

## A Scientific Experiment to Increase the Bluebird Population

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It is very doubtful if there were one hundred pairs of bluebirds nesting in Adams County, Illinois, six years ago. There was a lack of suitable nesting sites. Orchard men trimmed the dead wood from their trees, fence posts were of hard woods, of metal, or there were no fences at all. Dr. T. E. Musselman of Quincy was aware of this scarcity and decided upon an experiment to increase the bluebird population by providing suitable nesting sites. In 1933 he began by placing twenty-two boxes along county roads. This was increased to fifty boxes in 1934 and one hundred two boxes along forty-three miles of country roads in 1935.

In the spring of 1936 the speaker became interested and placed twenty boxes over approximately twelve miles of county roads south of Quincy. Since then he has added two additional routes covering about thirty-five miles. These bird houses are placed on fence posts along the road, never higher than five feet. Experience has shown that boxes placed higher than this do not attract bluebirds, but wrens. No farmer was consulted when the boxes were placed, but talks with them later on showed that they appreciated the opportunity of being hosts to these birds.

Nearly once a week I would visit these sites and record the data tabulated below.

### First Nesting—April 10 to May 30, 1936

Total boxes, 20; occupied by bluebirds, 15, or 75%

1 box had 3 eggs

2 boxes had 4 eggs

11 boxes had 5 eggs

1 box had 6 eggs

Total eggs, 72. Average eggs per nest, 4.8

Number of eggs hatched, 70, or 97.22%

Number of eggs disappeared, 1, or 1.39%

Number of eggs infertile, 1, or 1.39%

Young matured, 69, or 98.57%

Young died in nest, 1, or 1.43%

Average birds per nest, 4.6

Boxes occupied by wrens, 1, or 5%

Boxes vacant, 4, or 20%

### Second Nesting—June to July, 1936

Total boxes, 20; occupied by bluebirds, 12, or 60%

1 box had 3 eggs

2 boxes had 4 eggs

9 boxes had 5 eggs

Total eggs, 56; average eggs per nest, 4.5  
 Number of eggs hatched, 29, or 51.78%  
 Number of eggs disappeared, 15, or 26.78%  
 Number of eggs "cooked" or infertile, 12, or 21.44%  
 Young matured, 28, or 96.55%  
 Young died in nest, 1, or 3.45%  
 Average birds per nest, 2.33

#### 1936 Nestings

Total eggs, 128; hatched, 99; "cooked" or infertile, 13; disappeared, 16;  
 young matured, 97; died in nest, 2.

From the data it can be seen that a large percentage of eggs in the second nesting did not hatch. In this instance the temperature factor probably played a part. In the month of June our temperatures were over 100° F. and July brought a maximum of 114° in the shade. Undoubtedly the temperatures within some of the boxes exposed to the rays of the sun from sunrise to sunset were considerably higher, forcing the female to desert the nest. The large number of missing eggs is difficult to explain. In the first nesting only one egg was lost in this manner, while in the second nesting the number increased to 27% of the total. This could have been caused by blacksnakes, white-footed mice, or boys. In Box No. 19 it was undoubtedly the last, as the box had five eggs on June 6, but one egg on the 13th, and again five on the 21st. The total complement was missing a few days later. The second nesting period corresponds closely to the beginning of summer vacation and many of these boxes are located on a road frequently used by youngsters hiking to a scout camp.

No cases of albinism occurred in my boxes in 1936. Several natural nests were found with white eggs and where possible the young were banded (Bands 35-134462, 63, 500, 36-149001, 02, 04). In order to determine whether the tendency to lay albinistic eggs is inherited, as many of these young as possible are banded with the hope that they will return to the vicinity and furnish accurate data in following years.

In 1936 there were about one hundred eighty boxes in the county. Using the above data for averages, we could estimate the number of eggs in the first nesting at 648, in the second 486, or with a total of 1,134. The number of birds per nest in the first nesting would then be 621, the second 248 and a total of 869 birds produced in these boxes. It is perhaps larger than this figure since many of Dr. Musselman's boxes did not have as many cases of eggs missing from the nests.

During the past year there were five definite routes in the county. One consisted of one hundred two boxes stretching from Quincy to Liberty, Richfield, Payson and Quincy. A group of twenty-four were placed east of these and six on a farm near Camp Point. My route to Marblehead contained twenty boxes and another southeast of Quincy has twenty-eight.

This year five additional boxes have been added to the Marblehead route, forty-one have been placed between Quincy and Hamilton, and Mr. Knoepple, Superintendent of Schools of Hamilton, had his students build forty additional boxes and has continued the route to Nauvoo. H. B. Terrell of Quincy has placed twenty boxes between Payson and New Canton. Forty boxes have been located between Liberty and Perry, while Mr. Summers of Bluffs has built boxes to be placed from Perry to his home town, a distance of about twenty more miles. The science teacher of Griggsville will locate them from his village to Perry. This experiment will then cover one hundred fifty miles of State and county roads in western Illinois and provide nesting sites for the birds.