

Nature of Science

Today's The Genetically Modified Chicken: How We Have Altered 'Broiler' Chicken for Profit Modified from One Green Planet (2015)

The chicken is no longer just a chicken. Depending on what they are bred for, modern chickens are either "layers" or "broilers." Bred, of course, to lay eggs, layers have been so dramatically altered that they can lay more than 250 eggs per year, while their ancestors in the jungle laid about two dozen annually. They do not grow fast enough to be used for meat, however, which is why all of the non-egg-producing males of the layer breeds are killed soon after hatching. This is where the "broilers" come in.

Today's broiler chickens have been bred selectively since the 1950s to produce meat—breast meat in particular—and to produce it quickly. A modern meat chicken weighs up to three kilograms: almost double the size of a chicken from 60 years ago. And their breasts are 80 percent larger. They also manage to reach this size in six weeks, whereas in the 1950s it took a bird up to 15 weeks to reach its fully grown (but much smaller) size. Not surprisingly, this accelerated growth leads to health problems and suffering for the animals.

The rapid growth rate of broiler chickens makes simply moving from one place to another a difficult and painful task. A 2008 study of more than 50,000 chickens found that by the age of 40 days, over 27 percent of the birds had impaired locomotion capabilities and 3.3 percent were almost unable to walk.

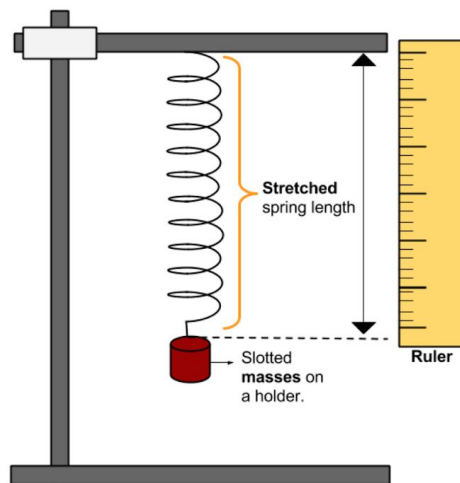
Referring to the information provided, identify who this article's audience is (eg. who should read it). Compare the number of eggs normal "layers" have to the genetically modified chickens OR normal "broiler" to genetically modified chickens.

Explain how consumer demands / desires in the quality of chicken has led to this breeding programme. Discuss whether you agree with the breeding programme, including advantages and disadvantages in your answer.

Lab Report

In this task, you will be using the equipment below to find the mathematical relationship between stretched length of a spring and the mass that is hung to one end causing it to stretch.

You will be assessed on your ability to carry out the investigation, with direction, and derive a valid linear mathematical relationship.



Mass (g)	Length of the spring (cm)			
	Trial 1	Trial 2	Trial 3	Average
0	8.5	8.5	8.5	8.5
20	13.6	13.6	13.5	13.6
40	18.4	18.5	18.4	18.4
60	23.1	23	23.1	23.1
80	28.7	28.9	28.6	28.7

Include the following in your report

- **Aim**
- **Variables**
- **Graph**
- **Using the Graph, predict the length of the spring for a mass of 50 g. Show the working on the graph.**
- **Analysis of the Graph**
- **Discussion- This should include the science behind the experiment, Things that could go wrong while conducting the experiment.**

Note: The discussion does not have to be too long. Just answer the question.