

AGRICULTURAL EXPERIMENT STATION.

KANSAS STATE AGRICULTURAL COLLEGE.

DEPARTMENT OF POULTRY HUSBANDRY.

Improving The Kansas Egg.

WM. A. LIPPINCOTT.

"**GRADE THOSE EGGS**" should be the slogan of every person in Kansas in any way interested in poultry production. Grading means more profit for the farmer, a standardized product for shipper, packer and consumer, and a greater outlet for breeding stock.

Producing better eggs is a farm problem. Paying better prices is a dealer's problem. Both are fairly simple. Both require special care. Neither will be fully solved unless the other is solved at the same time.

The production of eggs of the best quality involves considerable pains on the part of the farmer, and the farmer who is not already taking these pains, because he has formed the habit of doing all his work well, will not do so unless he is paid for his trouble. The only way of getting at him is to touch his pocketbook.

At present most of the eggs sold by the farmers throughout the country are purchased on the "case-count" basis, or, at best, "rots out." "Case-count" means that a flat price is paid for all eggs regardless of quality or condition. On the "rots-out" basis the actually rotten eggs are not paid for, but everything else goes.*

Eggs that are small, dirty and stale bring as much money as newly laid eggs that are large and clean. This means that the producer of good goods fails to get his share of the returns.

* The "rots-out" basis is being rather generally adopted because of the fact that the Kansas food and drugs law, section 7, subdivision 6, under "Foods," provides that "if it (the food product) consists in whole or in part of a filthy decomposed, tainted or putrid animal or vegetable substance, it shall be considered adulterated." The Kansas State Board of Health has ruled that "this clearly covers the matter of tainted or rotten eggs, and any person or persons, whether farmer or dealer, who sells or offers for sale tainted or rotten eggs is liable to the penalties for selling adulterated foods. This ruling has been upheld in court on numerous occasions to the discomfiture of both farmers and dealers.

Some one has said that the farmer makes a mistake in selling the goods he produces at wholesale and buying the goods he consumes at retail. He also sells much that he produces on the average price basis, getting the same price whether his goods are superior or inferior. He buys, however, on a graded basis, when he turns in his eggs in trade, whether it is for coffee, calico, or canned goods.

THE BEST PRICE FOR THE BEST EGGS.

In spite of the prevalence of such systems of buying, there are probably more farmers and farmers' wives who are marketing eggs above the average in quality than there are buyers who pay average prices and get eggs below the average in quality. This means that the dealer is not paying a price so high as the quality of the eggs warrants.

The accompanying table shows figures furnished by a Kansas egg buyer. They are taken from his books and represent the eggs purchased direct from farmers during June.

"Firsts."					"Seconds."			"Firsts" and "Seconds."	
Date.	Dozens.	What they bought at 15 1/2 cents	What they would have bought at 14 cents.	Dozens	What they bought at 12 1/2 cents.	What they would have bought at 14 Cents.	What they would have bought at 15 1/2 cents and 12 1/2 cents.	What they would have bought at 14 cents.	
June 1	663	\$102.76	\$92.82	254	\$31.75	\$35.56	\$134.51	\$128.38	
June 3	76	11.78	10.64	40	5	5.6	16.78	16.24	
June 4	80	12.4	11.2	28	3.5	3.92	15.9	15.12	
June 5	138	21.39	19.32	35	4.37	4.9	25.76	24.22	
June 6	36	5.58	5.04	12	1.5	1.68	7.08	6.72	
June 7	100	15.5	14	35	4.37	4.9	19.87	18.9	
June 8	486	73.33	68.04	170	21.25	23.8	96.58	91.84	
June 10	95	14.72	13.3	29	3.62	4.06	18.35	17.36	
June 11	195	30.22	27.3	77	9.62	10.78	39.85	38.08	
June 12	107	16.58	14.98	53	6.62	7.42	23.21	22.4	
June 13	52	7.9	7.14	22	2.75	3.08	10.65	10.22	
June 14	169	26.19	23.66	44	5.5	6.16	31.69	29.82	
June 15	325	50.37	45.5	108	13.5	15.12	63.87	60.62	
June 17	17	2.63	2.38	1	0.12	0.14	2.76	2.52	
June 18	247	38.28	34.56	47	5.87	6.58	44.16	41.16	
June 19	120	18.6	16.8	70	8.75	9.8	27.35	26.6	
June 20	170	26.35	23.8	60	7.5	8.4	33.85	32.2	
June 21	53	8.21	7.42	16	2	2.24	10.21	9.66	
June 22	434	67.27	60.76	114	14.25	15.96	81.52	76.72	
June 24	96	14.88	13.44	18	2.25	2.52	17.13	15.96	
June 25	66	10.23	9.24	20	2.5	2.8	12.73	12.04	
June 26	72	11.16	10.08	28	3.5	3.92	14.66	14	
June 27	71	11	9.94	22	2.75	3.08	13.75	13.02	
June 28	88	13.64	12.32	9	1.12	1.26	14.76	13.58	
June 29	470	72.8	65.8	85	10.62	11.9	83.47	77.7	
Total	4425	\$685.87	\$619.50	1397	\$174.62	\$195.58	\$860.50	\$815.08	

On May 31 this dealer was paying 14 cents a dozen and taking everything that was brought in, without reference to quality. On June 1 he began buying on a basis of two grades, which he called "firsts" and "seconds." He paid 15½ cents for the firsts. These were eggs that were of good size, clean, uncracked, and newly laid. He paid 12 ½ cents for the seconds, or eggs that were small, dirty, shrunken, or cracked. Rotten eggs were discarded and not paid for at all.

It will be noticed by referring to the columns marked "Dozens of firsts" and "Dozens of seconds" that the firsts greatly outnumbered the seconds. There was not a single day in the whole month's business when this did not hold true. In the sum total of the month's business the "firsts" outnumbered the "seconds" more than three to one. This is only a single instance, but it is likely to be true in the majority of cases, and certainly will where quality buying is practiced.

By reference to the columns headed "What they would have brought at 14 cents," on the first day's business, which happened to be Saturday, the difference is found to amount to nearly \$10. If these eggs had not been graded, but bought on the flat price, the persons who had taken care of their eggs and brought in the 663 dozen of "firsts" would have gone home with nearly \$10 less money than they did go home with. On the other hand, as may be seen by referring to the columns headed "What they brought at 12½ cents" and "What they would have brought at 14 cents," it will be noticed that the persons who brought the 254 dozen second-class eggs went home with nearly \$4 less than they would have taken home if they had been selling at the flat price. This is as it should be. The person who sells a poor product would receive a lower price.

QUALITY BUYING ELIMINATES GUESSING.

The difference between the \$10 and the \$4 comes out of the dealer's pocket. This particular dealer says that he is glad to pay this difference because he gets a larger number of first-class eggs. At the same time he knows exactly what he is getting and does not have to guess at the number of "seconds" or "rots" that he may possibly get, as he did when fixing a flat price. The price is set by the goods and not by guess. The guess is not likely to favor the farmer, as the dealer does the guessing.

There are rules that every farmer who takes pride in selling good eggs at a good price should follow:

First. Use males from a high-laying strain of one standard breed, mate them with hens instead of pullets, and keep up the practice year after year. It is the only way to secure a flock that will lay uniform eggs of good size unless one goes to the expense of getting a pure-bred flock outright. It has been shown by experiment that a "hen" lays a larger egg than the same bird did when she was a pullet, and that "hen" eggs hatch better and produce larger and stronger chicks than "pullet" eggs. Having selected male birds of the breed you prefer, use that breed consistently year after year. Using males from one breed and then another is almost as bad as using mongrels.

NINETY-FIVE PER CENT OF "FIRSTS."

Second. Sell your eggs only to a buyer who candles and grades and who is willing to pay at least 3 cents a dozen more for "firsts" than for "seconds." If your present buyer does not candle, sell to one who does. Some buyers make a difference of 8 cents between "first" and "seconds." The greater the difference the better it is for all concerned. It is possible to market eggs that are more than 95 per cent "firsts" by observing a few precautions.

INFERTILE EGGS KEEP BEST.

Third Keep the male birds from the laying flock except during the breeding season. If you sell eggs on the quality basis it will pay you for your trouble. Out of 2205 eggs from Kansas flocks that had no male bird present, and that were candled by experts from the United States Department of Agriculture during June, July, and August, 1427, or 63.8 per cent, were first-class eggs. Some of these eggs had been properly cared for and some had not, but all were infertile. Out of 2257 eggs from Kansas flocks that had male birds present these same experts found only 916, or 40.6 per cent, first-class eggs. The conditions in this case were exactly the same as in the first except that there were male birds present, and there was a difference of 23.2 per cent in favor of the infertile eggs. In money this means that, even if you are not taking particular pains with your eggs, you can, by removing the male bird, make them net you more than two-thirds of a cent a

dozen more if you are receiving 3 cents more for "firsts" than for "seconds." Two-thirds of a cent is worth just as much when added to the selling price of the dozen eggs as it is when added to that of a pound of beef or pork on the hoof.

Fourth. Provide roomy, clean nests. There should be at least one nest for every six hens. Foul nests cause dirty eggs. Dirty eggs, no matter how large and fresh, are always graded as "seconds" or lower. It will not do to wash the eggs in trying to make them clean. A washed egg is classed as a "second" because it spoils sooner than an unwashed one.

Dirty nests are generally caused by the fowls roosting on the edge of the nests and allowing droppings to fall in, or by the hens waiting at the edge of their favorite nest for another hen to get through laying, and fouling the side of the nest with droppings as they wait. In the nest illustrated, the sliding door at one end may be shut at night. This will keep the birds from roosting on the nests. The narrow board by which the hens enter the nests allows their droppings to fall on the floor instead of accumulating to soil their feet and then the eggs. The removable board on the front of the nests makes them convenient to clean.

KEEP EGGS AS YOU WOULD MILK.

Fifth. Gather the eggs often, and keep them in a cool, dry place all the time until they are sold. It was found by the government egg expert, while working in Kansas, that out of 385 clean, infertile eggs that were collected twice a day and kept in a cave or cellar that was cool and dry, until they were taken to town, and kept out of the sun on the way to town, 375, or 97.4 per cent, were "firsts" when candled.

At the same time, out of 479 clean but fertile eggs which were allowed to remain in the nests until marketed, only 60, or 13.2 per cent, candled out first class. This is a long way from a perfect record, and is duplicated surprisingly often. Between these two extremes there are differences in degree.

Clean, infertile eggs taken from straw stacks gave only 29.1 per cent first-class eggs. Clean, infertile eggs from under a corn crib gave 70.8 per cent "firsts."

To produce first-class eggs all conditions must be right. Eggs, like milk, should be cooled just as soon as possible after being produced, should be kept cool, and should be marketed as

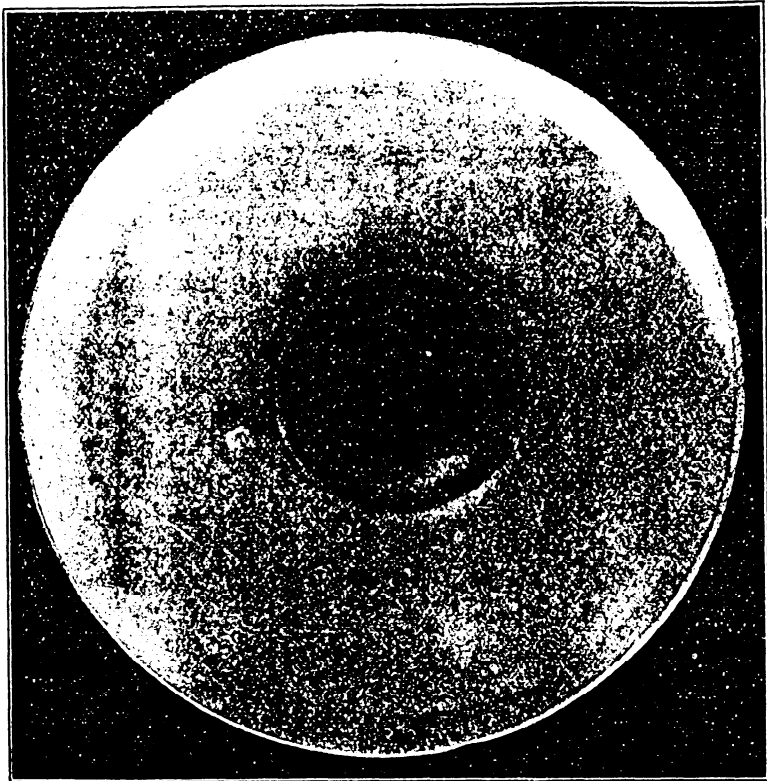


PLATE 1. A newly laid egg when broken out.

soon as possible. Like milk and butter, eggs become tainted by odors, and should be kept away from onions, turnips, kerosene, or anything else having an odor.

Sixth. Use the small, dirty or cracked eggs at home. Small eggs are just as wholesome for food as large ones. They can not be sold for so much as large ones, however, for they are not worth so much. Dirty eggs are also good if fresh, but do not look well. Because of this fact they are classed as "seconds." Cracked eggs will mold and spoil quickly. Eggs found in stolen nests are always of doubtful quality. It is better if you use them cautiously at home. By using the small, dirty and doubtful eggs at home it is possible to build up a reputation

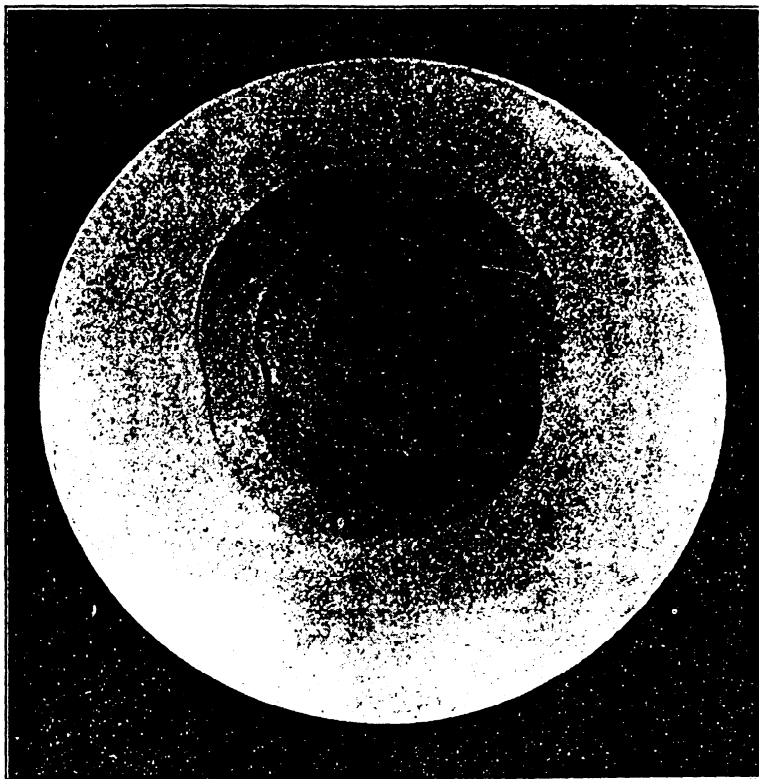


PLATE 2. Fertile egg allowed to die after being in the incubator seventy-two hours.
Notice the pronounced blood ring.

for first-class eggs and add to your profits about 3 cents a dozen, or the difference in price between first-class and second-class eggs.

THE CANDLING PROCESS.

For those who may not be familiar with the process of candling, it may be explained that a fresh egg presents a clear, pale yellow appearance when a bright light shines through it. An inferior or bad egg shows dark spots, blotches, blood veins, and frequently an enlarged air space.

Various devices for candling or testing eggs are used, but all have for the essential principle a strong light in a case which is opaque except for an oval aperture slightly smaller

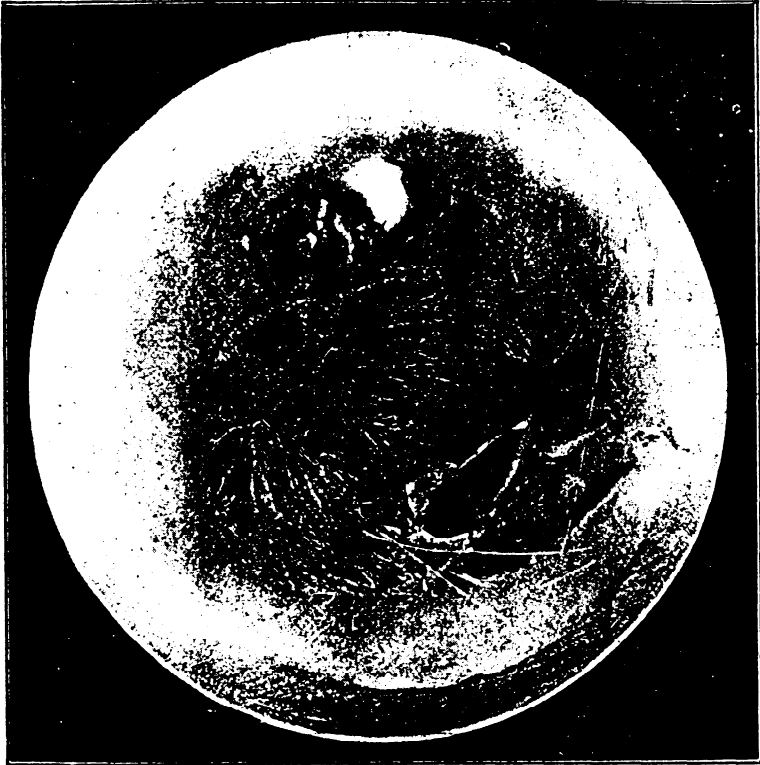


PLATE 3. The fertile egg after seven days of incubation.

than an egg and before which the egg can be quickly placed.

The aperture is made in a diaphragm made of leather or lined with some soft material against which the egg can be firmly pressed so that all the light comes through the egg. The operator works in the dark. A skilful egg candler can quickly tell the approximate age of an egg, whether it is good or bad, the degree of deterioration, and, if it has incubated, to just what extent the germ has developed.

Approved:

Director Agricultural Experiment Station.

Courtesy of Bureau of Animal Industry.

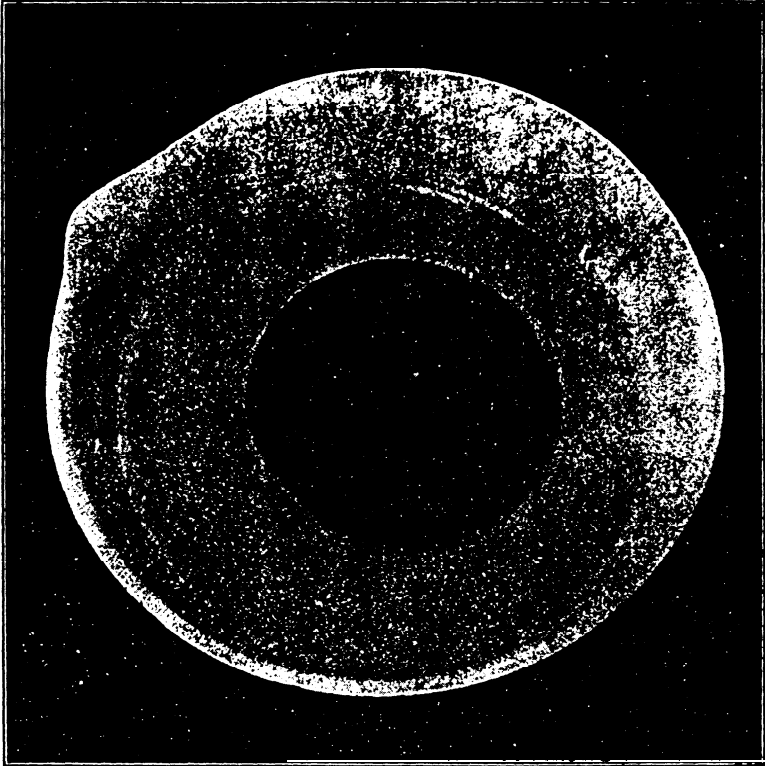


PLATE 4. An infertile egg that has been in the incubator seven days

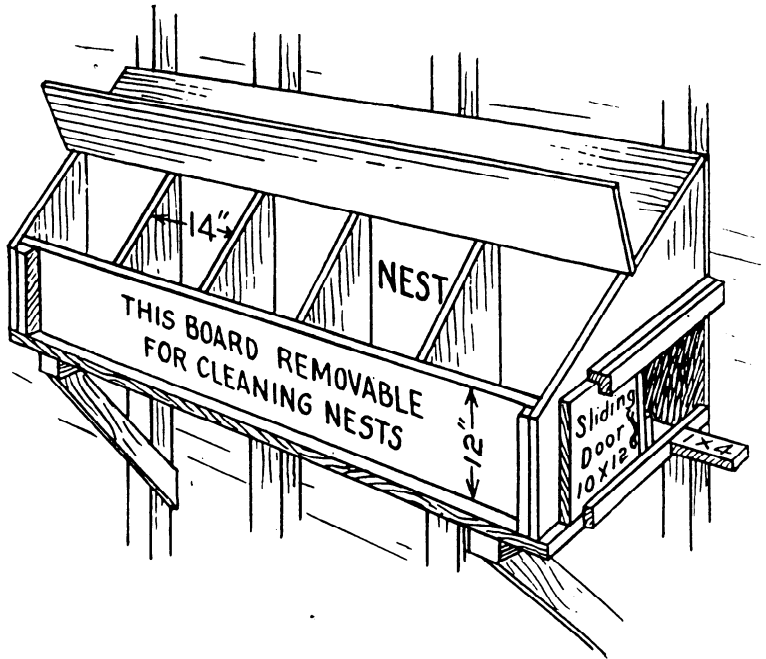


PLATE 5. A good type of wall nest.



PLATE 6. An easy way to candle eggs by means of a heavy paper tube and sunlight.