Strengthening Eggshells Using a Natural Calcium Supplement

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Weak eggshells can be a problem for many farmers who raise poultry for their eggs. A weak or soft shell can be difficult to sell therefore losing the farmer money. This project aims to fix this. Weak eggshells can be caused by a variety of causes, but one of the most likely is a lack or deficiency of calcium in a chicken's system. An eggshell is roughly 40% calcium, this shows the impact an increase in calcium could make. To get the calcium into the chickens this experiment used crushed eggshells to act as a natural calcium supplement. To test the hypothesis that the increase in calcium would increase the strength of the egg, the chickens were fed 20 milliliters of crushed eggshells a day. This was between six hens and a rooster. Before the experiment started the original eggs were tested, then after one week they were tested once more. Then they were tested again a week later. Finally the chickens were not fed the supplement for one week and the eggs were tested once more. To test the egg strength a force gauge was used to determine how many pounds of pressure was needed to break the eggshell. The results agreed with the hypothesis, after each week the strength of the shell increased by about 10.8%, and after one week of no supplements the strength went down by about 16%. Overall this experiment has the potential to help farmers keep strong healthy eggs.

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