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I believe that if one has been breeding canaries for two or more years, he or she is likely to be a dedicated, patient, stubborn, and very persevering person. The challenge is great, and rewards can be greater. There is nothing more fulfilling than to see your favorite pair of canaries raise successfully one or two clutches of beautiful babies. But, things don't always work out the way you expect them to happen.

**EGG BINDING**

What is there to do when the hen builds a beautiful nest and is sitting on the bottom of the cage, puffed and listless, obviously egg-bound? My immediate reaction would be to place her in a hospital cage. The heat, set at 90°-95° F., will relax the hen, and hopefully she will expel the egg.

If one does not have a hospital cage, a heating pad placed on the bottom of the cage and covered with a towel to prevent soiling will do the job. Remove the perches from the cage in order to force the hen to sit on the heated pad. Cover the cage with another towel, and adjust the heat to "high." Monitor the cage, as the hen may expel the egg within one hour. I have saved many hens using the hospital cage or heating pad methods.

What makes the hen egg-bound? A soft-shelled egg is most likely to be the reason. A soft-shelled egg is like an inflated balloon. When squeezed by the hen's muscular contractions, it becomes stopped instead of expelled. Possibly, lack of calcium in the hen's diet prevents the shell of the egg to harden. Adding small amounts of bone meal to nesting food should solve future problems. Bone meal is available from any health food store.

Low temperatures in the bird room is another possible reason for egg-binding. Temperatures of 65°-70° F. make the bird room comfortable during breeding season.

**INCUBATION**

Once the hen has laid her clutch of eggs, I remove the male from the cage and leave the hen alone to incubate the eggs and rear the chicks until they are able to support themselves. It takes 13 days of incubation to hatch the eggs. If the hen has sat on the eggs for 13 days or more, and you find nothing has happened, then you and the hen have wasted several valuable days of the breeding cycle. There is a method to check whether or not the eggs are fertile at the very early stage of incubation without removing the eggs from the nest. Placing the tip of a small pen-light next to the eggs will reveal whether the eggs are fertile or not. The eggs at this stage are transparent, and light will shine through them. If the interior of the eggs appears to be reddish and showing tiny red blood vessels, the egg is fertile.

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fertile egg will appear clear with a yellowish tint. This test is effective from the fifth day on, with the interior of the eggs becoming very dark during later days of incubation. If eggs are found to be clear, they can be removed, and the hen will abandon the nest. She will now lay another clutch of eggs, hopefully within the next ten days.

If you find only one egg to be fertile, it would be wise to remove the egg and place it under another hen which is at the same stage in incubation, therefore saving much valuable time.

Provided that all of the eggs are fertile and the hen continues incubating, at a later date you can check the eggs for viability. On the twelfth day, place the eggs in a cup filled with warm water (90°F). The eggs will float, and those eggs that have a live chick in them will move slightly. Try not to leave the eggs in the water for more than one minute. To remove the eggs from the nest, and again from the water, use a teaspoon. During hot and dry weather, wetting the eggs will help the chick to break out from the egg.

**HATCHING**

The 13th day after the hen began to incubate the eggs is the big day. This is the day when all of your anxieties and hopes are fulfilled. The tiny chicks are finally out of the egg. If there is one egg or two that did not hatch, it is advisable to leave them in the nest for several days to come. The egg will act as a spacer to prevent the hen from suffocating the chicks. If it happens that all of the eggs hatch, I place an artificial egg in place of a real one. I know, some of you will say that it is not necessary to do this. Well, it is not necessary to say a prayer, but it feels better when I do. I will agree that some hens will not require the procedure of placing an artificial egg in the nest to protect the chicks. But, why take a chance?

If the hen knows what to do, she will proceed to feed the chicks immediately. It is advisable to add a pinch or two of "Sal Hepatica" to the drinking water at this time, or even better, prior to the hatching.
of the eggs. Sal Hepatica is a mild laxative and antacid which will stimulate the hen’s appetite and entice her to feed her babies.

This phase of breeding is when a new set of anxieties will arise. Will the hen feed the babies? If she does, it will be obvious. A tiny bit of food will be noticeable in the babies’ crops. A small portion of nesting food should be served two or three times a day. My nesting formula was given in the Oct/Nov 1981 issue of “Watchbird.”

If the hen fails to feed the chicks, hand-feeding will keep the chicks alive, provided you are home and have the time to do it. A good hand-feeding food can be made by mixing Gerber’s “High Protein” Baby Cereal with egg yolk and warm water made into a paste. I use a toothpick to administer the paste to the chicks. Hand-feeding should be repeated several times a day with final feeding before the lights go out. In many instances, the hen will begin to feed on her own after two or three days of hand-feeding. If the hen decides not to feed at all, the chicks should be placed under another hen in the process of rearing her own babies. A good hen will feed others than her own babies readily.

**BANDING CHICKS**

Banding chicks is a must. No serious breeder will neglect this important step of rearing canaries. Banding requires very critical timing. The sixth day after hatching is the mean time to perform the task. However, the timing may vary considerably. Timing depends on the efficiency with which the hen is feeding. A well-fed chick could be ready to be banded on the fifth day. Badly fed chicks could require waiting until the seventh or eighth day. The proper time to band is when the band slips on the leg with a small amount of effort. A loose band will slip off.

Here are a few simple steps on how to install the band. Place the baby canary in the palm of your left hand. With the tips of your thumb and fingers free, hold the leg and foot, and place the ring over the three front toes; see Fig. 1. Next, pull the ring over the knuckles with the back toe bent back; see Fig. 2. Now, push the ring as far up to the leg as it will go past the back toe. It may be necessary to push the ring while holding the front three toes. If banding is delayed by a day or two, and the band is too hard to slip on, applying a small amount of saliva will lubricate the skin, and the band will slip over easy. If you are too late, do not force the band. The final position of the band should be as seen in Fig. 3.

**THE CRITICAL PERIOD**

After banding, the rearing should contin-
ue with no major problems. It’s not until the chicks reach somewhere around the 15th day of existence that things might go wrong. At this time some hens will exhibit the desire to start a new nest. In this case, the hen may pluck the chicks. The accepted theory is that the hen needs nesting materials, and the chicks’ feathers fulfill this need. When this happens, unless you do something, the hen will proceed to denude the chicks.

There are several actions which you can take. The first one I would consider is to place the chicks with other hens which are at approximately the same stage of rearing. At this time, the chicks are already banded and mixing with others will not interfere with the records.

If other hens are not available, remove the nest and the hen from the breeding cage, and place them in a small flight. If possible, the flight should have a wire floor to prevent the hen, and later the chicks, from picking up stale nesting food. Another empty nest and ample nesting material should be provided.

Hopefully, the new environment, nest and nesting material will divert the hen from plucking for three to five days until the chicks leave the nest. If after the chicks have left the nest, the hen still insists on plucking the chicks, they should be placed in a small cage within the flight cage. The hen will be able to feed the young through the bars of the small cage, but will not be able to pluck them. The small cage should also have a wire floor. The cage can be made using ½ x 1 inch welded wire, making sure it will fit through the door of the flight. The same method of building the cage can be used as described in the last issue of “Watchbird.” A perch should be placed within the small cage to provide a comfortable roosting place for the young.

A small amount of nestling food mixed with soaked or cooked seeds should be placed within the small cage, preferably on the floor of the cage. This food should be replaced two or three times a day. Within a few days, the young will be eating on their own. At this time, the male should be introduced to the hen and placed back in the breeding cage. The young can be removed from the small cage and left in the flight on their own.

Providing the hen does not pluck the young and continues feeding the young until they leave the nest, I place the young and the hen in a small flight with a wire floor, thus giving the young room to exercise their wings and provides environment for shorter weaning period.

The next article will continue with the guidelines, dealing with colorfeeding and the molting period.