern states which are good buyers of Indiana chicks at the present time. States in which Indiana hatcherymen reported frequent sales were Ohio, Illinois, Michigan, Wisconsin, Pennsylvania, New York, South Carolina, Georgia, North Carolina, Arkansas, Tennessee, New Jersey, Alabama, West Virginia, Iowa, Missouri, Mississippi, Texas, Louisiana, Florida, and Virginia.

Conclusions

Some of the more important conclusions that are the result of this study are:

1. Chick hatcheries are widely scattered throughout the state, but there is a noticeable concentration of hatchery capacity in Harrison County, while Dubois and Floyd counties also rank high. The chance factor probably explains the preëminence of Harrison County, but there are certain advantages to be found in these southern Indiana counties. Direct rail connections with Louisville, nearness to the southern market, and a good climate are factors favoring these counties in baby chick production.

2. The southern counties of the state have a higher hatchability than the northern counties which may in part be attributed to more favorable climatic conditions.

3. The southern states and the states adjoining Indiana are the best buyers of Indiana chicks, but chicks are also sent to many other states as well.

4. Favorable geographical conditions have made Indiana and the surrounding states excellent for the hatchery industry, but in respect to distribution of hatcheries within this state it is evident that with the exception of two or three of the southern counties there is no section of the state having so many more favorable conditions as to make it outstanding over other parts of the state in the chick hatchery industry.