



# \$500.00 GIVEN AWAY

## To Alberta Farmers

**A WEALTHY FRIEND** of The Guide in Alberta is anxious to have The Guide read by every farmer in his own province. To help towards this end he has donated \$500.00 to be given in Cash Prizes to the agents who secure the largest number of subscriptions to The Guide before December 31st, 1914.

### The Prize List

This \$500.00 has been divided into twelve prizes as follows:

|                |                |
|----------------|----------------|
| First Prize    | ..... \$100.00 |
| Second Prize   | ..... 90.00    |
| Third Prize    | ..... 75.00    |
| Fourth Prize   | ..... 60.00    |
| Fifth Prize    | ..... 50.00    |
| Sixth Prize    | ..... 40.00    |
| Seventh Prize  | ..... 30.00    |
| Eighth Prize   | ..... 20.00    |
| Ninth Prize    | ..... 15.00    |
| Tenth Prize    | ..... 10.00    |
| Eleventh Prize | ..... 7.00     |
| Twelfth Prize  | ..... 3.00     |

### Worth Working For

These Prizes are worth earning. We pay every agent a liberal commission for collecting subscriptions, but these cash prizes are in addition to the commission. There are no strings on the \$500.00. It will be paid out to the twelve agents who send us the largest number of subscriptions before the end of the year.

### More Agents Wanted

We already have a number of agents in Alberta, but we need more. Many districts are not fully represented. Any person, man or woman, boy or girl, who would like to earn one of these prizes, has a good chance. We shall be glad to appoint new agents wherever we have no agents now covering the district. Any person who would like to enter the contest for these cash prizes should apply at once. Let us know if you are prepared to devote a few hours a week to the work, and if we have a vacancy in your district we shall appoint you our agent at once, and forward supplies necessary to carry on the work. Address enquiries to:

Circulation Manager  
**The Grain Growers' Guide**  
WINNIPEG, MAN.

N.B.—We want agents also in Saskatchewan and Manitoba, and pay the same liberal commission in each province. But the \$500.00 in prizes is donated by our friend for ALBERTA AGENTS ONLY.

# Poultry

## FACTORS INFLUENCING SIZE OF EGGS

The Maine Agricultural Experiment Station has done some excellent work on scientific poultry problems and recently added to other work the publication of results from a series of investigations on "Factors Influencing the Size, Shape and Physical Constitution of the Egg of the Domestic Fowl." On account of the strict grading of eggs in modern markets for size, color and shape the subject of the bulletin is of great importance to all producing eggs for sale. The following is quoted from an abstract of the bulletin:

It is evident that the percentage of the eggs which grade as "firsts" is of great importance to the poultry keeper. Not only does he aim to produce as many eggs as possible, but he should also aim to have these eggs uniformly of the size, shape and color demanded by his market. He should, therefore, choose a pure breed of good laying fowls which produce eggs of the desired type. Yet even such a flock seldom produces anywhere near 100 per cent. "firsts." If the percentage of high grade eggs can be increased without decreasing the number of eggs produced, the profit will be correspondingly increased. The control of the quality of the eggs produced other than the freshness, which depends upon methods of management of the flock and handling the product, must depend on a knowledge of the factors which influence the size, shape and color of the eggs. Up to the present time very little has been done in the way of studying the biological basis of these characters in eggs.

### Difference in Fowls

The investigation was conducted on a small flock (22 hens) of "pure bred" and "line bred" Bred Plymouth Rocks. It showed that in every qualitative character studied the eggs of each individual were more like each other than they were like the eggs of other individuals. The eggs of one of the individuals were from one-fourth to one-third larger than the eggs of some of the other individuals. Some birds uniformly laid eggs which were long and narrow while the eggs of others were short and broad. The eggs of some individuals were distinctly pointed while those of others were not. The individuality of the several hens was expressed also in the weight and proportion of the yolk, albumen and shell in their eggs. In general, when the eggs of a hen are large they are both long and broad, and contain a large yolk and a large amount of albumen and shell. The yolk, however, is not proportionately large, so that hens which lay large eggs lay eggs which have a small percentage of yolk.

Altho the eggs of each hen were much more like each other than they were like the eggs of the others, they were never identical in any of the quantitative characters. The eggs of some hens were, however, very much more uniform in all respects than the eggs of other members of the flock. Also the eggs of each hen were more uniform in respect to certain egg characters than in respect to others.

### Age of Hen

The eggs of the pullets which began to lay in the fall increased rapidly in size up to the beginning of the first breeding season. From that time on to the end of the second laying year the weight increased continuously, but at a slower and steadily decreasing rate. The first eggs of a very young pullet (three months old) were very much smaller than the first eggs of the birds which were two and one-half to four months older when they began to lay. The first eggs of pullets which did not lay until spring were equal in size to the eggs produced at the same season by birds which had laid during the winter. The size of the egg of any bird at any season was independent of whether or not she had been laying continuously or in fact of whether or not she had ever laid. It is, therefore, certain that the size of the egg is related to the state of maturity of the bird and is not affected

by "practice" or "experience" in egg production.

### Eggs From Sick Hens

A bird in this flock developed a chronic digestive disorder which finally stopped egg production. She had been in normal health during her first year and her eggs had increased in size in the normal manner. Her eggs began to decrease in size before she showed signs of being sick. The decrease, however, became more rapid after she was known to be sick and was continuous and increasingly rapid for five months before she stopped laying. After this the hen's condition became constantly worse, until she was killed about a month later.

### Position in Litter

Thru the warm months a hen typically lays a litter of eggs and then wants to sit. If not allowed to sit she will after a week or two lay another litter and again become broody. When the birds are laying in litters separated by broody periods there is a tendency for the eggs to increase in size and also in frequency from the beginning towards the middle of the litter, and then decrease in both size and frequency toward the end of the litter.

### Frequent Eggs Small

Even the very best laying hens did not produce an egg every day for any great length of time. An egg was produced every day for several days and then there followed one or more days in which the bird did not lay. A bird was usually unable to maintain the size of the egg during a period when she was laying every day. As a general rule, the eggs produced on successive days show a decrease in the weight of each part. This decrease is more certain and greater in amount in the weight of albumen than in the weight of yolk or shell. After one or more days on which no eggs were laid each egg part, but especially the albumen, was heavier than in the last egg of the preceding series.

The shape and size, and the weight and the proportion of the yolk, albumen and shell of a hen's egg depend: (1) upon the individuality of the hen that laid the egg; (2) upon her age and state of health; (3) upon the season of the year when the egg was laid; and (4) upon the position of the egg in its clutch and litter.

### Practical Bearing

The results of this study offer some suggestions to the poultryman who wishes to improve the quality of his product in respect to size and uniformity. He should start with a vigorous, good laying pure strain, which in general produces eggs of the desired type. He can then increase the uniformity of his product by selecting individuals which lay uniform eggs of the size and color desired. It is also probable that he can increase the number of such individuals by breeding. There are now being carried on at this station investigations regarding the inheritance of egg size, shape and color. The results of these studies will be published when completed.

## A CORRECTION

Guide advertisers inadvertently omitted from list of advertisers published on outside back cover of issue dated Oct. 28, 1914. Freeland Steel Tank Company, Halbrite, Sask. Winnipeg Steel Granary and Culvert Co. Ltd., Winnipeg, Man. Wrigley's Spearmint Gum—Sold Everywhere.

## A WELL-EARNED V.C.

On September 19, during the fighting along the Aisne, Private J. Warwick, of the 2nd Durham Light Infantry, at present in the Manchester Military Hospital, performed an act of superb heroism, for which he is recommended for the Victoria Cross. The enemy were entrenched a short distance away, and outnumbered the British by 10 to 1. Lieutenant Twist tried to take a hill, but he was shot down. Private Warwick dashed out and brought him back into the trenches. Privates Howson and Maughan fell next, and Warwick brought them in too. Finally Captain Robb fell. Again Private Warwick was the rescuer. He had been shot at on every journey. This time he was hit. It is to be hoped that he will soon recover and that he may long wear the most coveted decoration of the British soldier.

## A CHIVALROUS GERMAN

In contrast to the many stories of German brutality is an instance of chivalry, which Sir John French reported in his despatch of September 11. On the previous day a small party of French, under a non-commissioned officer, was cut off and surrounded. After a desperate resistance it was decided to go on fighting to the end. Finally a non-commissioned officer and one man only were left, both being wounded. The Germans came up and shouted to them to lay down their arms. The German commander, however, signed to them to keep their arms, and then asked for permission to shake hands with the wounded non-commissioned officer, who was carried off on a stretcher with his rifle by his side.

## AN AEROPLANE FIGHT

A German aeroplane, attempting to reach Paris with bombs, on September 2, was seen by two French aviators, who gave chase. After some dramatic manoeuvring, the Frenchmen succeeded in climbing to a higher altitude than their enemy. Then they were able to get unobstructed aim at the occupants of the German machine, and their shots went home. With wings partially severed from body, it dropped to earth a bent and twisted wreck, and its two occupants were killed.

## MADE KITCHENER SMILE

It is a tradition that Kitchener never smiles. But after Col. Sam Hughes, of Canada, went in, introduced himself, and told how he had saved the empire, there is just a suspicion that K. of K. did let go somewhat. If he did not, he is past hope.—Calgary Herald.

A colored philosopher "down South" is reported to have said, "Life, my breddern am mos'ly made up of pray-in' for rain and then wishin' it would cl'ar cl'ar off."—Christian Register.

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