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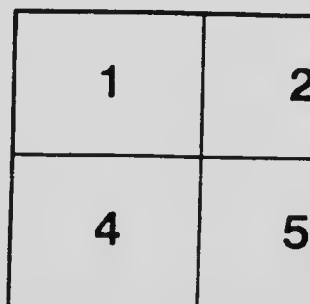
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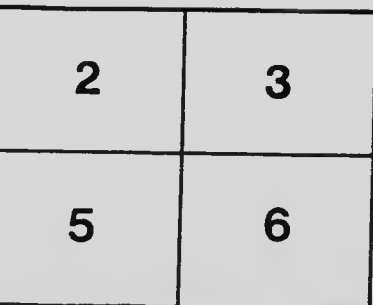
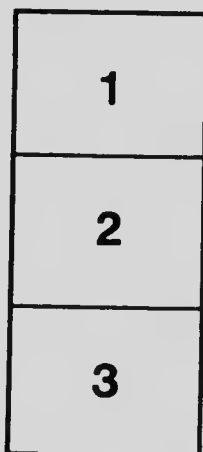
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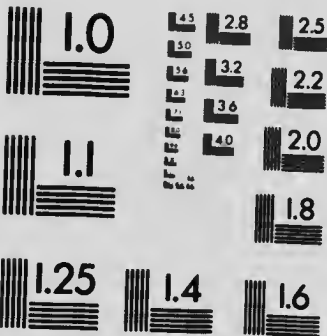
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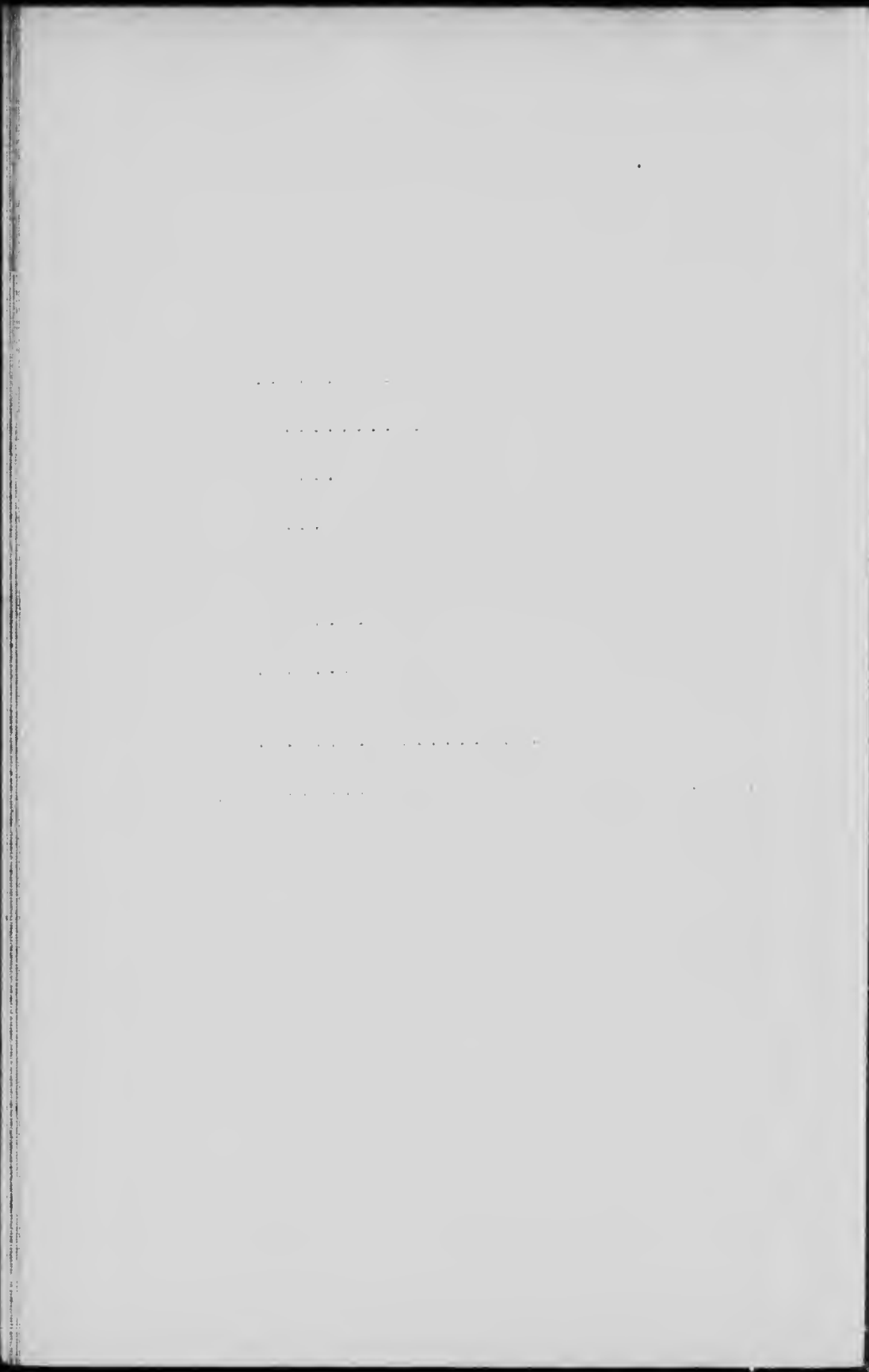
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DOMINION OF CANADA.

DEPARTMENT OF AGRICULTURE.

EXPERIMENTAL FARMS.

J. H. GRIDALE, B.Agr.,
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F. C. ELFORD,
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POULTRY DIVISION.

NATURAL INCUBATION

BY

F. C. ELFORD.

PERIODS OF INCUBATION.

The approximate periods of incubation of several of the species of domestic fowl are: Hen 21 days, Partridge 24 days, Guinea Fowl and Pheasant 25 days, Duck, Pea Fowl and Turkey 28 days, Goose 30 days, and Ostrich 42.

ACTUAL TIME VARIES.

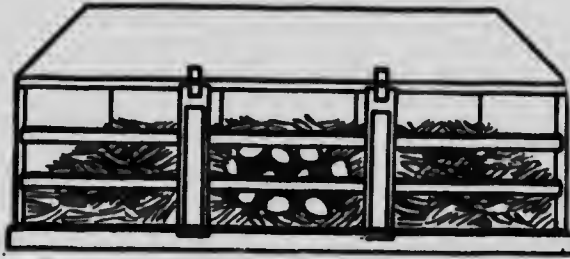
The average time for the hen to incubate her eggs is 21 days though this period may be shortened or lengthened by influences that increase or decrease the average heat at which the eggs are kept throughout the period of incubation. Close sitting hens will usually hatch the chicks a few hours earlier than hens that do not sit so close or are often off the eggs. In warm weather eggs may hatch earlier than in cold weather. Fresh eggs hatch quicker than stale eggs, and other things being equal, white shelled eggs may hatch a few hours before dark shelled eggs.

Not only in natural incubation is this variation found but in artificial incubation the same thing occurs, and at times to so great an extent, that while some hatches come off on the 19th or 20th day others may not hatch until the 22nd day or even later. It is better to have the chicks pip the shell on the night of the 19th or morning of the 20th day and the hatch all cleaned up by the morning of the 21st. Chicks so hatched are usually better than if hatched earlier or later, but should there be no sign of chicks on the 21st day do not become impatient and destroy the eggs. Fair hatches have been known to come off as late as the 24th day.

NATURAL OR ARTIFICIAL.

Hens or incubators, which? If you have a small flock of hens and do not intend to increase the number the incubator is not advisable. In fact if no more than 100 chicks are to be hatched it would not pay to buy an incubator, especially if the variety of hens kept contains good sitters and mothers. If many more than this number of chicks are aimed at the purchase of an incubator might be considered or even advised, but an incubator should not be purchased if the purchaser is not interested enough to give it the care and attention it requires. The incubator will give, as a rule, earlier and more uniform chicks, though there are individual hens that will hatch every fertile egg and rear almost every chick, but as a rule 10 hens set on 120 eggs will not bring out more chicks than a good incubator set with the same number of similar eggs. In small numbers the hen may rear more chicks than

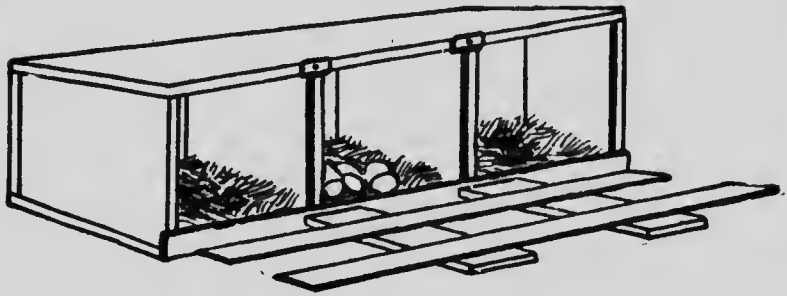
the artificial brooder but in quantities the artificial methods must take the place of the natural. The artificial means of both incubation and brooding will be used not so much in place of, as an adjunct to, the natural means.



- CLOSED -

— SITTING NEST —

- OPEN -



Have Some System.

Almost every person who has tried hatching by hens knows how cranky a broody hen can be when she likes and when the natural means are followed without any system it is a trying ordeal but when some system is followed and proper arrangements made beforehand, the work is much lessened and the annoyance almost entirely done away with. By the adoption of the following method chicks can be hatched by hens with comparatively little trouble, few eggs are broken, almost perfect control is exercised over the sitting hens and by testing twice the nests are kept full, the hen's capacity utilized and a great saving is made in the work as about one-half hour of supervision once a day is all the time that is required.

SETTING THE HEN.

It is not a good practice to set hens in the hen house or where other hens can get to them. Better to have all the sitting hens by themselves. A colony house makes an ideal place for this purpose, or if such is not available a box stall or even a part of the poultry house will answer, but the hens that are incubating should be separated from the rest of the flock. In this house or stall place fresh water, hard grain on the floor or in a hopper, green food and a dust bath for the sitters when they come off the nests.

Nest boxes such as shown in the illustration can be arranged around the walls of the house and if necessary they may be piled up like packing cases, one on top of the other. This nest box which contains three nests can be made from a 12 ft. board 12 inches wide. Cut the board in three lengths and use one length for the top of the nests, one for the bottom and one for the back. Take four pieces of similar board 1 ft. square to make the ends and partitions. This provides for three nests to a section. The front is hinged at the bottom and the cross pieces have shoulders that brace the door in a horizontal position when open. This open door forms a lighting board for the hens when the nests are placed above one another.

The nest itself may be formed by putting a piece of sod in the bottom of the nest box with grass or litter around the edges. Have the slope of the nest somewhat flat rather than deep.

When a hen is broody dust her well with dry sulphur or insect powder and move her after dark from the nest in which she is sitting into the broody nest that is already arranged as above; put no good eggs under her till after a day or two trial, then if she is still inclined to sit put 13 to 15 eggs under her according to her size. Always see that the nest is perfectly clean and disinfected before allowing the hen into it.

Set Several Hens at Once.

It is a good plan to start several hens at the same time so that when the testing is done and the fertile eggs removed the eggs that remain can be doubled up and given to fewer hens. Another doubling up should take place when the dead germs are discarded at the second test and when the chicks hatch they should be put with as few hens as will brood them while the other hens are put back into the laying pen or set again.

In this system the hens are under control and the work reduced to the minimum. It is necessary to go into the house once a day when the doors to the nests are opened. all hens (except those under which the chicks are hatching) are taken off and the doors closed. There is in the house plenty of feed and drink so that all the setters can get what they require. They can also get a dust bath, and in from 10 minutes to half an hour the doors to the nest boxes can be opened and the hens allowed to return to the nests.

No Harm to Change Nests.

It will be noticed that when a number of hens are used with this system in all probability each hen may not go back on to the nest from which she came off nor is it important that she should.

The heat of the different hens' bodies varies so much that a change of nest insures an everer general temperature than if the hens kept to their own nests throughout the entire hatch.

Some hens do not sit as well as others and it is sometimes an advantage to let one hen off earlier than three weeks while others are such good setters they can be kept hatching for four or five weeks and in some cases if they continue to sit well and to keep in good flesh they may be kept at work even longer before they are allowed off with chicks or put back into the laying pens.

While the hens are off take a careful look over the nests to see that there are no broken eggs. If any damage has been done take out every broken shell and if the contents have smeared the other eggs wash them with luke-warm water and it may be necessary to renew the litter.

All Hens not Alike.

Some hens though they become broody seem to be fickle and do not make good sitters and just when they appear to be getting down to business pick up and leave. Others are so clumsy and awkward that they will break almost every egg in the nest and it therefore advisable to watch the sitters and if any hen proves unreliable put another hen in her place at once.

As a rule only hens of the medium size or large breeds should be used for incubation. Leghorns and similar varieties, though they may become broody, seldom make satisfactory sitters and usually hens sit better than pullets.

Keep Things Clean.

Everything must be kept perfectly clean and sanitary. Clean out the house at least every week. Put in fresh water every day and see that there is plenty of whole grain and a good dust bath before them at all times. If more than one hatch is being taken off, clean out and disinfect the nest after each hatch and put in new sod and fresh litter. Dust the hen with insect powder before putting her in the nest and again a day or two before leaving the nest with the chickens. It is a good plan to put into the dust bath a little dry sulphur or ground tobacco.

Be sure also that the house is free from mites. These little pests get into the cracks and corners of the building and at night as the hens are resting they come out of their hiding place, get on to the hen's body and it does not take very many of them to make a hen so uneasy that she cannot sit. In some cases the mites become so troublesome that they actually worry the hens to death.

How to get Rid of Mites.

Clean out the house and thoroughly sweep not forgetting the windows, walls and ceiling. When this is all swept out clean use a garden hose or a stiff brush and hot water. See that everything in the cracks and crevices is washed out. After this is done allow the house to dry for a while and if everything then appears to be clean use a good disinfectant and be sure that the solution is forced by the spray or brush right into the cracks and crevices. If the mites are bad use boiling hot water followed by coal oil and a liquid lice killer or lice paint. Be sure that this goes into the cracks and crevices and when you have gone over your house thoroughly according to the above treatment in all probability the mites will be exterminated but it is necessary in the course of three or four days again to inspect for the mites and probably to repeat the dose once more.

Leave the Hatching Hen Alone.

Do not allow the hen off till all the chicks have hatched. Protect the nests so that the young chicks cannot fall out on to the floor of the house. If the chicks seem slow in hatching and those that hatched first are becoming crowded before the later eggs have hatched it might be well to put your hand under the hen and pick out the broken shells, but as a rule the less the hen is bothered at this time the better and with a comparatively large, flat nest the chicks will not suffer though they are confined to the nest for 24 to 36 hours.



