

Science Breeds a 291-Egg Hen.

Professor Dryden, Who Produced This Triumph of Science, Explains How He Did It and Hints That Some Day We May

Have Hens That Will Lay 3,000 Eggs.

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WE have not yet named the hen, except giving her a number, but if any one is gifted in the naming of things or the making of names, I will give a setting of eggs that will hatch out some of the Oregon egg layers for a suitable name for hen No. C543, of the Oregon Experiment Station. I have known this wonderful hen for a year past by this number; rather I have known her daily for twelve months ending October 15, 1913, and the new name must have the word Oregon attached to it and be otherwise acceptable before I will consent to throw aside the magical number.

This Biddy I have watched daily ever since early in the year when she gave evidence that she was one in ten thousand, and as the days went by and the daily egg was deposited in the trap nest, my respect and admiration have grown for her until at the end of the year she has proved herself, not merely one in ten thousand, but one in ten billion; in other words the best layer of eggs the world has seen, so far as authentic records are concerned.

This hen, No. C543, began laying at five and a half months of age and laid in twelve months 291 eggs, which is forty more than the number laid by the Maine Experiment Station hen, which for eight years or more was the most wonderful egg layer the world knew; thirty-four more than the Cornell hen; thirty-two more than the Oregon hen of two years ago; thirty-six more than the record hen at the North American egg-laying competition at the Agricultural College of Connecticut; ten more than the Missouri hen, Lady Show You, and nine more than the record of the Ontario Agricultural College hen, which for two years has held the world's record.

A few years ago the 290-egg hen was a wonder. Some experts said she was a monstrosity; she was a nature fakir; she laid herself out, then she laid herself down and died without leaving posterity. They wanted none of her; they would pin their faith to the 150-egg hen or even the ten-hundred egg hen. Because all the eggs of a 290-egg hen didn't hatch and because all the pullet progeny of some other 290-egger didn't lay 290 eggs, many of our poultry breeders and experts were disappointed, and condemned the whole race of 290-egg hens.

It looks as though we must enlarge our vision of the possibilities of the American hen. Next year or the next we will have a 300-egg hen, the impossible will happen, and the croaker will croak and say that "the 290-egger is good enough for me."

Hen C543 was hatched April 23, 1912. She began laying at the early age of five and a half months, and in twelve months, or 365 days, thereafter, she laid 291 eggs. From the date she was hatched to the end of her laying year there were 332 days. She, therefore, laid an average of more than half an egg a day, counting from the date she was hatched, and more than three-fourths an egg a day during the laying year.

The eggs were of white color and good marketable size, averaging about two ounces. She, therefore, laid some thirty-six pounds of eggs, nearly nine times her own weight. At 30 cents a dozen her eggs were worth \$7.25.

She ate heartily, of course, because the eggs came from the food. There is no way of telling exactly how much she did eat, because she was fed with a flock of fifty, and she had to take pot luck with the rest of them. The average food cost for the flock of fifty was less than \$1.50 per fowl, but it is reasonable to suppose that this hen ate more than the poorest layers of the flock. The number of eggs laid, however, does not bear an exact relation to the food eaten, because one hen with better digestion makes better use of her food than another. I noted that she was a frequent visitor to the beef scrap hopper and also to the protein for the egg contents and for lime for the shell.

She took her daily rest after her feed of mash, and she would go back to the mash a second or third time. She was also a frequent visitor to the water dish; take her off the trap nest after laying an egg and she goes straight to the water, some of which is later put into the egg. She would nibble at the green food which was always accessible, then walk to the scratching shed and scratch for a stray kernel of wheat or oats.

In disposition she was not the most friendly or amiable; she kept her distance; she wouldn't be a pet; she was usually on the outskirts of the flock when you entered the yard. But because this hen was a little offish and kept herself to the outer circle, the poultry enthusiasts should not make the discovery that "Offishness" indicates the good layer, and then proceed to kill off all those hens of the inner circle. The next best layer in the flock was the most amiable of the fifty and kept herself usually inside the inner circle, or around your feet.

It has never been a profitable business to pick out the good layer by some external characteristic or some peculiarity of disposition. We can theorize till doomsday about egg type and get nowhere. Up to date there is only one way of picking out the good layer and the poor layer, and that is the performance test as indicated by the trap nest record.

But I forget that the reader is anxious to learn what breed of hen this is that has laid within nine eggs of 300 in a year.

I overlook the fact that the breed heresy is deep rooted. I wish that the name breed as applied to chickens had some meaning when we come to discuss egg laying ability, but a mass of trap nest records of hundreds of hens of various so-called breeds show clearly that high egg laying is not a characteristic of any one breed. I have had high egg layers in various breeds and poor layers in the same breeds. I have had good layers of no-breed, and this hen, this world's record hen, belongs to the no-breed class. She was a cross-bred.

I don't want to tread on anybody's toes, but the "Standard of Perfection" is worthless when it comes to breeding for eggs. The egg standard of perfection is the trap nest. High laying is an individual not a breed or race characteristic as we have breeds. A great many breeds of chickens, or rather a great many strains of a great many varieties have been injured by too close breeding for show points that have no correlation with utility or egg-laying points.

We have no less an authority than Darwin that crossing restores vigor that has been lost through close breeding or in-breeding. The effect of crossing is a much debated and, I am inclined to think, a much misunderstood subject among poultry breeders, but I will report some data on that point later. Sufficient now to say that the Oregon champion layer was the result of crossing. At the same time this method of improvement may be abused as well as used. The immediate parents of this hen were both cross-bred. It matters not that crossing crosses together may be a mongrelizing process. If we are to believe a certain class of breeders this hen is a mongrel—neither of her parents were pure-bred.

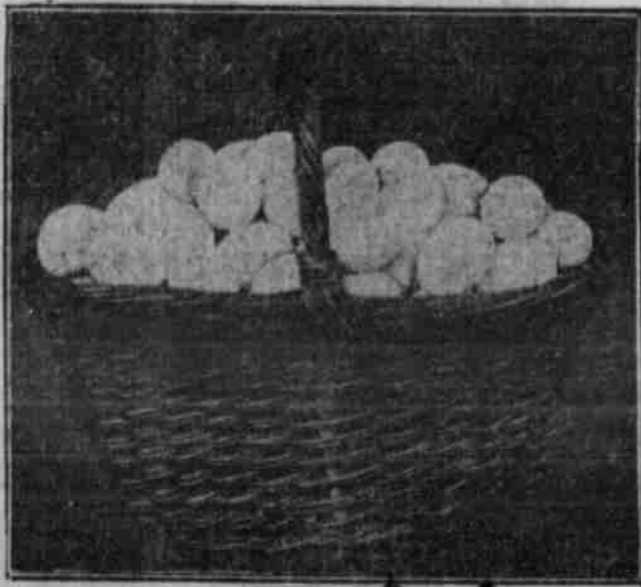
But wait a minute; her parents were good layers and they transmitted that trait to her. Is she not, therefore, a pure-bred egg layer, a mongrel as a show bird, just as the bird in the show room may be a pure-bred show bird, though a mongrel egg layer. If we cross the latter with the former would we not be mongrelizing egg-laying qualities?

I don't pretend to say that we must necessarily cross to get high egg records. The Missouri hen and the Canada world's record hen were pure-bred in the meaning of the Standard of Perfection, though not show birds, but none of the records that I have quoted were made by hens that had an ancestry of good layers, so far as known. To get high egg records by selective breeding we must breed for constitutional vigor, and the quickest and surest way to get vigor is to cross.

Another point about the ancestry of this hen is that her dam and sire were related, the sire being a son of the dam. Here we have two opposing factors, crossing and inbreeding, the one adding, and the other taking away vigor. I will not anticipate my report on our experiments on breeding, but in this case the hen had great constitutional vigor and it undoubtedly came from her cross-bred blood.

This hen, of course, was fed and well fed. She was born with the ability to lay; she had the inherited tendency to lay; her ancestors did their part. The great predisposing factor in high egg prices and small profits for the egg farmers, in other words the low egg yield in the United States, which is about seventy eggs per hen in a year, is the severity or breeding of the hens. They won't lay by any kind of feeding unless the ability to lay has come to them from their ancestors. On the other hand the hen may be born with the seed of several thousand eggs, or oocytes, as scientists would call them, but she won't lay them unless the feeder does his part.

A Maine experiment station biologist has found by actual count over 3,000 oocytes in a hen. The feed must be of certain kinds and the feeding must be done in a certain way or egg records will go glimmering. There was no secret in the feeding of this hen. The main purpose of our experiment was not to get the highest possible egg yield, but to show the effect of selective breeding and crossing an egg yield. The conditions of feeding and housing were



The Hen Laid This Basket Heaping Full Twice During the Year.



such that they could be followed by the practical breeder and farmer. There were no impossible conditions. To test the effect of breeding on the transmission of egg-laying qualities or fecundity the conditions of feeding and management must be the

same year after year. No expensive foods were fed. Most of the foods used are available to any farmer in the United States. The ration is shown in the photograph herewith.

Since our success was fundamentally due to proper feeding of a

Just What the Champion Hen Ate in a Year.

The Home of Mrs. C543 in the Oregon Agricultural College.



This Is Mrs. C543, Champion Egg Producer of the Whole World

healthy, vigorous hen, the discovery that normal hens have a potential egg capacity of 3,000 or more eggs, is of great significance. Upon scientific experiment along the lines we have pursued depends our success in developing the maximum amount of

these 3,000 oocytes into eggs. I am not at liberty to quote the full records at present, but I wish to close with a note of encouragement. Hen C543 is not an isolated case. There is a strong probability that another hen, a flock or mate, of simi-

lar breeding, may pass her in the race before the end of the year, and I expect others to exceed the Missouri and Canada records. The note of encouragement is that they are all bred from an ancestry of heavy producers.

Why Men Should Be Encouraged to Dress Like Butterflies

WHAT we call the "flashy" dresser—the man who flaunts gaudy waistcoats, gay shirts, glowing socks and coats of eccentric cut—should be encouraged rather than laughed at and frowned down. He should be immune from ridicule, says an English writer, because he is performing a useful service to humanity by blazing the way for a general reformation in male attire.

The clothes of the average man of to-day are entirely devoid of imagination and artistry. The frock coat, for example, still lingers with us, to figure on occasions of the highest ceremonial. It is still the prescribed garb of the statesman. And yet so inadequately can the imagination of man rise to sartorial occasion that the frock coat is also considered the essential uniform of the undertaker.

Consider again the masculine nether garment, as now worn. No sculptor who fears for his reputation dares chisel out a pair of trousers in cold marble exactly as they are. And what is not worthy to be perpetuated cannot be true art. It is safe to say there is no true man under the age of fifty who does not, in his heart cherish a vague resentment at the limitations imposed upon his sartorial inclinations by the sedate, almost joyless, mode of the day. He frots against the sombre hues, the blacks and dull blues and grays, which are his only

wear for business. He thinks wistfully of evening suits which, by their bright colors, shall indicate fittingly the spirit of enjoyment.

The more a man acquires independence the more of the quality of individual freedom does he put into his clothes. The stockbroker, though keeping to a restricted fashioning of his garments, contrives to be more ornate, more florid in detail than his clerk, who still must go in prim, subdued attire. On holidays a man dons his gayest. Your golfer comes out a very adventurer in halcyon tweeds; your tourist, taking courage of his absence from all who know him, blossoms forth into the boldest garments. And yet ever is there a feeling of irksomeness that the joyous masquerade is only temporary; that, departing from natural processes, the human butterfly must return to the guise of the chrysalis.

Man, indeed, is profoundly dissatisfied with his ordinary garb, which he must wear at least five days of the week. If only he could find courage to break with custom and convention he would run almost as riotously among colors and fabrics as his female relations are doing at the present moment. But the average man is timid where his wardrobe is concerned and is secretly as fearful of criticism of his clothes as any woman. So that he hesitates to free himself from the tyranny of his fashions, keeping to

the modes he dislikes and cherishing a hope that some day, somehow, he will be at liberty to wear what he pleases.

And this is where the man who wears gay clothes is performing such commendable service as a pioneer. He is leading his fellow-men to emancipation, freeing them gradually from the grasp of the hard-dying late Victorian fashions. In the face of criticism he persists with his polychromatic effects, habituating the public at large to the spectacle of unusually gay suits and appurtenances, and so opening a road to freedom adown which less bold spirits may follow in his wake.

Already he has won some considerable measure of freedom for them. It is he who has deposed the top hat, setting up in its place the plush hat, with its suggestion of the spire of travel. It is he who has abolished the stiff-starched white shirt with its comfortable cuffs and its unyielding front. It is he who has won toleration for the soft collar. And now it rests with us whether he goes on to win further victories over convention for us or whether he ceases his efforts and so gives us no choice but to drift again to drearier vogues. The time has come when, if men are to have a fuller freedom in these matters, we must give all our encouragement to our champion.

There is, at the moment, a perceptible slackening in his brave assumptions. No longer does he press forward in search of

new glories. His suits are no brighter than they were a half-year ago, his ties and hosiery no nearer the masculine esthetic ideals. He seems almost to have halted to look around to see how far he has come.

Possibly it is criticism which has checked his advance; possibly his discouragement is due to the fact that his struggles have met with no word of commendation. But, when once on the "nut" starts to beat a definite retreat, we may put back the clock of masculine dress reform for another ten years.

And that is why we must encourage him. We must openly hail him as our champion and do our best to put heart into him. We must cease to affect that he is bizarre being in whose movements we have no concern save amusement.

We all admit to ourselves that our clothes evoke from us no emotion more frequent than contempt. We want the fashioning of them altered, we want a wider scope in hue and material. Very well, then. If we wish to progress to complete freedom we must range ourselves behind the advanced dresser. He may proceed to extremes which we do not favor, but in so doing he will pass the goals which we ourselves desire to reach.

And therefore, since he is working out our sartorial salvation, we must at least give him such aid as we can. We must acknowledge him as a pioneer, applaud his new notions of design, and admire his originalities of coloring.