

The Multi-Purpose Nest Box

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1. Need

The need for this project arose from a shared problem. Each one of us keeps hens and found that from time to time, chickens would eat their own eggs.

Chickens who are short of calcium often begin to peck their egg shells and then discover they like the taste of the egg itself and so eat it. However some of them just begin to eat them for no particular reason. They don't always eat their own

as some might go round other nests too. So they really can be a menace.

As a result we decided the need was to find some way of stopping chickens eating their own or other's eggs.

2. Specification

Whatever way chosen had to fulfill the following conditions:

- a) Must not hurt the chicken
- b) Must not damage the egg
- c) Must be easy to use
- d) Must be cheap enough for even small scale chicken farmers to use
- e) Most importantly, it must remove the egg to a safe, accessible position.

How the Multi purpose nest box will look when it is marketed

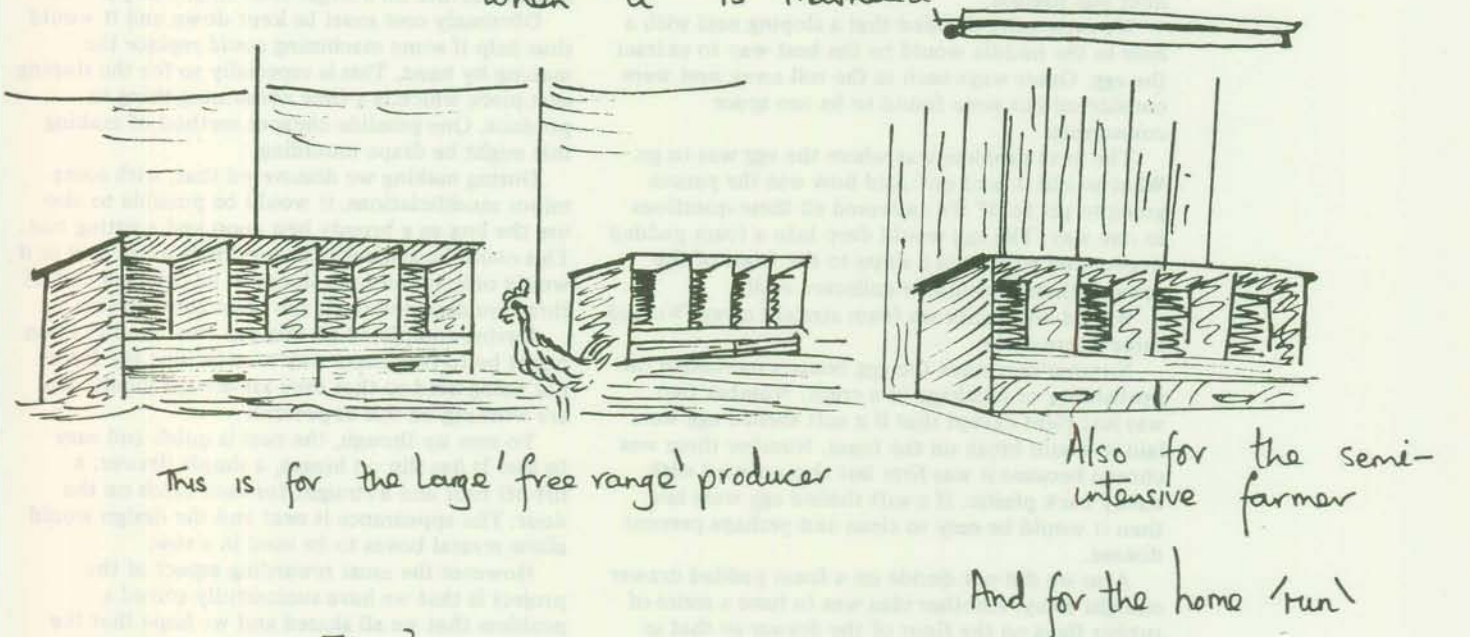
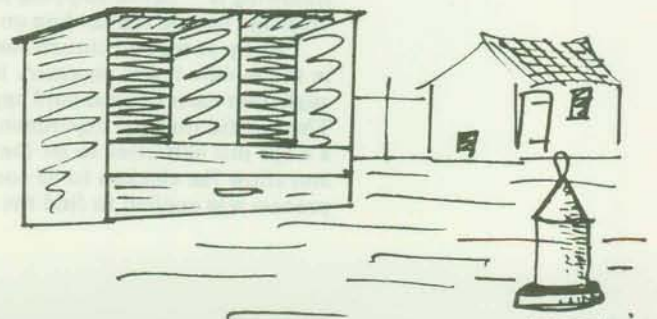
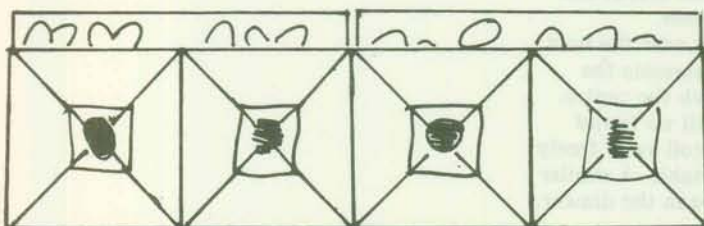


Fig. 3



The Multi-Purpose Nest Box

3. Investigation

We interviewed several poultry keepers, all of whom expressed an interest in the project. Their main concern was that it would not be too expensive and could also be easy to use.

All people interviewed confirmed that the problem did exist.

One existing method that was used to stop this problem by some people was to inject one or two eggs with mustard, so that a problem chicken would be put off by the bitter taste. However, we thought it would be a good idea to find a more permanent solution to the problem. As far as we know no such solution exists on the market already.

4. Solution

It soon became clear that the method of removing the egg would have to be in some way related to the conventional nest box in order to tempt and attract the chicken to lay in the first place.

So then some way of removing the egg from the nest was needed.

We eventually decided that a sloping nest with a hole in the middle would be the best way to extract the egg. Other ways such as the roll away nest were considered but were found to be too space consuming.

The next problem was where the egg was to go. What would it land on? And how was the person going to get to it? We answered all these questions in one way. The egg would drop into a foam padded drawer and roll down a slope to the front of the drawer where it could be collected easily.

We did not decide on foam straight away. We had three alternatives:

Number one made the egg bounce increasing the probability of breakage or a crack. Number two was just right except that if a soft shelled egg were laid it would break on the foam. Number three was chosen because it was firm but also covered with sticky back plastic. If a soft shelled egg were laid then it would be easy to clean and perhaps prevent disease.

Also we did not decide on a foam padded drawer straight away. Another idea was to have a series of rubber flaps on the floor of the drawer so that as the egg rolled over each piece of rubber the rubber would spring up and separate the egg from the one following it – hence stopping possible cracks and breakage by one egg landing on another.

Finally as we had chosen the nest with the hole in the middle it was necessary to determine the angle that each slope should approach the centre. This we did through experiment until we found a slope just sufficient to let the egg roll away freely and allow the chicken to be comfortable. A similar process was applied to find the slope in the drawer.

5. Making

Having decided on the design we started to build.

The main wood used was Ply as this was relatively cheap and very strong. It also kept the whole construction very light to enable easy movement around the farm.

One problem was how to manufacture the sloping nest. This was solved by cutting four separate pieces of Ply and then joining them with fabric strips soaked in PVA. This may sound flimsy but once it set it could withstand 20lb. It also had the advantage of being waterproof.

6. Evaluation

Most importantly the nest worked. On the first two days of trial three eggs were laid and successfully removed. Also another hen laid her eggs outside the box because the box was occupied at the time.

Several poultry keepers have now seen the box and expressed interest in trying the box for themselves. So attempts are now in progress to see if manufacture on a larger scale might be possible.

Obviously cost must be kept down and it would thus help if some machining could replace the making by hand. This is especially so for the sloping nest piece which is a time consuming thing to produce. One possible cheaper method of making this might be drape moulding.

During making we discovered that, with some minor modifications, it would be possible to also use the box as a broody hen coop and a sitting box. This could be achieved for very little extra cost as it would only require the floors to be changed and all three are designed to fit the basic construction.

Having completed all this one final modification might be to find some way of attaching the floors not being used so that they are always handy. We are working on this at present.

To sum up though, the nest is quick and easy to use. It has slip on hinges, a simple drawer, a lift-off roof and a straight forward catch on the door. The appearance is neat and the design would allow several boxes to be used in a row.

However the most rewarding aspect of the project is that we have successfully solved a problem that we all shared and we hope that the solution might prove useful to other hen keepers too.

